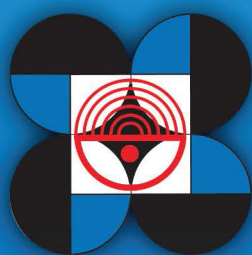




PHILIPPINE SCIENCE & TECHNOLOGY ABSTRACTS



**SCIENCE AND TECHNOLOGY INFORMATION INSTITUTE
INFORMATION RESOURCES AND ANALYSIS DIVISION**

**Department of Science and Technology
Bicutan, Taguig City, Metro Manila
Philippines**

JUNE 2019



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JUNE 2019

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PHILIPPINE SCIENCE AND TECHNOLOGY ABSTRACTS

Bimonthly classified abstracts of the latest Philippine
publications in the field of science and technology

	0001-0002
AGRICULTURE	0003-0006
BIOLOGY	0007-0043
CHEMISTRY	0044-0046
COMPUTER SCIENCE	0047
ENGINEERING	0048-0053
FISHERIES	0054
FOOD SCIENCE AND TECHNOLOGY	0055-0058
FORESTRY	0059
GENERAL WORKS	0060-0062
INDUSTRY	0063-0116
MARINE SCIENCE	0117-0156
MEDICINE	0157-0598
SOCIAL SCIENCES	0599
VETERINARY MEDICINE	0600

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Philippines

Inventory and Morphometrics of Anuran Species Found in Mt. Kilala of the Mt. Hamiguitan Range Wildlife Sanctuary, Governor Generoso, Davao Oriental, Philippines

Vidal, Kemberly C. , Macusi, Edison D. , Ponce, Amy G.

Mt. Kilala is part of Mt Hamiguitan Range Wildlife Sanctuary located in Governor Generoso, Davao Oriental, Philippines, which hosts diverse and endemic species of flora and fauna – including amphibians. This inventory of anuran species yielded eight species of anurans that belong to six families. The highest species richness recorded was $D=1.010$ and species diversity was $H'=1.73$, which was moderately high, with 48 individual captures recorded in Site 1 (198 masl). The other two sites only yielded two captures in total despite spending 54 person-hours in search of anurans. The most number of anuran species encountered preferred the aquatic microhabitat. Also, the body size of anurans was a better predictor than its weight for the type of habitat it will occupy. The study recorded one Southeast Asia endemic species, two Philippine endemic species, and four Mindanao island endemic species. Most of these species found were located in the aquatic microhabitat that favors reproduction and development. The differences in their relative abundance are a reflection of the species tolerance limits to their habitats. Included in the inventory of species are *Megophrys stejnegeri* (Taylor, 1920) and *Limnonectes magnus* (Stejneger, 1909), which were identified as Mindanao island endemic with vulnerable conservation status in the IUCN red list. The advertised calls of various anurans were from four different species, namely: *Kalophrynus sinensis* (Peters, 1867), *Limnonectes leytensis* (Boettger, 1893), *Polypedates leucomystax* (Gravenhorst, 1829), and *Staurois natator* (Günther, 1859). Specific call parameters make the vocalization of each species unique. This study, along with other literature, confirms that higher elevation sites harbor fewer anuran species. The occurrence of a high number of endemic and vulnerable anuran species in the area indicates the need for practical conservation and protection measures, which include zoning for access and no access parts in the buffer zone – especially those that harbor aquatic habitats. (Author's abstract)

Keywords: *anurans, biodiversity, Davao Oriental, Governor Generoso, morphometrics, Mt. Kilala, Agriculture*

Philippine Journal of Science, Volume No. 147 Issue No. 4, 629-638
2018 December,
(Filipiniana Analytics)
Fil(S) Q1 P55 147/4 2018

Organogenic Potential of *Dendrobium* Floral Tissues for Stable Transformation Applications

Sahagun, Jorge , Kongbangkerd, Anupan , Ratanasut, Kumrop

This study aimed to examine a promising procedure for *in vitro* direct organogenesis from floral tissues of *Dendrobium* Sonia ‘Earsakul’ as a new potential regeneration system for transformation in orchids. Petal and sepal explants from floral buds (2.0–2.3 cm) survived on ½ MS solid medium supplemented with or without 1-naphthaleneacetic acid (NAA) or/and benzylaminopurine (BA), but only petal explants generated protruding meristemoid tissues when they were cultured on ½ MS medium supplemented with both NAA and BA. A significant increase in the number of protruding meristemoid tissues was observed in the liquid medium. The ½ MS liquid medium supplemented with 0.5 mg L⁻¹ NAA and 1.0 mg L⁻¹ BA was successfully used to induce meristemoids of petal tissues transiently transformed by A. tumefaciens strain EHA105 carrying pCambia-1301 via agroinfiltration and the subsequent use of 20 mg L⁻¹ meropenem was effective in eliminating

Agrobacterium from the infected explants. The transformed status of the meristemoid tissues was confirmed by GUS expression analysis, indicating that the T-DNA of the vector used had been successfully incorporated into the genome. For the first time, the researchers have demonstrated the potential methodology for direct organogenesis from agroinfiltration-transformed petal tissues of *D. Sonia* 'Earsakul'. (**Author's abstract**)

Keywords: *Dendrobium*, floral tissue, meristemoid, organogenesis, tissue culture, transformation, Agriculture

Philippine Journal of Science, Volume No. 147 Issue No. 4, 667-676
2018 December,
(Filipiniana Analytics)
Fil(S) Q1 P55 147/4 2018

0003

Plasma Heat Shock Protein 70, Physiological and Behavioral Responses of Gilts to Varying Temperature Humidity Index in a Controlled Chamber

Lontoc, Carla Alilie A. , Cajano, Pauline Joy R. , Rayos, Antonio A. , Vega, Renato SA.

The study aimed to determine physiological, behavioral, and extracellular heat shock protein 70 (HSP70) responses among gilts exposed to increasing temperature humidity index (THI). Individually caged, F1 gilts (N=3) were adjusted for a week given *ad libitum* commercial diet and water supply in an environmentally controlled chamber, after which the THI (65, 71, 77, and 83) was elevated every three days for a total of 12 days. Physiological responses [respiration rate (RR), pulse rate (PR), rectal temperature (RT)] and plasma HSP70 were all collected during their first day exposure at 65, 71, 77, and 83 THI. Behavioral responses – meal intake (MI), meal break (MB), standing, lying down, drinking, urination, and defecation – were recorded and counted for frequency and duration at three different periods of the day (08:00–15:00h, 15:01–23:00h, and 23:01–07:59h) using internet protocol cameras. Results showed that RR and plasma HSP70 concentration obtained significant differences at 83 and 71 THI, respectively. Frequency and duration of meal intake and meal break decreased, consistent with the reduction in voluntary feed intake ($P<0.05$). Among the responses, meal intake duration is the most visible heat stress response that significantly occurred at 77 THI (27 °C), showing meal intake duration reduced by 556 s i.e., 25% of 2212 s (37 min) for the seven-hour period after feed is offered. (**Author's abstract**)

Keywords: *behavior, gilts, heat shock protein, heat stress, temperature humidity index, Agriculture*

Philippine Journal of Science, Volume No. 147 Issue No. 4, 555-561
2018 December,
(Filipiniana Analytics)
Fil(S) Q1 P55 147/4 2018

0004

Variations in Growing Media and Plant Spacing for the Improved Production of Strawberry

(Fragaria ananassa cv. Chandler)

Shahzad, Umbreen , Ijaz, Muhammad , Noor, Nauman , Shahjahan, Muhammad , Hassan, Zeeshan , Kahn, Azhar Abbas , Calica, Phoebe

Strawberry was considered to be the fruit of temperate areas, but now it can be grown anywhere in the world such as in Pakistan and even in the Philippines. Strawberry is rich in vitamins and minerals – it is an excellent source of vitamins C and K; it likewise provides a good dose of fiber, folic acid, manganese, and potassium. They also contain significant amounts of phytonutrients and flavonoids, which make strawberries bright red. The study was designed to evaluate the effect of organic growth media amendments and plant spacing on the growth and yield of strawberry (*Fragaria ananassa* cultivar Chandler). Four different growth media – soil + peat moss, soil + poultry waste, soil + farm yard manure, and the combination of all these four media additives mixed with soil – were used with different plant-to-plant spacing of 20, 30, and 50 cm to evaluate their effect on the fruit size, total soluble solids (TSS), fruit yield, chlorophyll content, and fruit quality (i.e., fruit color and taste) of strawberry. These treatments were compared with soil only. The effect of soil combined with peat moss was significantly the best among all growth and fruit quality parameters tested. Peat moss amendment showed the highest fruit yield (531.56 g), chlorophyll content (12.53), TSS (8.45), fruit size, and fruit quality (red color with maximum sweet taste) compared with other growing media. The significant effects of all the parameters tested were confirmed through statistical analysis. Meanwhile, the results proved that 20 cm plant-to-plant spacing was the best – in terms of yield – for strawberries when planted in peat moss combined with soil. Hence, the study concludes that the production of strawberries (cultivar Chandler) was improved by utilizing 20 cm plant-to-plant spacing with peat moss amendments. (**Author's abstract**)

Keywords: *growth media, horticultural crop, organic farming, peat moss, plant spacing, strawberry, Agriculture*

Philippine Journal of Science, Volume No. 147 Issue No. 4, 711-719
 2018 December,
 (Filipiniana Analytics)
 Fil(S) Q1 P55 147/4 2018

BIOLOGY

0005

Annotated list of odonata from mainit hot spring protected landscape, Compostela Valley, Mindanao Island, Philippines

Villanueva, Reagan Joseph T. , Jumawan, Kim M., Medina, Milton Norman

Within the framework of the 'Rapid Biodiversity Survey of Mainit Hot Spring Protected Landscape' conducted by the Research and Development Centre of Assumption College of Nabunturan, an annotated list of Odonata was compiled, representing 41 species in 25 genera and 12 families from seven sites surveyed from December 2011 to February 2012. These records represent the baseline data for Mainit Hot Spring Protected Landscape and even for Compostela Valley Province. One species is potentially new to science; more than half of the records are forest dwelling endemics. (**Author's abstract**)

Keywords: *Baseline data, endemic species, conservation, Biology*

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-14
 2012,
 (Filipiniana Analytics)
 NP

0006

**Aquatic heteroptera of the Lake Manguao Catchment, palawan and New Rank of
Rhagovelia Kawakamii hoberlandti Hungerford & Matsuda 1961**

Freitag, Hendrik, Zettel, Herb

Results of an inventory of the fauna of aquatic and semiaquatic true bugs (Insecta: Hemiptera) of small streams in a lake catchment of northern Palawan are presented. Twenty-one species were recorded. Taxonomic and ecological notes, distribution and collection sites are given for each identified taxon. *Rhagovelia hoberlandti* Hungerford & Matsuda 1961 is newly ranked as a subspecies of *R. kawakamii* (Matsumura 1913): *Rhagovelia kawakamii hoberlandti* Hungerford & Matsuda 1961, stat.n. *Cercotmetus asiaticus* Amyot & Serville 1843 is recorded for the first time from the Philippines. Endemic and few undescribed taxa are discussed. Additional environmental data of the

sampled waters are discussed with comparative surveys in the country. (Author's abstract)

Keywords: *Philippines, AQUA Palawana, freshwater biodiversity, taxonomy, water bugs, Hemiptera, Biology*

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-27
2012,
(Filipiniana Analytics)
NP

0007

**Bacterial and yeast food preferences of cellular slime molds (Dictyostelids) isolated from
Lubang Island, Occidental Mindoro, Philippines**

Yulo, Paul Richard J., Dela Cruz, Thomas Edison

Cellular slime molds (dictyostelids) are single-celled, phagotropic micropredators in soil. Often, these organisms are grown in the laboratory with *Escherichia coli* as the food bacterium. In this study, we evaluated the feeding preferences of eight species of dictyostelids previously isolated from Lubang Island, Occidental Mindoro, Philippines. Our results showed that the isolated dictyostelids preferred gram-negative bacteria over gram-positive bacteria and yeasts. *E. coli* remained the food of choice by the most of the isolated cellular slime molds. Our study is the first attempt to evaluate the feeding preferences of locally isolated dictyostelids. (Author's abstract)

Keywords: *bacteriovores, soil micropredators, food bacteria/yeasts, feeding preferences, Biology*

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-8
2012,
(Filipiniana Analytics)
NP

0008

**Beneric status of the endemic *Atalantia linearis* Merr (Rutaceae) based on *rps16* intron data
(cpDNA), with a preliminary report on its phytochemical components**

*Alejandro, Grecebio Jonathan D. , Liwag, Leannel P. , De Castro, Luis Elijah S. , Adajar, Bernard Joseph L. ,
Apepe, Sinbad Alfonso A. , Gatpo, Ariam O. , Banag, Ceci*

Rutaceae (or citrus family), specifically subfamily Aurantioideae, includes many economically important species due to their wide array of secondary metabolites. *Atalantia linearis* (Blanco) Merr., an imperfectly known endemic member of the Rutaceae from the Philippines, is a species of shrub found only in the province of Rizal. It was originally described as *Limonia linearis* and later transferred to the genus *Atalantia*. Subsequent study recognized *A. linearis* as a species of *Severinia* based on morphology. Comparative morphology between the two genera shows disparate features. To determine the generic status and position of *A. linearis* with more certitude, *rps16* sequences of two samples were newly generated and analyzed together with previously published related sequences. Surprisingly, parsimony analysis of the aligned 950 base pairs of the *rps16* dataset showed that the two *A. linearis* isolates did not group to neither *Atalantia* nor *Severinia* species included in the analyses. Instead, the two *Atalantia* isolates formed a lineage of its own closely related to the subclade of *Severinia* and another species of *Atalantia* with a moderate support (BS=87). The phytochemical tests showed the presence of sugars, steroids, flavonoids, alkaloids, coumarins, tannins and phenolic compounds in the leaf and stem ethanolic extracts of *A. linearis*. Thus, the endemic species should be explored as a potential source of medicine. **(Author's abstract)**

Keywords: *Atalantia linearis*, *rps16* intron, Rutaceae, phytochemical, *Severinia linearis*, Biology

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-11
2011,
(Filipiniana Analytics)
NP

0009

Biotype of the invasive plant species *Chromolaena odorata* (Asteraceae: Eupatoriae) in the Zamboanga Peninsula, The Philippines *Metillo, Ephrime B. , Codilla, L*

The gross morphology of one of the world's worst invasive plant species, *Chromolaena odorata*, now widespread in three provinces of the Zamboanga Peninsula, was examined and compared to the characteristics of Asian/West African (AWA), Southern African (SA), and Central and South American biotypes. *C. odorata* from the three provinces of Zamboanga Peninsula is very similar with the AWA and the Central and South American biotypes. Implications of this finding are discussed in the light of the species' invasion and biocontrol in South Asia, Southeast Asia and the Philippines. **(Author's abstract)**

Keywords: *Chromolaena odorata*, biotype, Asian-West African biotype, Southern African biotype, Central and South American biotype, gross morphology, invasive plants, Biology

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-15
2012,
(Filipiniana Analytics)
NP

0010

Blooms of the colonial green algae, *Botryococcus braunii* Kützinger, kin Paoay Lake, Luzon island, Philippines *Saguiguit, Angelica , Cruz, May Ann , Cho, Carmela , Baldia, Susana , Wu, Jiunn-Tzong , Papa, Rey Donne, Aquino, Ri*

Blooms of the colonial green algae, *Botryococcus braunii*, have been widely known to exert toxic effects on a variety of aquatic organisms and have been noted to cause fish deaths in some environments. In this study, a monitoring of the abundance and distribution of *B. braunii* in Paoay Lake was done in 2006. Samples were taken from the surface and deep portions in the lake from 4 sampling sites. The density of *B. braunii* was found to increase with time from an average of 9,670 colonies/L in May to 24,656 colonies/L in June. The highest recorded density was 44,732 colonies/L near the area surrounding the town of Nagbacalan in July. It was also found that the abundance of some zooplankton species was lowered when the abundance of *B. braunii* was elevated in the lake. This study showed that the *B. braunii* bloom has likewise caused a decrease in dissolved oxygen and might have attributed to the toxic effects exerted by this green alga on the other organisms found in the lake. This is the first reported occurrence of a *B. braunii* bloom in Paoay Lake. **(Author's abstract)**

Keywords: *Algal bloom, Botryococcus braunii, Paoay Lake, Biology*

Philippine Journal of Systematic Biology, Volume No. 2 Issue No. 1, 1-6
2008,
(Filipiniana Analytics)
NP

0011

Characterization and identification of high cellulase-producing bacterial strains from Philippine mangroves

Monsalud, Rosario G. , Tabao, Nik Sh

Five promising cellulase-producing bacterial strains from soils collected from various mangrove sites in the country were characterized phenotypically and identified using conventional approach and, alternatively, by rapid identification through the Analytical Profile Index (API) system. They were identified as follows: BBCS-11 as *Bacillus cereus*; BBCS-14 as *Bacillus licheniformis*; BOrMGS-2 and BOrMGS-3 as *Bacillus pumilus*; and BBoB2L2-2 as *Bacillus* sp. The results generated from this study provided data regarding species of *Bacillus* producing cellulase enzyme and impart additional knowledge regarding the bacterial diversity of mangrove forests in the Philippines. **(Author's abstract)**

Keywords: *Bio-prospecting, Conservation, Bacterial Diversity, Mangrove Forests, Biology*

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-8
2010,
(Filipiniana Analytics)
NP

0012

Characterization of marine yeasts isolated from different substrates collected in Calatagan, Batangas

Dela Cruz, Thomas Edison E. , Sabit, Maureen B. , Hernandez, Sophia Angelica S. , Ruiz, Hanah I. , Go, Connel O. , Ramirez, Carly Si

Marine yeasts can be isolated from various substrata. Their potential industrial application merits a thorough study of these microorganisms. Thus, our research study aimed to isolate and characterize marine yeasts from several substrata

collected from Calatagan, Batangas. Marine yeasts were isolated using enrichment culture of seawater, marine sediments, and living and decaying seagrasses and seaweeds on Glucose-Yeast Extract-Peptone broth (GYPS) supplemented with 33 g/L marine salts. Following incubation at room temperature, a total of 13 yeast strains were isolated. Most of the marine yeasts were obtained from either living or decaying seagrasses. Growth on GYP Broth with and without salt showed that six out of the 13 isolates were able to grow in the presence or absence of marine salts. Characterization of the isolated marine yeasts was done using the conventional morphological and biochemical methods and modern molecular techniques. All marine yeasts have cream-colored, circular and convex colonies with entire margin. The cells were spherical with a size range of 2.5 – 12.5 µm. They utilized galactose, maltose, sucrose, trehalose, xylose, sorbitol, N-acetyl-glucosamine and 2-keto-gluconate. Only one isolate (PCL08-LG04) utilized glycerol, arabinose, cellobiose, and raffinose. Comparison of the API 20C Aux profiles with the API database indicated that the isolated marine yeasts have affinity to the genus *Candida*. Gene sequence analysis of their ITS 1 and 2 regions of nuclear rDNA identified the isolates as *Candida tropicalis* and *Pichia carribica*. **(Author's abstract)**

Keywords: *marine yeasts, enrichment culture, polyphasic taxonomy, gene sequence analysis, Biology*

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-11
2010,
(Filipiniana Analytics)
NP

0013

Comparative study of the leaf morphology of *Epipremnum* SCHOTT and *Rhaphidophora* HASSK (Araceae) in the Philippines

Medecilo, Melanie M. , Asencion, Amelia S. , Ago, Esperanza Maribel G. , Bagay, Carmela Kathrina C. , Obico, Jasper J

Leaves of 50 specimens under the genera *Rhaphidophora* and *Epipremnum* were measured and characterized using the Manual of Leaf Architecture. The leaf characters were compared and subjected to phenetic investigation using cluster analysis with the aid of a computer software, PC-ORD (ver 2.11). Generally, the leaves may be categorized into two groups based on lobation. The results of the cluster analysis support the transfer of *R. korthalsii* to the genus *Epipremnum*. Further, the leaf morphology was able to define the interspecific relationship within *Rhaphidophora*. However, in establishing the intergeneric relationship between *Epipremnum* and *Rhaphidophora*, the leaf morphology does not offer conclusive evidence. **(Author's abstract)**

Keywords: *Rhaphidophora, Epipremnum, R. korthalsii, leaf morphology, Biology*

Philippine Journal of Systematic Biology, Volume No. 1 Issue No. 1, 1-12
2007,
(Filipiniana Analytics)
NP

0014

Culturable Foliar Fungal Endophytes of Mangrove Species in Bicol Region, Philippines

Guerrero, Jonathan Jaime G. , General, Mheljor A. , Serrano, Jocelyn E.

Identification of fungi in the mangrove ecosystem is warranted because of the need to document species richness in unique ecosystems, amidst the continuous anthropogenic and climatic threats to mangrove forests and the potentials for biotechnological applications. This study aimed to identify endophytic fungi in association with mangrove species. Leaves – devoid of discoloration, wound, physical deformation, or necrosis – of 21 mangrove species in the Bicol region, Philippines were collected. Circular discs from each leaf were surface sterilized, plated on potato dextrose agar (PDA), and incubated for 7–14 d at room temperature. Growing fungi were transferred individually into sterile PDA slants for identification. A total of 53 endophytic fungi belonging to 15 orders and 19 families were isolated – 75.47% ascomycetes, 20.75% basidiomycetes, and 3.77% zygomycetes. *Trametes cubensis* (Mont.) Sacc. and *Pestalotiopsis cocculi* (Guba) were the most distributed among the mangrove hosts. The mangroves *Rhizophora mucronata* Lam. and *Lumnitzera racemosa* Willd. hosted the most number of fungal endophytes with 15 and 12, respectively. (Author's abstract)

Keywords: Bicol, fungal endophytes, *Lumnitzera*, mangroves, *Rhizophora*, *Trametes cubensis*, Biology

Philippine Journal of Science, Volume No. 147 Issue No. 4, 563-574
2018 December,
(Filipiniana Analytics)
Fil(S) Q1 P55 147/4 2018

0015

Development of an interactive database to the species of *Philippine mussaenda* (Rubiaceae)

Alejandro, Grecebio Jonathan D., Meve, Ulri

An illustrated database of the 27 (including three varieties) Philippine species of *Mussaenda* was developed using the DELTA format and translated to an interactive key. The database, based on field observations and herbarium specimens, comprises more than 200 characters from which detailed descriptions of habit and both vegetative and reproductive parts were drawn. Full illustrations of important characters and each taxon (including field and type specimens) as well as key to the species, phenology, distribution maps, vouchers of specimen examined, discussion, and internal transcribed spacer (nrDNA) sequence are also associated with this database. The interactive identification uses 146 characters, the flower morphology and type of external indumentum score with the highest character reliabilities. The database is available at http://www.uni-bayreuth.de/departments/planta2/wgl/delta_ru/index.html. (Author's abstract)

Keywords: Delta, Intkey, *Mussaenda*, Philippines, Rubiaceae, Biology

Philippine Journal of Systematic Biology, Volume No. 2 Issue No. 1, 1-5
2008,
(Filipiniana Analytics)
NP

0016

New dipterocarp species from the Philippines

Madulid Domingo A., Gutierrez, Hermes G., Rojo, Justo

Four new species of plants under the family Dipterocarpaceae from the Philippines are here described: *Hopea reynosoi* Gut., Rojo & Madulid; *Hopea santosiana* Gut., Rojo & Madulid, *Shorea arsorianoii* Gut., Rojo & Madulid and *Vatica mendozae* Gut., Rojo & Madulid. (Author's abstract)

Keywords: *Dipterocarpaceae, Hopea, Vatica, Shorea, Philippines, Biology*

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-12
2010,
(Filipiniana Analytics)
NP

0017

Earthworm Distribution in Selected Islands of the Visayan (Central Philippine)
Archipelago
Flores, Dante G

Nine (9) genera were identified from sixty seven (67) collection sites within ten selected islands of central Philippines distributed over thirty municipalities. Among these nine genera, seven (*Pheretima*, *Pleionogaster*, *Pithemera*, *Amyntas*, *Polypheretima*, *Metaphire*, *Archipheretima*), belong to family Megascolecidae and two were highly invasive exotics (*Pontoscolex*, *Eudrilus*). Genus *Pheretima* showed the most diversity and is widely distributed, followed by the *Pleionogaster* group. *Pithemera* and *Polypheretima* could have native and exotic representatives as suggested by the vegetation type from which they were collected, while *Amyntas* and *Metaphire* could be native species. **(Author's abstract)**

Keywords: *Central Philippine Earthworms, Pheretima, Pleionogaster, Pithemera, Amyntas, Polypheretima, Metaphire, Archipheretima, Megascolecidae, Biology*

Philippine Journal of Systematic Biology, Volume No. 1 Issue No. 1, 1-5
2007,
(Filipiniana Analytics)
NP

0018

An enumeration of the woody plants of cantipla forest fragments, Cebu Island, Philippines
Buot, Jr., Inocencio E. , Cadiz, Ge

Woody plants in Cantipla forest fragments, Barangay Tabunan, Cebu Island, Philippines, were inventoried from three 200 m² plots. A total of 45 species were recorded representing 37 genera of 26 families. The most represented families were Euphorbiaceae (5 species) followed by Moraceae (4 species) and Rubiaceae (4 species) while the most represented genus was *Ficus* (4 species). The fragmented forest is also a habitat of the critically endangered *Cinnamomum cebuense* Kost. (Lauraceae), locally known as *kalingag*. The flora of the Cantipla forest fragments is typical of a lowland rainforest vegetation. There is an urgent need to examine and analyze the dynamics of this important ecological heritage and biodiversity corridor so that appropriate forest and environmental management strategies by the local government and the community will be identified and implemented.

Keywords: *floristic composition, tropical mountain, lowland forest, Cebu watershed, Cantipla forest, Cinnamomum cebuense, Biology*

Philippine Journal of Systematic Biology, Volume No. 3 Issue No. 1, 1-7
2009,

Interspecific and Intraspecific Variation in *Coffea* sp. using Fruit Metric and Landmark-based Geomorphometric Analyses

Sanchez, Joana Camille S. , Quilang, Jonas P. , Mojica, Ruel M. , Cao, Ernelea P.

Coffee is considered one of the most popular cash crops in the world. In the Philippines, three species of *Coffea* and correspondingly four varieties (*C. arabica* var. Red Bourbon, *C. canephora* var. Robusta, *C. liberica* var. Liberica, and *C. liberica* var. Dewevrei) are grown to produce coffee with each having a distinct taste and aroma. However, misidentification of farmers based on morphological traits is often a problem. In this study, an easy, fast, and inexpensive method for differentiating the four different varieties of *Coffea* was established using metric and geomorphometric analysis. At least 30 berries were collected for each variety from a single site at the Cavite State University in Indang, Cavite wherein metric characters were measured and analyzed using ANOVA, SIMPER, and ANOSIM. At the same time, geomorphometric analysis of the fruit shape – particularly the shape of the berry as oriented radially and longitudinally – was also done using CVAgen. For the metric analysis, the length of the minor radial axis was the most discriminating characteristic. In the geomorphometric analysis, the longitudinal view of *C. arabica* var. Red Bourbon, *C. canephora* var. Robusta, and *C. liberica* var. Liberica was found to differentiate them from each other. Contrastingly, *C. liberica* var. Dewevrei was the only variety that could not be distinguished in any geomorphometric analyses and can only be distinguished using metric analysis. **(Author's abstract)**

Keywords: *berry shape, coffee, geomorphometrics, major axis, metrics, Biology*

Philippine Journal of Science, Volume No. 147 Issue No. 4, 659-665
2018 December,
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Fil(S) Q1 P55 147/4 2018

Isolation and characterization of pink pigmented, facultative methylotrophic (PPFM) bacteria from leaves of neem, *Azadirachta indica* A. Juss

Kumar, Rinki, Lee, Anthon

A total of twenty isolates of pink-pigmented, facultative methylotrophic bacteria were obtained from the leaves of neem. All isolates exhibited pink to orange-pink pigmentation, entire margin, round colonies with a smooth glistening surface, and convex elevation. Most of the colonies were opaque with butyrous consistency. Staining revealed rod to coccobacilli shaped, Gram negative cells, containing poly- β -hydroxybutyrate granules. Biochemical analyses showed that all were catalase positive; majority of them were positive for citrate utilization, urease and oxidase activities but were negative for amylase activity. They can be cultivated on ammonium mineral salt (AMS) agar with methanol, glycerol peptone agar (GPA) and tryptic soy agar (TSA) with variations in colonial morphology. Based on the observed characteristics, the isolates obtained belong to the genus *Methylobacterium*. **(Author's abstract)**

Keywords: *leaf bacteria, PPFM bacteria, Methylobacterium, Biology*

0021

Isolation and characterization of purple nonsulfur bacteria (PNSB) from a rice paddy soil in Bulacan, Philippines

Pastor, Allen Brian I. , Dela Cruz, Thomas Edison E. , Jarabelo, Romel E. , Chan, Jackson S. , Montano, Gera

Purple nonsulfur bacteria (PNSB) are phenotypically diverse group of microorganisms and are known for their biological nitrogen fixation in flooded rice paddies. Our research study, then, aimed to isolate and characterize PNSB and determine their population count. Rice paddy soil samples were collected from San Jose del Monte, Bulacan, and were inoculated into completely filled culture vials pre-filled with different enrichment media, e.g. Larsen's medium, Van Niel's medium, and Acetate Yeast Extract (AYE) medium. Following incubation for 4 weeks under an incandescent bulb, only the AYE medium resulted to bright "red bloom" indicating growth of PNSB. Morphological and cultural characterization of the isolated PNSB showed pinpoint, red colonies and Gram negative, non-spore forming, thin, elongated (0.5 x 2.0 µm) rods. *In vivo* absorption spectrum using spectrophotometer showed the presence of bacteriochlorophyll a and carotenoids. The isolated PNSB utilized pyruvate, malate, glucose, lactate, citrate and soluble starch as its carbon sources, and ammonium sulfate, peptone and yeast extract as nitrogen sources. Preliminary

identification identified the PNSB isolates as *Rhodopseudomonas* sp. MPN estimated low number of PNSB (2 cells per ml) in the collected rice paddy soil. (Author's abstract)

Keywords: purple nonsulfur bacteria, *Rhodopseudomonas* sp., enrichment culture, Most Probable Number (MPN), bacterial identification, rice paddy soil, Biology

0022

Leaf architecture of selected species of malvaceae *sensu* APG and its taxonomic significance

LaraÃ±o, Allen Anthony P., Buot, Jr., Inocencio

The leaf architecture of Malvaceae *sensu* APG was examined and characterized to determine if it can be used in classification of the family and the identification of its species. Forty species were observed, measured and described. A dichotomous key was constructed based solely on leaf architecture characters.

The dichotomous key indicated that leaf architecture characters can be used in distinguishing some species of Malvaceae *sensu* APG. Some basic leaf architectural characters can also be used in describing certain clades within the family.

It is recommended that specimens are collected personally instead on relying on available specimens in the herbarium. Preparation of leaf skeletons through clearing method can also be done in future studies. Increase of sample size is also recommended. **(Authors' abstract)**

Keywords: *leaf architecture, APG, classification, Biology*

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2010,
(Filipiniana Analytics)
NP

0023

***Methylobacterium zatmanii*, a pink pigmented facultative methylotrophic (PPFM) bacterium isolated from the human oral cavity**

Carvajal, Thaddeus M., Tan, Ronabelle L. , Lee, Anthony

A pink pigmented facultative methylotrophic (PPFM) bacterial isolate (P1UM) was obtained from the oral cavity of a male patient diagnosed with periodontitis and dental caries. The bacterial isolate exhibited glistening, smooth, circular, pink colored colonies in minimal medium supplemented with 0.5% methanol. Microscopic morphological examination showed that the isolate is a Gram-negative rod-shaped bacterium with poly β -hydroxybutyrate (PHB) granules. Phylogenetic analysis using its 16S rDNA sequence revealed that the isolate is closely related to *Methylobacterium zatmanii*. **(Author's abstract)**

Keywords: *Methylobacterium zatmanii, poly β -hydroxybutyrate (PHB) granules, pink pigmented facultative methylotrophic (PPFM) bacterium, Biology*

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2011,
(Filipiniana Analytics)
NP

0024

Mitrastemonaceae: A New Family Record for the Philippines

Amoroso, Victor B. , Mendez, Noe P. , Lagunday, Noel E.

Mitrastemonaceae is represented by a sole genus – *Mitrastemon* – with only two known species worldwide, which parasitize on roots of many trees. This paper reports the discovery of *Mitrastemon yamamotoi* from Mt. Malambo, Mindanao, Philippines. Mitrastemonaceae is revealed to be a new family record for the Philippines. Added to its taxonomic description, its habitat characterization, phenology, conservation status, and implications are also discussed. **(Author's abstract)**

Keywords: *Mindanao, Mitrastemon yamamotoi, Mt. Malambo, Philippines, root parasite, Biology*

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2018 December,

Molecular confirmation on the phylogenetic position of the genus *Clemensiella* Schltr. in Marsdenieae (Apocynaceae - Asclepiadoideae)

Lemana, Bismark Oliver C. , Alejandro, Grecebio Jonathan D. , Laurente, Ophelia S. , Buera, Arl

The Philippine Marsdenieae (Apocynaceae-Asclepiadoideae) comprises a total of seven genera including the imperfectly known *Clemensiella* Schltr. Due to its unique morphology, the position of the small genus in the tribe Marsdenieae of Asclepiadoideae was previously in question. In this first molecular study of *Clemensiella*, the internal transcribed spacer (ITS, nrDNA) region of three isolates were newly generated and analyzed together with previous published sequences. The present aims to assess the phylogenetic position, monophyly and closely-related genera of *Clemensiella*. The three *Clemensiella* isolates yielded a total of 630 to 642 base pairs (bp) and the average GC content ranged from 63.21% to 63.86%. Based on the strict consensus tree, the monophyly of *Clemensiella* is highly supported with BS = 100% and nested within the tribe Marsdenieae with BS = 61%. This study confirms the phylogenetic position of *Clemensiella* in Marsdenieae and its close relation to *Dischidia* and *Hoya*. Although the three Marsdenieae are distinct in their seed structures, they share common features in habit, inflorescence and corolla aestivation. **(Author's abstract)**

Keywords: *Clemensiella*, ITS, Marsdenieae, Apocynaceae, Asclepiadoideae, Biology

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-12
2010,
(Filipiniana Analytics)
NP

Morphological and molecular identification of a novel species of *Uvaria* (Annonaceae) with potential medicinal properties

Alejandro, G.J.D. , Lemana, B.O.C. , Macabeo, A.P.G. , Salas, S.R. , Padilla, D.K.M. , Lim, V.I.M. , Exconde, B.S. , Cabuang,

The imperfectly known genus *Uvaria* (Annonaceae) comprises ca. 20 species of shrubs to small trees in the Philippines. During recent fieldwork at Valderrama, Antique, a suspected new species of *Uvaria* was collected. Based on morphology, this *Uvaria* species can be distinguished from other Philippine congeners by its large obovate-lanceolate leaves and pubescent carpels. Additional molecular characters inferred from two plastid DNA regions (*matK* and *trnL-F*) were sequenced from this *Uvaria* species and *U. grandiflora* to gain more certitude on the identity of this *Uvaria* species. Phylogenetic analysis using Maximum Parsimony was carried out including 48 foreign *Uvaria* species and other Annonaceae genera derived from GenBank. Results showed that the divergent *Uvaria* species and *U. grandiflora* were nested among the SE Asian *Uvaria* subclade, with a strong support (BS = 91%). Therefore, we propose a new species, *Uvaria valderramensis* sp. nov. The first phytochemical assays on the leaf extracts of *U. valderramensis* showed the presence of triterpenes, sterols, tannins, flavonoids, phenols and alkaloids. **(Author's abstract)**

Keywords: *Uvaria*, Annonaceae, *matK*, *trnL-F*, phytochemical assays, Biology

A new record of *Pyrostria* (Vanguerieae-Rubiaceae) from the Philippines inferred from molecular and morphological data

Cremen, Ma. Chiela M. , Arenas, Elizabeth H. , Alejandro, Grecebio Jonathan D., Arriola, Axel

Recent studies on *Canthium* revealed that the genus is polyphyletic. Subsequently, *Canthium sensu stricto* (s.s.) was re-delimited to species having paired supra-axillary spines, which led to the reinstatement of various genera in the Vanguerieae such as *Keetia*, *Psydrax* and *Pyrostria*. This raised questions on the generic affiliations of Philippine *Canthium* species as most of its members lacked spines. In an effort to revise the Philippine *Canthium*, the endemic spineless *Canthium subsessilifolium* was collected to ascertain its generic affiliation within the tribe using plastid (*trnL-F* region) and nuclear (ITS region) markers. The majority-rule consensus tree of combined data sets showed a wellsupported clade of the whole Vanguerieae (PP=1.00). Interestingly, *C. subsessilifolium* was nested within the robustly supported *Pyrostria* clade (PP=1.00). Morphological similarities of *C. subsessilifolium* with *Pyrostria* further supported our molecular results. Therefore, a new combination is here provided: *Pyrostria subsessilifolia* (Merr.) Arriola & Alejandro. This study establishes for the first time the existence of *Pyrostria* in the Philippines. (**Author's abstract**)

Keywords: *Canthium*, ITS, *Pyrostria*, Rubiaceae, *trnL-F*, Vanguerieae, Biology

Notes on the natural history of some lizards in the remaining forest patches of Cavite, Luzon Island, Philippines *Lagat, Rona*

Twenty-nine species of lizards, belonging to four families, were recorded in the remaining forest patches of Cavite Province, Luzon Island, Philippines. The family Agamidae is represented by 4 species, Gekkonidae by 9 species, Scincidae by 14 species, and Varanidae by 2 species. Fifty-five percent of the species in the area are endemic to the Philippines, indicating the region of Luzon is dominated by forest-obligate species. Fifteen species are diurnal and 13 species are nocturnal including *Brachymeles bonitae* Duméril & Bibron, 1839, *Brachymeles boulengeri boulengeri* Taylor, 1922, and *Brachymeles kadwa* Siler & Brown, 2010. Three major habitats (forest, stream, and human habitation) were occupied by the observed species, with some species appearing to be habitat generalists. Observation accounts include notes on lizard behavior during social interaction, predator avoidance and capture. (**Author's abstract**)

Keywords: Cavite, Endemicity, Lizard natural history, Species richness, Biology

Occurrence of cellular slime molds (Dictyostelids) in Subic Bay Natural Forest Reserve, Zambales, Philippines

Ching, Maricar , Yap, Jennifer , Dagamac, Nikki Heherson A. , Torres, Jeremy Martin O. , Ramirez, Carly Simon P. , Santiago, Krystle Angelique A. , Dela Cruz, Thomas Edison E., Yulo, Paul Richard

Cellular slime molds or dictyostelids are unicellular, amoeboid organisms that feed on bacteria. They are commonly found in forest soils where they play an important role in maintaining balance among soil microbial flora. However, in the Philippines, in spite of their important ecological roles, very few studies have looked at these organisms. Thus, this present investigation was designed to look at the occurrence of cellular slime molds in two forest trails within Subic Bay Natural Forest Reserve, Zambales, Philippines. Forest and mossy soils were collected from these areas and used for the isolation of dictyostelids. Our results showed clonal population counts of 821 to 3,150 clones/g soil. Identification of the isolated dictyostelids showed two species: *Dictyostelium laterosorum* and *Polysphondylium pallidum*. This is the first report of cellular slime molds in Subic Bay Forest Reserve, Zambales. **(Author's abstract)**

Keywords: *clonal population count, Dictyostelium, diversity, forest soil, Polysphondylium, Biology*

Phenotypic characterization of pink pigmented facultative methylotrophic bacteria from soil exposed to vehicular soot

Jang, Seung Bong, Lee, Anthony

Twenty three (23) pink pigmented facultative methylotrophic bacterial isolates were obtained from soil collected along the island pavement of Taft Avenue fronting De La Salle University-Manila campus. They were described in terms of morphological and biochemical properties, as well as, responses to selected antimicrobials. All isolates were gram-negative rod shaped cells with sudanophilic cysts. Colonial morphologies of the isolates were described after growing them in both minimal and enriched media. All bacterial isolates showed circular, entire, opaque, raised to convex colonies regardless of the media used. Differences however, in terms of intensity of pink pigmentation and consistency were observed when the isolates were grown in different media. In terms of biochemical characteristics, all isolates exhibited urease, catalase, amylase and oxidase activities. Variations in terms of their ability to oxidize different sugars and citrate as carbon and energy sources were observed among the isolates. All isolates yielded negative to blood hemolysis test, indole production methyl red and Voges Proskauer tests. The temperature for the optimum growth of the

bacterial isolates was at 30°C. Some strains however, were observed to grow at 37°C and 4°C. All isolates were susceptible to imipinem, β -lactams and β -lactam- β -lactamase inhibitor formulations, tetracycline but resistant to

meropenem. Based on the phenotypic characteristics observed, the isolates are assigned to the genus *Methylobacterium*. **(Author's abstract)**

Keywords: PPFM bacteria, *Methylobacterium*, soil bacteria, air pollution, Biology

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2008,
(Filipiniana Analytics)
NP

0031

Philippine Porphyra species: their economic potentials

Cordero, Jr., Pacie

A description of the Philippine species of *Porphyra* and their economic potential is presented. **(Author's abstract)**

Keywords: *Porphyra*, economic algae, *Eucheuma*, *Kappaphycus*, Biology

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2008,
(Filipiniana Analytics)
NP

0032

Pink pigmented facultative methylotrophic (PPFM) bacteria isolated from the hair scalp and nasal cavity

Ho, Howell T. , Castro, Christian Zachariah R. , Carvajal, Thaddeus M. , Uy, Jamela , Uy, Miko Mariel, Lee, Anthony

A total of 10 PPFM bacteria isolates from the hair scalp and nasal cavity of subject volunteers was described in terms of morphological and biochemical characteristics. Isolates generate pink, small-sized, round, raised, entire and opaque colonies when cultivated in minimal salt medium with 0.5% methanol. Microscopic morphology revealed that the isolates were Gram-negative bacilli. All isolates yielded positive in urease, catalase and oxidase tests. Phenotypic characteristics conform to the features of genus *Methylobacterium*. Phylogenetic analysis using its 16S rDNA sequence revealed that three isolates are identified as *Methylobacterium rhodesianum* while seven are identified to be only *Methylobacterium sp.* Some PPFM bacteria isolates obtained in the study may be potential novel sequences. The presence of these bacteria in the human scalp and nasal cavity may imply that they are part of the resident or transient microbiota. More samples are needed to ascertain their association with the human scalp and nasal cavity. **(Author's abstract)**

Keywords: *Methylobacterium*, PPFM, nasal cavity, human hair scalp, Biology

Philippine Journal of Systematic Biology, Volume No. Issue No. , 1-9
2013,
(Filipiniana Analytics)
NP

Preliminary report on the anurans of Mts. Palay-Palay Mataas-na-Gulod protected landscape, Luzon Island, Philippines

Causaren, Rubie M

I provide information on the anurans of Mts. Palay-Palay Mataas-na- Gulod Protected Landscape (MPPMNGPL) and its immediate vicinities based on field surveys conducted on accessible localities in 1998, 2006, and 2009. A total of 14 species representing four anuran families in 10 genera were recorded from the area. Baseline data on species richness, habitat and altitudinal distribution, and natural history of anurans are presented. The anuran assemblage exhibited high levels of endemism (57%). Anurans were recorded in elevations from as low as 40 masl to more than 600 masl with the non-endemic species generally distributed in the lowlands while most of the endemics were restricted to higher elevations. Majority of the non-endemic species were usually associated with human-modified habitats while most of the endemic species were restricted to forest habitats. Eight microhabitat types were identified and a large proportion of anurans occurred in bodies of water and forest floor litter. **(Author's abstract)**

Keywords: *Mts. Palay-Palay Mataas-na-Gulod Protected Landscape, Cavite province, Luzon Island, amphibian fauna, herpetofauna, distribution patterns, species richness, anuran assemblage, Biology*

Philippine Journal of Systematic Biology, Volume No. 3 Issue No. 1, 1-14
2009,
(Filipiniana Analytics)
NP

Pteridophyte and gymnosperm diversity in Musuan, Bukidnon

Amoroso, Vic

Inventory of pteridophytes and gymnosperms in Musuan, Bukidnon revealed 102 species, 52 genera and 24 families of pteridophytes and 8 species and 6 genera of gymnosperms. Of these, 10 species of pteridophytes are endemic, 8 species rare, 8 are depleted, 4 species are new records in terms of locality and 59 are economically important species. Likewise, the gymnosperms have 8 economically important species, 2 rare, and 7 introduced species. Three species of pteridophytes are locally threatened in the wild. **(Author's abstract)**

Keywords: *inventory, species richness, non-flowering, vascular plants, Mindanao, Biology*

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2007,
(Filipiniana Analytics)
NP

Screening and optimization of cellulase production of *Bacillus* strains isolated from Philippine mangroves

Monsalud, Rosario G. , Tabao, Nik Sh

Two-hundred and twenty-five mangrove bacterial strains previously isolated from several mangrove areas in the Philippines were qualitatively screened for cellulase production and 154 were found to be capable of cellulase production. Among them, ten strains showed very strong positive cellulase activities, which were then quantified. Five with the statistically highest activities, specifically, BBCS-11, BBCS-14, BBoB2L2-2, BOrMGS-2, and BOrMGS-3, including *Cellulomonas* sp. BIOTECH 1240 (control), were further subjected to partial optimization studies. The effects of substrate, pH, incubation temperature and incubation time on cellulase productoin were determined. The cellulase activities (U mL⁻¹) of the strains under optimized conditions were: 54.80 (Control); 56.60 (BBCS-11); 66.50 (BBCS-14); 50.33 (BBoB2L2-2); 51.04 (BOrMGS-2); and 48.70 (BOrMGS-3). The promising cellulase producers were previously identified: BBCS-11 as *Bacillus cereus*; BBCS-14 as *Bacillus licheniformis*; BOrMGS-2 and BOrMGS-3 as *Bacillus pumilus*; and BBoB2L2-2 as *Bacillus* sp. **(Author's abstract)**

Keywords: Bio-prospecting, Conservation, Bacterial Diversity, Bacterial Enzymes, Mangrove Forests, Biology

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2010,
(Filipiniana Analytics)
NP

0036

Searching for the relatives of the Philippine endemic *Gloeocarpus* Radlk. (Sapindaceae): evidence from molecular sequence data

Arriola, Axel H., Alejandro, Grecebio Jonathan

Gloeocarpus is a monotypic genus and is endemic to the Philippines. There are no available molecular data for *Gloeocarpus*, and its generic status as well as its position within the Sapindaceae has never been challenged, hence, it was not included in any molecular phylogenetic study within the family. Therefore, to determine its phylogenetic position and to evaluate its monophyly, the ITS (nrDNA) regions were sequenced and analyzed together with the previously published sequences of closely related genera. The aligned ITS dataset contained a total of 694 positions, 239 of which are parsimony informative. The strict consensus tree confirmed the phylogenetic position of *Gloeocarpus* within the tribe Cupanieae with strong support (BS=100) and the monophyly of the genus is highly supported (BS=100). Molecular results support morphological evidences characterizing the genus by having the sinuous branchlets and hairy petals with folded margin. **(Author's abstract)**

Keywords: *Gloeocarpus*, Sapindaceae, nrDNA, Cupanieae, Biology

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2011,
(Filipiniana Analytics)
NP

0037

Status of the Myxomycete collection at the UPLB-Museum of Natural History (UPLB-MNH) Mycological herbarium

Quimio, Tricita H. , Javier, Anton Oliver M. , Parra, Christian M. , Dela Cruz, Thomas Edison E., Kuhn, Rudolf

The Philippines is considered one of the world's megahotspots of biodiversity. Among the country's fungal species, about 4,698 species belonging to 1,031 genera are currently known or described, of which only a small number of myxomycetes were included. At the UPLB-MNH Mycological Herbarium, one of the country's premier depository institutions of fungal collections, only about 446 myxomycete specimens were recorded. In this review paper, progress made in myxomycete diversity in the Philippines is reported. The conservation status of the myxomycetes specimens deposited at the UPLB-MNH Mycological Herbarium is also assessed. Furthermore, hindrances to the discovery of new myxomycete species and challenges encountered by local researchers are also discussed. **(Author's abstract)**

Keywords: *myxomycetes, slime molds, biodiversity, conservation, Biology*

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(Filipiniana Analytics)
NP

0038

A taxonomic account of lizards along established trails in mts. Palay-palay mataas-na-Gulod protected landscape, Luzon Island, Philippines

Lagat, Rona

Twenty three species of lizards were recorded in Mts. Palaypalay-Mataas-Na-Gulod Protected Landscape. Belonging to four families; Agamidae is represented by three species, Gekkonidae with seven species, Scincidae with twelve species and Varanidae with one species. Fifty two percent of the species in Mts. Palaypalay-Mataas-Na-Gulod Protected Landscape is endemic which is dominated by forest species. Lizard diversity decreases with increase in elevation. Three major habitats (forest, stream and human habitation) were observed to be occupied by the species and habitat overlaps were observed as some species can occupy all habitat types. **(Author's abstract)**

Keywords: *lizards, phylogenetics, biogeography, Biology*

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2009,
(Filipiniana Analytics)
NP

0039

Taxonomy of Philippine sardines revealed by biometrics data

Canlas, R.A. , Alvia, K.M. , Sonico, M.G.L , Samonte, I.E., Pagulayan, R

The Philippine sardines (*Genus Sardinella*, Family Clupeidae) are interesting organisms due to their great morpho-anatomical similarities. They usually thrive in marine environment with the exception of the freshwater sardine *S. tawilis* endemic to Lake Taal. To elucidate the relationship of the Philippine *Sardinella* spp. 35 biometric variables were determined and then subjected to descriptive (mean, standard deviation, and statistical range) and inferential

(Factor Analysis (FA), Discriminant Function Analysis (DFA), and Hierarchical Cluster Analysis (HCA)) tests. Thirty variables correlated to the four-factor data reduction in FA that explains 96.9% of the total variance among the six sardines. In DFA, only 29 variables were found useful in differentiating the sardines. The same 29 features were able to properly predict the identity of 99.58% of the sardines. The close relationship of *S. albella* to the Lake Taal sardine was demonstrated by all three dendrograms drawn from all 35 variables, only from the 30 FA informative variables, and from the 29 discriminating variables, respectively. The dendrograms also show that the two populations of *S. tawilis* form two distinct clusters consistent with evidence from molecular data. Among the marine sardines, *S. lemuru* can be regarded as the farthest relative of the freshwater sardine *S. tawilis*. **(Author's abstract)**

Keywords: *Sardinella*, *Clupeidae*, *Morphometrics*, *Meristics*, *descriptive*, *multivariate tests*, *Biology*

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2007,
(Filipiniana Analytics)
NP

0040

Tree elements along the Western slope of Mt. Lobo: Species composition from 700 to 1,007m altitudes *Caringal, Anacl*

Mt. Lobo, the highest peak in the coastal province of Batangas, Luzon Island was sampled for its dendrological elements. The forest community along the western slope proved to be diverse in terms of representative tree species. Families and genera of medium altitude (700-800masl) such as Anacardiaceae (*Buchanania*, *Dracontamelon*), Combretaceae (*Terminalia*), Dipterocarpaceae (*Parashorea*, *Shorea*), Euphorbiaceae (*Drypetes*, *Glochidion*, *Mallotus*, *Neotrewia*), Meliaceae (*Aglaia*, *Amoora*, *Dysoxylum*), Moraceae (*Ficus*, *Artocarpus*), Sapotaceae (*Palaquium*, *Pouteria*) were gradually replaced by the characteristic montane families like Clethraceae (*Clethra*), Fagaceae (*Lithocarpus*), Lauraceae (*Cinnamomum*, *Litsea*, *Phoebe*), Melastomataceae (*Astronia*, *Astrocalyx*, *Medinilla*, *Memecylon*), Myrtaceae (*Leptospermum*), Podocarpaceae (*Podocarpus*), Rutaceae (*Melicope*) and Theaceae (*Eurya*). Ascending to 1,007m altitude, Mt. Lobo's mossy forest community appeared simple which was composed of relatively fewer families, genera and species typical of temperate distribution or the "microtherms" (cold-adapted) like conifers (*Podocarpus*), oak (*Fagaceae*), *Clethra* (*Clethraceae*), *Astronia* and *Medinilla* (Melastomataceae), and *Leptospermum* (Myrtaceae). Such speciation is typical of the oak-laurel type of forest in the montane tropics.

The endemic *Tectona philippinensis* (Verbenaceae) interestingly was not found in Mt. Lobo as the species is exclusively distributed on low-lying hills (200-300masl) characterized by Karst formation and honey-comb edaphic features where tree elements become typically deciduous during summer. **(Authors' abstract)**

Keywords: *dipterocarp*, *Mt. Lobo*, *Philippine teak*, *microtherms*, *mossy forest*, *Biology*

, Volume No. 2 Issue No. 1, 1-4
2008,
(Filipiniana Analytics)
NP

In Vitro Germination and Viability Testing of Nipa (*Nypa fruticans* Wurmb.) Pollen under Different Storage Conditions

Mantiquilla, Junaldo A. , Elumba, Merlene E. , Adtoon, Jenny A. , Abad, Reynaldo G. , Millado, Cyrose Suzie S. , Rivero, Gilda C.

Viability levels of fresh nipa (*Nypa fruticans* Wurmb.) pollen samples were determined using acetocarmine stain to identify viable from non-viable pollen. Regardless of the position of male spikes in the inflorescence, the general viability level was estimated at 97.80% even when pollen samples were subjected to temperature of 40 °C at 12, 24, 36, and 48 h. Pollen samples stored under different temperatures in 75 d revealed that oven-drying (40 °C) achieved 96.4% viability, which is significantly higher than deep freezer (−20 °C). Fresh pollen samples collected in Davao Region without pre-drying showed low initial viability in Bago Aplaya, while those from Hagonoy and Carmen had higher % viability due to exposure to higher temperature during longer transit. *In vitro* germination also showed that pollen broke open by aperture when subjected to different levels of sucrose (2, 4, 6, 8, and 10%) at different duration (1, 2, 3, 4 h). The content of the pollen was released instead of tube growth during this test, which requires further validation. (**Author's abstract**)

Keywords: *acetocarmine, in vitro germination, Nypa fruticans, pollen, storage conditions, viability, Biology*

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2018 December,
(Filipiniana Analytics)
Fil(S) Q1 P55 147/4 2018

CHEMISTRY

Chemiluminescence Detection of Chlorpyrifos via Luminol-H₂O₂-Ferricyanide System using Microcontroller-based Photometer

Buenaventura, Angelo Gabriel E. , Yago, Allan Christopher C.

A low-cost photometer for chemiluminescence (CL) detection of chlorpyrifos (CPF) was constructed based on Arduino microcontroller, Si photodiode, and operational amplifier. The CPF detection via CL is based on the decrease in light intensity of the sensing solution (luminol-H₂O₂-Fe(CN)₆³⁻-CPF) as compared to the blank solution (luminol-H₂O₂-Fe(CN)₆³⁻). The decrease in light intensity is due to the known reaction of organophosphates with H₂O₂ and luminol, thereby consuming the reactants for CL reaction. The change in response (ΔI_{CL}) was determined by the difference between the response of the blank solution (I_B) and the sensing solution (I_{ss}). Different parameters for both blank and sensing solutions were optimized. A linearly decreasing response with increasing CPF concentration was found between 0.7 ppm and 2.45 ppm CPF (2.00–7.00 μ M CPF), with a limit of detection (LOD) of 0.663 ppm (1.89 μ M). The system was shown to be selective mainly toward organophosphate pesticides as nonorganophosphate herbicides – such as 2,4-dichlorophenoxyacetic acid (2,4-D) and atrazine – did not show significant changes in response as compared to blank solution. (**Author's abstract**)

Keywords: *chemiluminescence, chlorpyrifos, luminol, microcontroller, Chemistry*

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2018 December,
(Filipiniana Analytics)
Fil(S) Q1 P55 147/4 2018

Infrared and Raman Microscopy of the Arsenate Double Salt Mineral Tilasite, $\text{CaMg}(\text{AsO}_4)\text{F}$, from Långban, Värmland, Sweden

Kloprogge, J. Theo

This paper aims at a full description of the Raman and Infrared spectra of the arsenate mineral tilasite, $\text{CaMg}(\text{AsO}_4)\text{F}$, from Långban, Värmland, Sweden. X-ray diffraction showed the two samples to be phase pure with a monoclinic unit cell of $a = 6.683(3) \text{ \AA}$, $b = 8.950(5) \text{ \AA}$, $c = 7.572(4) \text{ \AA}$, and $\beta = 121.09(2)^\circ$. The infrared and Raman spectra were dominated by the arsenate modes. The two highest intensity bands were observed at 850 cm^{-1} and 831 cm^{-1} and were assigned to the Raman active ν_1 symmetric stretching vibration (A_1) and the Raman active triply degenerate ν_3 antisymmetric stretching vibration (F_2). The Raman and infrared active triply degenerate ν_3 antisymmetric stretching vibration (F_2) was observed in the infrared spectrum at 822 cm^{-1} , 792 cm^{-1} , and 761 cm^{-1} . The intense Raman band at 465 cm^{-1} was assigned to the Raman active triply degenerate ν_4 bending vibration (F_2). The corresponding infrared bands were observed at 523 cm^{-1} , 449 cm^{-1} , and 414 cm^{-1} . The intense Raman band at 329 cm^{-1} was attributed to the Raman active doubly degenerate ν_2 symmetric bending vibration (E). Lowering of the symmetry of the tetrahedral arsenate group led to significant splitting of these modes. The low wavenumber region below 320 cm^{-1} was assigned to metal-oxygen stretching and lattice vibrations. In the range of $1000\text{--}1100 \text{ cm}^{-1}$, four very weak bands were observed. These bands were probably due to the $\nu_3(F_2)$ of a very small amount of phosphate substituted for arsenate in the crystal structure of tilasite. (**Author's abstract**)

Keywords: *arsenate, infrared spectroscopy, Raman spectroscopy, tilasite, Chemistry*

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Untargeted Metabolite Profiling of Philippine-grown *Crescentia cujete* and its Commercial Fruit Juice using GC-MS and UPLC-HRMS

Rellin, Klidel Fae B. , Dasmarinas, Dianne D. , Junio, Hiyas A.

Calabash fruit (*Crescentia cujete* L.) juice has gained traction in Southern Philippines for its miraculous effect against stroke, diabetes, and cancer. Metabolite profile of local *C. cujete* fruit pulp and the commercial fruit juice were established using gas chromatography mass spectrometry (GC-MS) and ultra-high performance liquid chromatography high-resolution mass spectrometry (UPLC-HRMS). Putative hits to the NIST Mass Spectral Library included methyl salicylate, (+)- δ -cadinene, benzene and its derivatives such as toluene and *o*-xylene. Toluene and *o*-xylene are known air pollutants. Results indicated that the fruit has the potential to bioaccumulate small organic molecules. Volatile organic compounds detected in the fruit pulp were absent from the processed commercial juice. Other benzenoid compounds – thiazole and (+)- δ -cadinene, which are important biosynthetic precursors – were identified from the juice sample. Molecular networking analysis of the tandem MS data of the ethanol extract of the juice putatively identified the presence of 1-kestose and sucrose. 1-Kestose is considered as an essential prebiotic compound associated with boosting metabolism and immunity. Other kestose isomers were also indicated to be present in the juice based on the elution profile and

MS/MS data. Preliminary activity tested for both samples yielded positive result against *Candida albicans* using disc diffusion assay. Only the juice sample yielded significant activity against *Escherichia coli*. (**Author's abstract**)

Keywords: calabash, *Crescentia cujete* L, GC-MS, LC-MS/MS, metabolite profiling, untargeted metabolomics, Chemistry

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COMPUTER SCIENCE

0045

Optimal Deterministic Algorithm for the Hammock(2,2)-Poset Cover Problem

Ordanel, Ivy D. , Adorna, Henry N.

The Poset Cover Problem is a hard optimization problem that has application to problems in data mining where the goal is to come up with directed acyclic networks that characterize the ordering pattern of a given set of sequential data. There have been variations to the problem, one of which is the Hammock($\delta \sim 2, 2, \dots, 2$)-Poset Cover Problem. It has been shown that the decision version of Hammock($\delta \sim 2, 2, \dots, 2$)-Poset Cover Problem is NP-complete when $\delta \sim \geq 3$ but in $\delta \sim f$ when $\delta \sim = 1$, the complexity of the problem when $\delta \sim = 2$ was left open. In this study, we focus on the variation where $\delta \sim = 2$, that is the Hammock(2,2)-Poset Cover Problem, where the input is a collection of linear orders over a set and the output is a minimum set of Hammock(2,2)-Posets that covers or generates the given linear orders. We present an optimal deterministic algorithm for the problem that runs in $\delta \sim, (\delta \sim)^2 \delta \sim^3 + \delta \sim^3 \delta \sim^{\epsilon}$ where $\delta \sim^{\sim}$ is the size of the set, $\delta \sim^{\sim}$ is the number of linear orders, and $\delta \sim^{\epsilon}$ is the number of all maximum matchings of a subgraph of the transposition graph of linear orders. We also present properties that show relationships of Hammock(2,2)-Poset Cover Problem to the Set Cover Problem, Cycle Cover Problem, and Edge Cover Problem. (**Author's abstract**)

Keywords: algorithm, partial order, poset, Computer science

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ENGINEERING

0046

Agricultural Residue Feedstock Selection for Polyhydroxyalkanoates Production using AHP-GRA

Requiso, Princess J. , Nayve, Jr., Fidel Rey P. , Alfafara, Catalino G. , Ventura, Ruby Lynn G. , Escobar, Erwin C. , Ventura, Jey-R S.

The potential of polyhydroxyalkanoates (PHA) as substitute to durable petroleum-based plastics is currently explored because of its biodegradability and satisfactory properties. However, its high production cost – primarily due to the cost of substrate – limits its commercialization. As a solution, lignocellulosic agricultural residues can be used as feedstock to lower the production cost. To systematically determine the best agricultural residue for PHA production, this study employed the Analytic Hierarchy Process (AHP) and Grey Relational Analysis (GRA). Based on the results, it was identified that the feedstock composition criterion was given a higher weight over the economic criterion. Additionally, conversion efficiency was ranked first in terms of the overall weights of all the criteria, followed by cellulose content and processing cost. GRA showed that corn stover was the most preferred lignocellulosic substrate for PHA production, followed by banana pseudostem and sugarcane bagasse. Sensitivity analysis also proved that corn stover is an excellent feedstock candidate, particularly if conversion efficiency and processing cost criteria are given higher weights. Related studies such as economic and life cycle analyses, as well as process improvement, may also be incorporated with the results of this study to provide comprehensive information on selecting a suitable feedstock for sustainable PHA production. **(Author's abstract)**

Keywords: *agricultural residue, analytic hierarchy process, grey relational analysis, multi-criteria decision analysis, polyhydroxyalkanoates, Engineering*

Philippine Journal of Science, Volume No. 147 Issue No. 4, 693-709
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 (Filipiniana Analytics)
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0047

Design and Development of a Five-Coach Hybrid Electric Train

Tamayo, Rodnel O. , Puerto, Jonathan Q., Acuin, Pablo

The crisis being faced by the Philippine transportation system is very evident in heavily congested traffic that results to a significant economic loss. A railway system is considered a robust solution to this crisis. The Department of Science and Technology-Metals Industry Research and Development Center (DOST-MIRDC) ventured in the local design and development of a five-coach Hybrid Electric Train (HET) to augment the number of train sets presently in service at the Philippine National Railways (PNR). The development centered mainly on two primary assemblies – the bogie and the coach. The specifications of the bogie assembly, which is manufactured abroad, was based on the results of the X-Ray Fluorescence

Analysis, Chemical Analysis, and Hardness Test conducted on the existing PNR rolling stocks. The coach assembly, on the other hand, was locally made with design verification via computer-aided Stress Analysis. The coach dimension, 12 x 2.85 x 4.432 (LxWxH) in meters, can accommodate a crush load capacity of 220 passengers per coach. The hybrid train set runs on either diesel or electricity. It offers a wide range of benefits, including significantly lower emissions, increased efficiency, and decreased maintenance costs. To establish interface and interaction among the systems making up the train set, a control system utilizing Programmable Logic Controller (PLC) and Human Machine Interface (HMI) was installed. Testing in component and assembly level wrapped up the development securing the trainset functionality, but more performance tests and system certification should be done to assure its commercial viability and public safety. **(Author's abstract)**

Keywords: *Hybrid Electric Train, X-Ray Fluorescence Analysis, Chemical Analysis, Hardness Test, Programmable Logic Controller (PLC), Human Machine Interface (HMI), Engineering*

0048

Ironmaking of Magnetite Sand Concentrates through the Rotary Kiln- Electric Arc Furnace (RKEF) Process

Rivala, Dionisio R. , Calvez, Juancho Pablo S. , Bitanga, Bernardo V. , Nocheseda, Carla Joyce C. , Fudolig, Agus

This paper investigates the suitability of magnetite sand concentrate from Leyte, Philippines as feed material in the RKEF process for pig iron production. The pre-reduction stage follows the SL/RN process making use of coal from Semirara Island, Philippines as reductant. The charge materials are fed into an electrically heated laboratory rotary kiln at a magnetite sand:coal ratio of 1:0.8 and heated at 950 °C aiming for 80% metallization. An 80% metallized pre-reduced magnetite sand is smelted in an induction furnace wherein the resulting pig iron and slag were analyzed. Leyte magnetite sand's composition and particle size distribution approximates that used by the New Zealand Steel. An 80% metallization was achieved in 90 minutes' reduction while smelting behavior of reduced magnetite sand resulted to a pig iron which contained most of the Vanadium and a slag that captured most of the Titanium. (**Author's abstract**)

Keywords: *Ironmaking, Magnetite sand, Rotary Kiln, Electric Arc Furnace, SL/RN, Engineering*

0049

Jewelry Investment Casting Process Review: A Contract Research Project with T.R. Santi Enterprises

Apusa, Lem

This contract research investigates and describes the process of jewelry making by investment casting. The study reviewed the various processes involved and made several recommendations to reduce the various defects encountered. The basic investment casting operations should be standardized to current best practices, while critical process equipment for investment mold burnout and melting and casting are recommended for upgrading to mainstream technologies. (**Author's abstract**)

Keywords: *investment casting, creative industry, jewelry, emblems, Engineering*

Philippine Metalcasting Industry 2017: A Status Report

Gonzales, Alexan

The metalcasting industry plays a vital role in today's modern economy. The metalcasting industry is currently dominated by China, which produced 46.2 million metric tons in 2014 and this accounts for more than 40% of the global casting production while Germany leads the per-plant production with 8,818 metric tons per-plant output. The scale of production of the Philippine metalcasting industry is nowhere near the level of the current global players. This study aims to determine the status of the Philippine metalcasting industry for 2017. This study utilized a descriptive survey research method. The process includes the preparation of the survey questionnaire and submission to the Philippine Statistics Authority (PSA) for approval, conduct of the survey proper with industry interviews, and a focus group discussion for confirmation of collected and processed data. The Philippine metalcasting industry is in its critical stage. Several micro and small metalcasting shops in the country have closed down due primarily to its incapability to compete in the Philippine market as well as globally. About 71% of the metalcasting workforce is concentrated in the medium and large metalcasting companies. The medium and large metalcasting companies are also responsible for 97.1% of the casting production in the country. Government intervention is essential for the survival of the industry. (**Author's abstract**)

Keywords: *Metals Industry Research and Development Center, metalcasting, casting, metals industry, foundry, PMAI, Engineering*

Philippine Metals, Volume No. Issue No. , 1-5
2018,
(Filipiniana Analytics)
NP

Upgrading of the DOST-MIRDC Heat Treatment Facility

Tumibay Nel

The 'Upgrading of Heat Treatment Facility' of the DOST-MIRDC is a project that aims to build the Center's competence in heat treatment technology in support of the metals and engineering industries. The first activity involved the assessment of the vacuum furnace, followed by the refurbishment proper. Test runs and training of heat treatment personnel were conducted. Various metal grades were heat treated to evaluate their response to the recipes as carried out using the furnace.

Results showed that tool steels D2 and H13 readily hardened in the refurbished furnace while 1045, 4140, and O1 did not. The addition of refurbished vacuum furnace in the Heat Treatment Facility of Surface Engineering Building will contribute

to the capability of the DOST-MIRDC in terms of heat treatment services. The refurbished Chugai Ro Vacuum Heat Treatment Furnace is a welcome addition to the Center's existing ULVAC Vacuum Heat Treatment Furnace. With the availability of two vacuum furnaces, the DOST-MIRDC can readily address concerns about heat treatment, R&D activities, processing of jobs, and industry assistance requiring vacuum conditions. However, the existing specification can still be improved if

satisfying the requirements of standards is desired (e.g., installation of real time leak detector, acquisition of helium leak detector, and retrieval of operations data for monitoring). (**Author's abstract**)

Keywords: *heat treatment, vacuum heat treatment, furnace refurbishment, functional testing, performance testing, Engineering*

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2018,
(Filipiniana Analytics)
NP

FISHERIES

0052

A Survey of Subtidal Anthropogenic Marine Debris (AMD) in Mayo Bay, Mati City, Davao Oriental, Philippines

Abreo, Neil Angelo S. , Macusi, Edison D. , Jimenez, Lea A.

Anthropogenic marine debris (AMD) is considered a global threat to the marine environment. Mortality from ingestion or entanglement in AMD is widely reported from marine animals and has harmful impacts on seagrass and corals. The distribution of AMD plays a vital role in its interaction with marine organisms. However, there is little information on AMD distribution in the Philippines – a country ranked as the third most significant contributor of AMD in the ocean. During the monitoring of dugong (*Dugong dugon*) feeding trails in Mati City, Davao Oriental, Philippines, AMD was recorded at one of the sites surveyed. Plastic debris was the most dominant in number and weight of total AMD collected. Here we present the first quantification, characterization, and distribution of AMD in a shallow subtidal area in Mati City, Philippines. More studies are needed to assess the impacts of AMD on the marine environment and organisms, particularly within the Philippines. (**Author's abstract**)

Keywords: *AMD, marine debris, Mayo Bay, Philippines,, solid waste management, Fisheries*

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FOOD SCIENCE AND TECHNOLOGY

0053

Characteristics and Risk Factors for High Fasting Blood Glucose among Managers and Government Officials in the Philippines

Patalen, Chona F. , Guinto, Sarah E. , Atrero, Cristilyn T. , Ducay, Apple Joy D. , Duante, Charmaine A. , Capanzana, Mario V.

Diabetes ranks fifth among the top causes of mortality in the Philippines. In the 2013 National Nutrition Survey (NNS), prevalence of high fasting blood glucose (FBG) was highest among government officials and managers (10.3%) compared to all other occupation groups. Thus, the study aimed to determine the association between socio-

demographic characteristics and selected non-communicable disease (NCD) risk factors with the prevalence of high FBG among government officials, executives, managers, supervisors, and proprietors in the Philippines. The study was a cross-sectional analysis of the 2013 NNS using a multi-stage stratified sampling design. Filipinos – 20 years old and above working as managers of any enterprise, government office and other organizations, with data on FBG and other NCD risk factors – were included in the study. Descriptive statistics were generated using Stata version 12.0. Simple logistic regression was used to determine the association of NCD risk factors with high FBG. Result showed that in this occupation group, factors such as age (≥ 40 years old), elevated blood pressure ($\geq 140/90$ mmHg) and triglyceride level (≥ 150 mg/dL), family history of diabetes, BMI of >25 kg/m², high waist circumference and waist-hip ratio, and currently drinking alcoholic beverages were associated with high FBG. No significant relationship was observed between sex, educational background, HDL-cholesterol level, smoking status, fruit and vegetable consumption, and physical activity with high FBG. This study identified a high prevalence of high FBG among managers in the Philippines and the risk factors that are significantly associated with this condition. Interventions in the workplace to prevent and control high FBG and diabetes through early diagnosis and risk management, treatment, and explicit health policies should be initiated. (**Author's abstract**)

Keywords: *diabetes, government officials, managers, non-communicable diseases, Food science and technology*

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0054

Evaluation of a Puppet Video on Physical Activity as a Diabetic Education Material for Older Children

Glorioso, Idelia G. , Narciso, Zenaida V. , Avilla, Jerlyn D. , Capanzana, Mario V.

A puppet video on physical activity was developed based on the No. 10 Message of the 2000 Nutritional Guidelines for Filipinos, with emphasis on the prevention of diabetes through regular physical activity. Puppets and videos are among creative educational tools to promote health and nutrition concepts. The study aimed to evaluate a puppet video on physical activity based on improvement of nutrition knowledge of schoolchildren after exposure to the video. It also examined the determinants that contributed to the improvement of nutrition knowledge scores of these children. The video was evaluated among 1857 selected Grade 6, first, second, third, and fourth year high school students from public schools in Sep 2015 at six study sites in the Philippines. Study participants aged 10–17 years old and above were distributed among age brackets of 10–12 years old, 13–14 years old, 15–16 years old, and 17 years old and above. The average age of study participants was 13.5 years old. The test-retest technique was conducted to gather data from the participants who answered knowledge test questionnaire before and after watching puppet video. Findings indicated that the puppet video was effective in improving knowledge scores before and after video showing based on significant T-test results. Analysis of variance revealed gender, age, grade/year level, and geographical location as significant determinants of the improvement of knowledge scores of the children. Item analysis showed significant increases in mean scores of 4 out of 5 questions/concepts before and after exposure to the video. The four concepts included: (a) diabetes as a result of lack of exercise, (b) lifestyle diseases other than diabetes resulting from lack of exercise, (c) avoiding overweight as a means to prevent diabetes, and (d) duration and frequency of exercise. The study recommended the following: (a) starting diabetic education among older children considering the increasing prevalence of obesity and diabetes among them; (b) integration of the use of this video in class sessions of the children; and (c) using the video in other venues such as pediatric clinics, play areas, malls, and other places where children congregate. (**Author's abstract**)

Keywords: *diabetes, nutrition education, physical activity, puppets, videos, Food science and technology*

Supplementary Feeding Utilizing Climate-smart Indigenous Vegetables from School Gardens with Iron Fortified Rice Improved Nutritional Status of Schoolchildren

Angeles-Agdeppa, Imelda , Oro, Emilita M. , Magsadia, Clarita R. , Tacugue, Maria Christy Jesusa G. , Gonsalves, Julian F. , Capanzana, Mario V.

This study evaluated the effectiveness of supplementary feeding in improving weight, vitamin A (VA), and hemoglobin levels of children using vegetables from school gardens and iron fortified rice (IFR). A cluster randomized controlled study using multi-stage sampling involving 6–8 year old underweight (WAZ <−2 SD) and/or anemic (hemoglobin <12 g/dL) schoolchildren in three public schools in Cavite province was conducted. School 1 and School 2 received lunch with standardized one-dish vegetable recipe; however, School 1 and School 2 had IFR (GIFR) and ordinary rice (GOR), respectively. School 3 (SNK) served hot soups or native delicacies as snacks available in the school canteen. Eighty (80) children in each group participated in the feeding every school day, 5 days a week for 120 days. Data on weight, hemoglobin, and serum retinol concentration for vitamin A (VA) levels were collected before and after the study using standard methods. Basal and endpoint mean weight was similar between groups; however, within group mean increment was significantly higher in GIFR and SNK than in GOR ($p<0.05$). Translating the results to prevalence of underweight at endpoint, the decrease in GOR was significantly higher than the decrease in GIFR and SNK ($p<0.05$). Basal mean hemoglobin levels were similar between groups; at endpoint, mean increment in GIFR 1 was significantly higher than in GOR. Baseline prevalence of anemia was significantly lower in SNK than in the two schools ($p=0.05$). At endpoint, only GIFR had a significant decline between time periods ($p=0.000$). Baseline mean VA was significantly lower in GIFR than in SNK ($p=0.027$); at endpoint, mean level was significantly higher in GIFR than in SNK ($p=0.003$). Supplementary feeding is effective in improving the weight of schoolchildren. The model of linking the use of vegetables from school garden had improved VA levels and the use of IFR has increased hemoglobin level. (**Author's abstract**)

Keywords: *iron fortified rice, nutritional status, supplementary feeding, vegetables from school gardens, Food science and technology*

Theoretical Risk Ranking of Commonly Consumed Processed Philippine Fish Species with and without Phosphorus-containing Additives

Azanza, Maria Patricia V. , Bautista, Karina Angela D. , Azarcon, Vallerie B.

A framework of theoretical calculations based on the review of published information was used to determine possible risks due to dietary phosphorus in identified commonly consumed Philippine fish species – including tilapia, milkfish, round scad, and yellowfin tuna. The reported individual consumption data and mean body weight of various age

groups starting from preschool (6 mo – 5 y/o) to elderly (≥ 60 y/o) in the Philippines, the standardized maximum tolerable daily intake of phosphorus, and the phosphorus levels in EP of fish species were utilized to calculate worstcase scenario risk values. The background phosphorus levels of fish species were based on their corresponding reported natural mineral content, while total phosphorus content was calculated from the background phosphorus in addition to the allowable maximum guideline value for phosphorus additive in processed fish products. Theoretical results showed that all age groups are at low risk in the consumption of the identified fish species, with or without phosphorus-containing additives, based on the ranking. The study recommended the validation of the framework of calculation by its application to other food additives. A supplemental study for the validation of the background phosphorus levels in raw test fish species and the total phosphorus levels in processed products with the additive commercially sold in the market was also recommended. (**Author's abstract**)

Keywords: dietary phosphorus, milkfish, risk ranking calculation, round scad, tilapia, tuna, Food science and technology

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2018 December,
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FORESTRY

0057

Glue and Preservative Effects on the Properties and Durability of Engineered Bamboo Boards

Alipon, Marina A. , Garcia, Carlos M. , Bondad, Elvina O.

The effect of glue and preservative treatments on the physico-mechanical properties and durability against bamboo-destroying insects, respectively, of engineered bamboo boards from kauayan-tinik (*Bambusa blumeana* J.A. & J.H. Schultes) and giant bamboo [*Dendrocalamus asper* (Schultes f.) Backer ex Heyne] were evaluated. Costs of glues to bind the bamboo slats and chemical treatments were computed. Six glue types were used: polyvinyl acetate (PVAc) for interior and exterior use (Glue 1); PVAc for interior use (Glue 2); urea formaldehyde (UF, Glue3); Glue 3 + 5% isocyanate (Glue 4); Glue 3 + 1.5% isocyanate (Glue 5); and phenol formaldehyde (PF) (Glue 6). The chemical used included: permethrin (T1); fenvalerate (T2); deltamethrin (T3); propiconazole (T4); deltamethrin + propiconazole (T5); and disodium octaborate tetrahydrate. (DOT, T6) Standard procedures were applied in evaluating the physical (relative density and moisture content) and mechanical (modulus of rupture, modulus of elasticity in static bending, hardness, and shear) properties of the bamboo boards. Engineered bamboo samples glued with PF and UF did not pass the US Formaldehyde Emission Limits (FEL) for composite wood products. However, both passed the FEL for composite wood products in Japan, although UF fell in the average limit category. Overall, the combination of PVAc + deltamethrin is highly recommended for high-end products such as housing components (floor tiles, balusters, windows, and doors). The UF + deltamethrin combination was also cost-effective. However, the strength properties of UF – particularly shear which measures the bonding strength of glue – was significantly lower than samples glued with PVAc. (**Author's abstract**)

Keywords: durability, engineered bamboo, glue, physical properties, mechanical properties, preservatives, Forestry

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GENERAL WORKS

0058

Capacity Building Initiatives of Winrock International on Mud Crab Culture in the Caraga Region

Nobillos, Joselito, Gudahl, Daniel, Orpreci

Caraga Region is surrounded by vast fishpond and mangrove areas suitable for mud crab culture. Despite being a major source of wild *Scylla serrata* juvenile crabs, production of market size crabs in Caraga Region accounts for only 6% of the total aquaculture production in the region.

Through the initiatives of the Philippine Cold Chain Project and Winrock International, the capacity building was initiated to address the issues on the lack of seedstock and unreliable feed supply in Caraga Region. The establishment of a mud crab hatchery in partnership with either the private sector, the producer's association/cooperative or Local Government Units with SEAFDEC/AQD providing the technical assistance is being worked out. At present, crab growers rely on raw animals and by-products. Grow-out culture of mud crab using the formulated diet developed by SEAFDEC/AQD will be demonstrated in selected ponds on the second quarter of 2016.

Keywords: *Caraga region, Scylla serrata, mud crab culture, seedstock, feed supply, General works*

Philippines: In the forefront of the mud crab industry development, Volume No. Issue No. , 120-122
(Filipiniana Analytics)
Fil(B) SH380.45.P6 P45 2017

0059

Enforcement of the Unified Provincial Fisheries Law in Camarines Norte with Focus on Mud Crab

Estanislao, Edgar A.

The article discussed the enforcement of the Unified Provincial Fisheries Law Enforcement Ordinance of Camarines Norte to widen the area coverage of fisheries management through proactive participation of the provincial government. It addressed some existing national laws that showed inconsistent implementation in the local setting, like the illegal collection and possession of mud crab species.

Keywords: *Fisheries Law, Mud crab, Camarines Norte, General works*

Philippines: In the forefront of the mud crab industry development, Volume No. Issue No. , 127-128
2017,
(Filipiniana Analytics)
Fil(B) SH380.45.P6 P45 2017

0060

Mud Crab Marketing Practices *Decembrana, Al*

The article discussed the mud crab marketing practices in the seafood capital of the Philippines, Capiz. It mentioned the kinds of market where crabs are commonly brought and sold, like households, local market/restaurants, trading stations, exporters, and importers. It was recorded that the highest supply for seafood falls from December to February due to high demand for holidays and other special occasions.

Similar to other produce, the economic value of mud crabs are determined by the following factors: species, sex, size, gonad maturity, intactness of limbs, and total quality of the produce. Once the mud crabs are being sorted, the produce will be packed and transported and/or shipped to designated locations at the same day to avoid stress-induced condition.

Keywords: *Mud crab, Marketing practices, Capiz, Scylla serrata, S. olivacea, S. tranquebarica, General works*

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(Filipiniana Analytics)

INDUSTRY

0061

10th East Asia Summit – Energy Cooperation Task Force Meeting

Keywords: *bioethanol production technology, Japan, cellulose biomass, RITE strain, Industry*

Renewable Energy Topics in East Asia, Volume No. Issue No. ,
2009/03,
(Filipiniana Analytics)

0081

Construction of Woody-pellet Production Plants in Thailand and Indonesia

Southeastern Asian countries are endowed with rich forestry resources. Their natural settings are ideally suited for woody biomass production owing to their vast land areas and abundant sunshine. Table shows their forest areas and reserve of forestry resources. In recent years demands for biofuel has been rising worldwide, and bioenergy businesses are becoming more and more interested in southeastern Asian countries that are rich in forestry biomass.

As an example of utilization of biomass resources, Vega Promotional Systems Inc., 100 % subsidiary to Natural Fuels Industries Inc., of Thailand announced in March 2009, that the company plans to produce woody pellets of 8 mm size, by utilizing existing production plant at MAPTaPHUT Port after some conversion. Chaffs, corncobs and waste of eucalyptus will be the raw materials for the pellets. Vega plans to produce 500,000 ton annually, the plant will be in full operation in autumn 2009. Of the product, 20 % will be consumed in Thailand, and 80 % will be exported to Europe and America.

Meanwhile, in March 2009, a project agreement has been signed between Korean and Indonesian governments. The agreement states a woody-pellet production plant will be constructed and operated in 2010 in Kalimantan, Indonesia. The size of the production is now under negotiation, however, they plan to construct a woody pellet production plant designed to utilize biomass fed from the 200,000 ha of forest. The product will be exported to Korea. Some Japanese electric power companies have already started so-called bio-power generation by burning woody tips imported from southeastern Asia. Many other countries are looking at southeastern Asian countries as rich biomass reserve areas, and therefore more bio-businesses and bio-projects of this sort will likely be developed in near future.

Keywords: *southeastern asia, biofuel, bioenergy, bio-power generation, Industry*

Renewable Energy Topics in East Asia, Volume No. Issue No. ,
2009/05,
(Filipiniana Analytics)

0082

Contract Price Agreed on RDF from RDF Manufacturing Plant in Shiraoi-cho, Hokkaido

The Japan's first RDF power station was commissioned in 1989, and currently more than 16 stations are in operation, of which three stations are in Hokkaido. Seven RDF manufacturing plants (excluding RPF manufacturing plants) have been constructed to satisfy demand.

The RDF plant under construction at Nippon Paper Industries' Shiraoi-cho site in Hokkaido will produce 37.6 tonnes of RDF daily, for which a contract price of ¥ 5,775 per tonne has been agreed. Total processing costs will therefore increase to ¥ 200,963,000, however Shiraoi-cho will bear ¥ 170,000,000 of this annually, so that costs are expected to drop to ¥ 109,188,000.

Keywords: *power station, Japan, manufacturing plants, Industry*

Renewable Energy Topics in East Asia, Volume No. Issue No. ,
2009/01,
(Filipiniana Analytics)

Development of Biomass Energy Use in Southeast Asia

Southeast Asian nations are rapidly becoming aware of the importance of biomass energy and they are looking forward to introducing development aids and/or CDM projects from Japanese enterprises. (CDM=Clean Development Mechanism)

Chubu Electric Power Co., Inc. announced that it would begin commercial operation of their two electric power stations, the goal of the company's electric power supply project using palm-biomass, at eastern Saba-State of Borneo island in Malaysia in January or February 2009. So far, most of empty shells of coconut (=palm-fruit) were regarded as waste and brought to dump heaps after extracting the content that yielded palm oil. The power stations are expected to supply 10,000kW of electricity commercially, and Chubu Electric Power will gain two million tons of "CO2-Credit" by the end of 2012.

Itochu Corporation is planning to initiate the production and sales of a biofuel as substitute for gasoline, jointly with local enterprises in Thailand. The biofuel is produced from molasses which is the remain of sugar-beet after sugar extraction.

Keywords: *biomass energy, clean development mechanism, electric power station, coconut, molasses, Industry*

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New Development of High Efficiency Lignin Elimination Technique

Innovative Bioethanol Technology Research Union (IBTRU) plans to establish bioethanol production technology by FY2015. Their new production plant would be capable of supplying 200,000kl of bioethanol which would be sold on market at 40 yen/liter. A member of the Union, Nippon Oil Corporation (ENEOS) released that they had succeeded in developing a novel advanced pre-processing technique for the production of bioethanol from cellulose biomass.

It is a novel eliminating technique of lignin what ENEOS has developed. In the production process of bioethanol, lignin must, at first, be eliminated from cellulose biomass, since lignin interferes with fermentation. Woody biomass is first fragmented into small particles of 0.2 to 2 mm diameter, then mixed and heated in a pre-processing tank where the mixture is exposed to a special gas that efficiently takes away the lignin. With this pre-processing, it was proved that the new process, in a best condition, could produce saccharide six to seven times more than the case without pre-processing. In addition, this pre-processing could efficiently eliminate lignin under a relatively low temperature and also it is harmless to environment.

Keywords: *bioethanol, cellulose biomass, bioethanol production technology, Industry*

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Development of Production Process of Bioethanol in Japanese Way

For expanding the use of bioethanol in the society, it is essential to establish a chemical process and technique to produce ethanol by using pruned wood branches or plants. Research and development of wood-based bioethanol production process in Japan is underway by taking account of regional vegetation conditions.

At Bohzawa in Kita-Akita City, a verification plant for bioethanol production from pruned wood branches of Akita-cedar trees is expected to be put into operation in next April. The plant is designed to produce 20,000 liter of ethanol annually from 90tons of wood. The Forestry and Forest Products Research Institute is in charge of its design and operation. For the first time in Japan, alkaline pulping technique adopted from paper manufacturing process is introduced to the plant to efficiently eliminate lignin which is one of the major components of wood.

An agency-industry-university consortium formed by 8 institutions based in Okayama prefecture and surrounding areas developed a method by making use of a gene recombination technique, and succeeded to produce bioethanol from wheat bran. This is the outcome of three years effort started in 2006. A kind of yeast that issues cellulose-dissolving enzyme was propagated by five times and thus raised the ability to dissolve cellulose. This technique is adoptable to other cellulose matters such as rice bran and chaff.

Keywords: *bioethanol, Japan, Akita-cedar trees, wheat bran, Industry*

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Diversification in Biofuel: Produced from Sunflower Seeds

On December 20th, Nishi-Nippon Railroad Co. Ltd. held trial rides of a bus powered by biodiesel fuel (BDF) derived from sunflower seeds as part of celebrations associated with the 100th anniversary of the establishment of the company. The sunflower seed oil was imported from Thailand and Tanzania and the fuel manufactured on a trial basis, however the ability to manufacture biodiesel fuel from locally produced sunflower seeds has been confirmed. This represents a new stage in progress in manufacture of biodiesel fuel from non-food oils.

Keywords: *biodiesel, sunflower seeds, biodiesel fuel, Industry*

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(Filipiniana Analytics)

EFB Power Generation is becoming popular in Asia

A large amount of remnant is being deposited from palm oil production process. While all of palm fruit fiber and a part of coconut shells are burnt for heating purpose in the palm oil processing, the rest has been just left over. Every year, EFB (Empty Fruit Bunches) is generated 3.46 million ton in Indonesia and 4.71 million ton in Malaysia. So, electric power generation by burning EFB is now eagerly anticipated.

As depicted in Fig., palm oil price has been falling so far, but it is now rising again and consequently promotion for EFB power generation seems to be gaining a thrust again.

Keywords: *palm oil production process, empty fruit bunches, EFB power generation, Industry*

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Electric Power Business Using Grass - First in Japan!

First electric power generation using wild grass "Susuki" is underway in the wide-spread meadow of Mt. Aso in Kumamoto prefecture. This R & D project (FY2005 - 2009) is granted by NEDO. Susuki, Japanese pampas grass is grown by human hands in England or The Netherlands as an energy resource. But, a lot of wild susuki grows here over the skirt of Mt. Aso.

Wild grasses and woody tips are gasified and the gas is burnt to operate a gas-engine-powered electricity generator. In addition, exhausted heat is recovered. A NPO called Kyusyu Biomass Forum and its associates initiated and manages this project. The generated electricity and recovered heat are used as energy resource for the swimming pool of a public recreation facility "Azalea 21".

Keywords: *Susuki, wild grass, Japan, woody tip, gas-engine-powered electricity generator, Industry*

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New energy power by the RPS law increased 1.83 times in 5 years

Japan depends on imports for fossil fuel including petroleum, coal, and natural gas, with its energy self-sufficiency ratio of barely 4%. Additionally, the CO₂ emission by using the fossil fuel is promoting the global warming. As measures against this “energy problem” and “global warming problem”, “new energy” is effective; thus the Japanese government is promoting the spread of the “new energy.”

The “new energy” is defined by law* as energy that needs to be the most widespread of the “renewable energies” such as biomass, solar energy, wind power, geothermal power, and hydraulic power. As regulatory measures for electric power suppliers to promote the introduction of the “new energy”, the RPS law (Renewable Portfolio Standard law: special measures law related to utilization of new energy, etc. by electric power suppliers) is available. (*Special measures law related to promotion of new energy utilization, etc.)

The RPS law established in June, 2002 and enforced in March, 2003 is a law to obligate electric power suppliers to derive a certain ratio or more of the electric energy from the new energy. While the supply of electricity such as new energy based on the RPS law was 4.06 billion kWh in fiscal 2003, it was 7.43 billion kWh in fiscal 2007, a 1.83-fold increase in 5 years. Of them, the growth of wind power generation is remarkable, but the power generation by means of the biomass is largest as electric energy generated, accounting for nearly 50% of the whole.

The certified power generation facility capacity by power generation type based on the RPS law is 5,616,438kW (August, 2008), and biomass, wind power, and solar light are large in proportion. The target of gross generation under the RPS law is 12.2 billion kWh in fiscal 2010 and 16 billion kWh in fiscal 2014.

Keywords: *Japan, fossil fuel, natural gas, carbon dioxide emission, new energy, power generation, Industry*

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0090

For Expanding Use of Biofuels in Japan

The Japanese government designates a target value for domestic biofuel production as 50,000kl by 2011, up to 6,000,000kl by 2030, the latter figure equals to 10% of annual consumption of gasoline in Japan. To achieve this goal, various measures are being taken or on the plan by the government and related industrial bodies.

To expand the use of biofuels in transport sector, the Council for Promotion of Biofuel Utilization under the Ministry of Environment, has, in last January, elaborated a range of measures including "Promotion and lateral expansion of Bioethanol", "Utilization of Locally-suited and Collectable Materials", "Acceleration of Introduction of E10 (10% ethanol added gasoline)", "Promotion of Adaptation of Fuel Stations and Storages to E3 (3% ethanol added gasoline)".

In addition to the above, from coming April, oil Industries will start to supply "Biogasoline" = gasoline containing Bio-ETBE (Ethyl Tertiary-Butyl Ether), with all-out efforts. The "Bio-ETBE" is synthesized from bioethanol derived from sugar cane, and iso-buten. They estimated the total sales of the "Biogasoline", gasoline with 7% of ETBE, would amount to about 140,000kl, during FY 2008, at one hundred gas-stations in the country. Further, the oil industries plan to raise the sales amount up to 200,000kl in FY2009, and up to 840,000kl in FY2010, where changing to unreserved sales. This biogasoline clears the octane rating of 89.0 of regular gasoline, and therefore it is expected to become popular. (Petroleum Association of Japan)

Keywords: *Japan, biofuel, biogasoline, Ethyl Tertiary-Butyl Ether, ethanol, Industry*

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0091

As for energy consumed in Vietnam, the biomass energy accounts for 46%

The total energy demand in fiscal 2006 in Vietnam was equivalent to 30 million tons of petroleum. By energy types, 46% was for biomass, 23% for petroleum, 17% for coal, 10% for natural gas, and 4% for hydraulic power, indicating the high degree of dependence on biomass energy. Main resources for the biomass energy (the quantity: 50 million tons per year) are rice husks, wood, droppings of animals, and agricultural waste.

The final actual energy consumption by divisions was 59% for home, 21% for industry, 15% for transportation, 4% for commerce, and 1% for agriculture. In Vietnam, 70% of population lives in rural areas where firewood, straw, and wood are used as the energy source for cooking at homes. Most of the biomass energy is utilized in rural areas as home energy. In Vietnam, they are exactly practicing a “low-carbon society.”

Keywords: *total energy demand, Vietnam, biomass energy, low-carbon society, Industry*

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0092

The Indonesian government doubled the dissemination subsidy for bio-fuel in fiscal 2010

In Indonesia, the use ratio of bio-fuel in automobiles in fiscal 2008 is 1% and that in other industries is 2.5% and in fiscal 2010, the use ratio of the bio-fuel will be raised to 3% and 5%, respectively.

At the end of May, 2009, the Indonesian government submitted to the House of Representatives a bill to double the bio-fuel subsidy for the next fiscal year to 1.5 trillion Rp[rupiah] (about 125 million dollars). The government judged that it would be difficult to achieve the target of fiscal 2010 unless the subsidy is doubled. The subsidy is expected to be 1,450Rp/L for bio-ethanol and 1,660Rp/L for bio-diesel oil. (Note: 1Rp = about 0.01 yen)

Meanwhile, PT Pertamina, an Indonesian state-owned oil company, raised the price of high-octane value gasoline, which is not subject to the subsidy, by 200 to 300Rp/L on June 1, 2009. The price of Pertamina Plus gasoline was raised from 6,300 to 6,500Rp/L and that of Bio Pertamina gasoline from 5,600Rp/L to 5,900Rp/L.

The Indonesian government has a policy of promoting the spread of the bio-fuel on two fronts: one to raise the price of gasoline not subject to the subsidy and the other to double the subsidy for the bio-fuel.

Keywords: *biofuel, Indonesia, bioethanol, Industry*

Indonesian National Plan for Biomass Energy Supply

In FY 2006, the total consumption of primary energy of Indonesia scored 8.37 billion barrel of crude oil equivalent. This figure was consisted of crude oil (47%), natural gas (22%), coal (24%), hydraulic power (2%), geothermal (5%), showing quite high dependence on crude oil. A presidential decree for promoting the use of biofuel was issued in January 2006 designating the future energy policy of Indonesia. The decree designates a goal to be attained by 2025, where the share of crude oil to be lessened as low as 20 %, that of coal to be raised to 33 %, in addition that of biofuels (bioethanol, biodiesel fuel, and other kinds of biomass-derived oil) to be 5%.

Table shows the national supply plan of biomass energy for FY 2010. As regards production of biodiesel fuel at present, BPPT (Badan Pengkajian Dan Penerapan Teknologi) has installed a test plant that can produce 1 ton per day of biodiesel oil using jatropha oil as raw material, at its Energy Technology Development Center and has been running a range of experiments. Besides, BPPT possesses a full-scale proof plant with 5,000ton/year capacity. The biodiesel fuel produced by these plants will be blended with light oil so as to be used for transportation vehicles. The blending ratio will be 10 % by FY 2010, and to be raised to 20% by FY 2025.

Keywords: *Indonesia, biofuel, crude oil, biomass energy, biodiesel fuel, Industry*

Introducing wooden biomass fuel facility of the largest scale for co-firing generation of coal and wooden biomass

The generated energy of fiscal 2007 in Japan is 1,023.9 billion kWh, and by source, 25.3% is for coal, 27.4% for natural gas, 13.1% for petroleum, 25.6% for nuclear power, 6.6% for ordinary hydraulic power, 1.0% for pumped hydraulic generation, and 0.7% for new energy. Japan, poor in energy resources, stopped to depend on one energy source after the oil shock and has generated electric power through a balanced combination of coal, natural gas, petroleum, and nuclear power.

Among fossil fuels, coal is rich in reserves. Its minable duration is 171 years while it is 40 years for petroleum and 65 years for natural gas. Coal is an important resource widely distributed in the world and considered to ensure a stable supply for the longest period.

However, the coal fired power generation has a drawback because its CO₂ emission factor (CO₂ emission per 1kWh

generated) is 975 g-CO₂/kWh, which is larger than 742 g-CO₂/kWh for oil fired generation and 608 g-CO₂/kWh for LNG fired generation. To cope with this, power companies in Japan are promoting “utilization of biomass for coal fired generation” as one of CO₂ emission reduction technologies.

In Okinawa Prefecture, the power generation of co-combustion of coal and wooden biomass is getting into full swing. On May 25, 2009, JP Steel Plantech Company announced that it had concluded a contract to deliver its wooden biomass fuel facility, largest in scale in Japan, to Biomass Recycling Center in Uruma-shi, Okinawa Prefecture. The construction is scheduled to be completed at the end of September, 2009.

In Okinawa Prefecture, more than 40,000 tons of waste wood including construction and demolition waste and furniture are produced and most of them are incinerated and not utilized. The wooden biomass fuel facility introduced this time will enable to process 20,000 tons of waste wood per year and produce cylindrical pellets of about 3cm in length. About 50% of the waste wood produced in Okinawa Prefecture is recycled, resulting in resources worth ¥6,500/ton. These pellets will be combusted by 3% of mixing ratio with coal at Gushikawa Coal Fired Power Plant of The Okinawa Electric Power Co., Inc. from fiscal 2010. By utilizing these wooden pellets, Okinawa Electric Power Company can achieve CO₂ emission reduction of about 40,000 tons per year because due to the reduced coal consumption.

Keywords: *Japan, wooden biomass, coal, carbon dioxide, power plant, power generation, Industry*

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0095

JA Group Start Regular Production of Domestic Biofuel

JA (National Federation of Agricultural Cooperative Associations) group will launch regular production of bioethanol in March 2009. The project is one of the projects planned by the Ministry of Agriculture, Forestry and Fisheries (MAFF), called “Proof Model Experiments for Utilization of Local Biomass Fuels” undertaken by Niigata prefecture since 2007. The raw material is a breed of prolific rice crop improved for bioethanol production.

The bioethanol production plant was completed at the end of 2008. Trial operations were conducted last January and first successful production of ethanol was proved on February 2009. Annual production of ethanol from this plant is estimated to be 1,000 ton. The ethanol will be blended with gasoline at a bulk ratio of 3 to 97 to make E3 fuel. They intend to sell 33,000 kl of E3 at JA gas stations in Niigata prefecture at the same price as normal gasoline’s.

This JA project is the first fruit of the “Forestry and Fishery Biofuels Act” enacted in October 2008 and designated for the promotion of domestic production of biofuels. The Act allows for some tax exemption for the production facilities and provides favorable financing.

Keywords: *Japan, bioethanol, biomass fuel, ethanol, Forestry and Fishery Biofuels Act, Industry*

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Latest News Topic of Biofuel Development in India

India began use of E5 (5% ethanol blended gasoline) in 2002. At the time of February 2007, biofuels have come into use in twenty states and four designated cities.

In FY2006, two million kiloliter of bioethanol was produced from sugarcane that accounted for 4 % of worldwide production 49.9million kiloliter. India plans to promote and spread the use of biofuels, especially E10, throughout the country.

Research and development efforts are also being made in India to establish production technology of ethanol from non-food (cellulose) biomass such as corn pith and dregs of sugarcane.

On February 10, 2009, Praj Industries Ltd., major Indian R & D company for biofuel production technology, announced that the company succeeded in producing ethanol from cellulose biomass, and that the company's ethanol production would be doubled by 2012.

On February 3, 2009, India and US governments exchanged a memorandum for cooperation on the promotion of biofuels development in India. Both countries intend to build up, in the sectors of science, technology and policy, a cooperative framework for promoting the production, utilization, distribution and marketing of biofuels in India.

Keywords: *India, E5, bioethanol, cellulose biomass, Industry*

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Local Production and Local Consumption of Biomass Energy

Fourteen million ton of non-edible portion of agricultural products, such as rice straw and chaff, are generated every year in Japan. Only 30 % of them are utilized: for making composts, for cattle foods, and for strewing on floors in cattle sheds. The remaining 70 % was discarded as waste. Besides, 3.5 million ton of useless woody materials are carried out of the forests every year. Only 2 % of them are used for making pulp and the rest are left unused (Statistics of Ministry of Agriculture, Forestry and Fisheries). Many local municipalities are trying to utilize those formerly unused woody biomass as biofuels and to consume them in the same district. A number of proof experiments of biofuel production for this purpose are in progress.

On February 13, 2009, a public organization "Project Union of Chino Town Development Ltd." of Chino, Nagano Prefecture, announced that they were successful in producing ethanol from larch trees grown in Chino area. Larch trunks and branches were broken into powder and added with a kind of enzyme which turns the cellulose of the wood

into saccharide, which was then fermented by adding yeast. In this way, they obtained 268 milliliter of ethanol from 1 kg of wood. They intend to use the ethanol to make E3 fuel to be burned by Chino Town's on-demand buses.

Keywords: *unused woody biomass, biofuel, Japan, biofuel production, Industry*

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0098

Myanmar Biofuel Project Using Jatropha Oil

Jatropha is a kind of tropical deciduous shrub tree. Oil content of jatropha seeds is very high, ranging from 30 to 35 %, five times that of soybeans, three times that of rapeseeds. Therefore jatropha seeds are an ideal raw material for production of biodiesel fuel. A planted jatropha tree can yield 0.8 liter of biofuel and absorb 8 kg of CO₂ annually.

In 2004 Daimler-Benz AG as well as BP plc. respectively conducted running tests of real cars on jatropha oil under various conditions including sub-zero temperature. These tests proved that jatropha-refined-oil could be used as substitute diesel fuel. From FY 2007 Boeing Co. started test flights with jatropha oil as jet fuel. Since the end of FY 2008, major world airlines companies followed Boeing, and they also have made successful test flights, using different substitute biofuels derived from inedible biomass materials including jatropha.

Myanmar is the largest jatropha-growing country that produces 90 % of jatropha in the world. The Myanmar government promotes plantation of jatropha as a national project. The cultivated acreage of jatropha in Myanmar was 635,000 ha in FY 2006, 1,478,000 ha in FY 2007, 2,000,000 ha in FY 2008 (from April to December), and the government designates the acreage to be expanded to 3,200,000 ha in FY 2010.

Taking notice of abundant jatropha as a useful biomass, on February 27, 2009, Japan Bio Energy Development Co. Ltd. announced to the press that it would start a biofuel production project using abundant jatropha, by establishing a joint corporation with a general trading firm of Myanmar. The company plans to sell jatropha seeds, as much as 5,000 ton a year as a present target, as well as jatropha-derived biofuels including export, during FY 2009.

Keywords: *Jatropha, jatropha-refined-oil, jet fuel, inedible biomass materials, jatropha-derived biofuels, Industry*

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0099

Nippon Oil Corporation started the full-scale sales of ETBE-mixed bio-gasoline

The Japanese Government decided to introduce bio-fuel for automobiles as one of CO₂ emission reduction measures for the entire country. To be specific, the bio-fuel equivalent to 500,000 kl of crude oil will be introduced as fuel for transportation in 2010, of which 210,000 kl will be introduced by the petroleum industry of Japan.

Currently, the following 3 types of use are developed for the bio-fuel for automobile in Japan. 1. Use of ETBE (Ethyl Tertiary-Butyl Ether) mixed with gasoline; 2. Use of bio-ethanol mixed with gasoline; and 3. Use of bio-diesel fuel mixed with light oil

The oil industry is promoting the introduction of bio-gasoline mixed with 1 to 8% ETBE and it has implemented the demonstration business since 2007. ETBE, which is produced by synthesizing bio-ethanol and isobutene, is planned to be increased to 200,000 kl of ETBE in fiscal 2009 and 840,000 kl in fiscal 2010. The 840,000 kl of ETBE is equivalent to 210,000 kl of crude oil.

On May 29, 2009, Nippon Oil Corporation announced that it would sell the bio-gasoline as regular gasoline at 861 gas stations in Tokyo and 6 prefectures (Kanagawa Prefecture, Yamanashi Prefecture, Saitama Prefecture, Nagano Prefecture, Gunma Prefecture, and Tochigi Prefecture) from June 1, 2009. Nippon Oil Corporation trially sold the bio-gasoline at 13 gas stations in fiscal 2007 and 30 gas stations in fiscal 2008. In fiscal 2009, it will greatly increase the number of gas stations to 861, thus fully introducing the bio-fuel. 861 gas stations account for more than 40% of about 2,000 gas stations of Nippon Oil Corporation in Tokyo and 6 prefectures. This will be the first large-scale sales in Japan.

Nippon Oil Corporation will introduce 47,000 kl of ETBE in fiscal 2009. This will reduce the CO₂ emission by 30,000 tons per year. In fiscal 2008, while Japan imported 50,000 kl of bio-ethanol including ETBE, the domestic production was only 1,300 kl, which reveals a 97% dependence on imports.

Keywords: Japan, carbon dioxide emission, crude oil, Ethyl Tertiary-Butyl Ether, bioethanol, biogasoline, biodiesel fuel, biofuel, Industry

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0100

Pellet Business Turned Profitable: Kamiina Shinrinkumiai

The Pellet Business of Kamiina Shinrinkumiai (a forestry cooperative in Ina city, Nagano) has been in full operation since FY 2004. The company produce woody pellets from thinned wood or forest wood residue generated in Kamiina forest regions, and sell them as fuel for boilers and stoves.

The pellet business has got into the black for the first time in FY 2008, profiting 580,000yen. The sales amount of pellets was 362 ton in FY 2004, and steadily increased every year, scoring 1,177 ton in FY 2008. Red figures continued in the beginning years but the coop, on the other hand, made efforts to sell boilers and stoves which resulted in increased pellet consumption, and finally has got into the black. The coop plans to sell as much as 1,500 ton in FY 2009 that is 300 ton more than the previous year. At the same time they will also promote popular use of boilers and stoves in the district so as to increase the demand for the pellets.

Wood residues issued from sawmills, construction sites and forests are the major sources of woody biomass of Japan. By utilizing these woody biomass, pellet production has been widely expanding in recent years. In FY 2003 production

of woody pellets of Japan was 3,800 ton, but in FY 2007 it has grown 9 times that of the starting year, up to 33,492 ton. In the mean time the number of pellet factory has increased from 10 to 47, nearly five-fold. This is because more and more boilers and electric power plants/generators that consume woody pellets have been installed every year.

So far, Japan's forest wood residue, which is one of important biomass resources of the country, has scarcely been utilized. It is reported that about 8 million ton of forest wood residue was generated in FY 2008, but only one percent was utilized. From now on, utilization of woody biomass is keenly awaited for, and therefore, it seems very important to create a new business which turns this unused resource into valuable goods. Hopefully, new employment and profit will be born in the forest districts.

Keywords: *pellet business, forest wood residue, woody biomass, Industry*

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0101

Power Generation Potential by EFB and Rice Husk in Indonesia

Indonesia is an agriculture country producing the largest amount of palm oil in the world, besides it is ranked as No.4 rice producing country. Annually 19 million ton of palm oil, and 60 million ton of rice are produced there, and consequently a huge amount of agricultural waste are being generated which is becoming a social problem to be urgently managed. As for the production of palm oil, same weight of EFB (Empty Fruit Bunches) is left as waste. Likewise Rice Husk generates as much as 20 % of rice, in terms of weight. Annually the amount of generated EFB and Rice Husk are 19 million ton and 12 million ton, respectively.

These wastes burn very well and with plenty of heat, so they are suitable for thermal power generation. Since one ton of EFB can generate 1,330 kWh of electric power, 19 million ton of EFB can generate 25,270 GWh. Current price of electricity is 6 cent/kWh, therefore power generation using 19 million ton of EFB will be 1.52 billion dollars sales per year.

Looking from another aspect, total production cost for 19 million ton of palm oil is 6.6 billion dollars per year (based on small farm's production cost that is 348 dollars /ton). Hence, 23 % of the total production cost of palm oil will be canceled out by sales of EFB power.

On the other hand, 1 ton of Rice Husk can generate 800 kWh of electric power. Hence, 12 million ton of Rice Husk can generate 9,600 GWh of power. Indonesia's total electric power generated in FY2006 was 115,218 GWh. In conclusion, Indonesia's EFB and Rice Husk altogether can generate 34,870 GWh, and this may well cover 30 % of the country's demand.

The International Finance Corporation stated, with regard to effective utilization of EFB, that production of palm oil of 1 ton leaves 1 ton of EFB as industrial waste, and that if all EFB is burnt at power stations, Indonesia would obtain 4,200 GWh of surplus electric energy even if energy consumed by plant itself be subtracted. PT PLN (Indonesian national electric power company) expressed that it would certainly welcome the project plan for constructing a bio-energy-driven power plant promoted by IFC.

Keywords: *Indonesia, palm oil, empty fruit bunches, rice husk, thermal power generation, Industry*

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New President Obama Declares Support for Increasing Production of Biofuel

Crude oil reached \$147 a barrel in July of 2008 and subsequently fell rapidly to \$30. The US Department of Energy forecast is for an eventual increase, and the International Energy Agency (IEA) forecasts a price in excess of \$200 a barrel in 2030. The new President Obama has indicated a desire to reduce reliance on imported petroleum from the viewpoint of national security, and has announced support for increased production of biofuels such as bioethanol. According to this policy, the administration plans to double within three years the supply of renewable energy as obtained from sources such as bio-fuels, wind power, and the sun.

In Japan as well, the use of biofuels as a petroleum substitute has assumed urgency in light of a number of factors including rapid changes in the price of petroleum, depletion of resources, and the need to prevent global warming. The Japanese bioethanol market amounted to ¥ 400,000,000 in 2007, and by 2015 is expected to reach ¥ 160,000,000,000. The biodiesel market amounted to ¥ 600,000,000 in 2007, and is expected to reach ¥ 8,000,000,000 in 2015.

Keywords: *crude oil, renewable energy, International Energy Agency, Industry*

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Production of Biofuel Using the World's Most Advanced Fermentation Technology

Japanese fermentation technology, developed in the production of sake, shochu, and miso, is recognized as world class, and research into the use of this technology to manufacture biodiesel from wood biomass as a diesel substitute is currently underway by the National Research Institute of Brewing. The manufacture of biodiesel from lignin using yeast is a world first, and commercialization is planned for 2015. Biodiesel is currently manufactured from rapeseed etc, however research and development focused on industrial production from ligneous materials is now a matter of urgency to avoid competition with food resources.

A research group from Gifu University led by Professor Takamizawa focusing on the manufacture of biomass fuels from ligneous materials using enzymes and microorganisms has succeeded in obtaining a yield of 90-100% in the production of high-quality ethanol from golf course grass clippings.

Keywords: *Japan, Fermentation technology, biodiesel, yeast, Industry*

Production of plant-derived polymers of high added-value

Kaneka Corporation plans to begin mass-production of a new kind of plant-derived soft polymer called Kaneka PHBH in 2010. Kaneka announced they would spend 25 billion yen for the production facilities and R & D, and its production capacity would be 1,000 tons per year. This soft polymer is biodegradable in soil and turned into carbon dioxide and water. In the world, this is the first case of practical use of biodegradable polymer.

Besides, a promising invention was made by a joint research among Forestry and Forest Products Research Institute, Tokyo University of Agriculture and Technology, and Nagaoka University of Technology. The research team succeeded in producing a high performance adhesive from lignin efficient for gluing together metals. Since lignin constitutes 30% of woody materials, this invention would help developing the use of biomass for industrial material production and processing of high added value.

Keywords: *Japan, Kaneka PHBH, plant-derived soft polymer, adhesive, lignin, Industry*

Reduce CO₂ Emission by Power Generation Using Woody Biomass

It is becoming more and more of importance for manufacturing industries to introduce use of new type of energy in order to mitigate the global environmental crisis represented by “the global warming”. In order to reduce CO₂ emission drastically, electric power generation using woody biomass seems very promising.

The Tochigi Factory of Sumitomo Osaka Cement Co. has completed construction of power generation plant that is run by burning coal together with woody chips and thinned wood. The plant costs 6 billion yen, and it can supply 25,000kW of electricity. It is scheduled to start to operate in April 2009. The fuel burnt in this plant consists of woody biomass (60 %), coal (30 %) and used tire tip (5 %), based on calorific value. The plant will consume 100,000ton of woody biomass that account for the reduction of 910,000 ton of CO₂, annually.

In the mean time, the Hekinan Power Station of Chubu Electric Power Co. has been operated by burning coal. From March 2009, the company begins test use of a composite fuel, a mixture of coal and woody biomass, at this power station so as to examine the fuel’s burning performance. The company wants to regularly operate all of the five power plants at Hekinan on this composite fuel by FY2020. The total power output of five plants comes up to 4,100,000kW, in which 1.5% will depend on woody biomass. As substitute for coal, annual consumption of woody biomass would amount to 300,000 ton, and expected to account for the reduction of CO₂ emission as much as 300,000 ton per year.

Keywords: *carbon dioxide, biofuel, composite fuel, Industry*

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0106

Sri Lanka Modernizes Biomass Energy Strategy

Sri Lanka's first biomass power plant (10 MW) started operation at Polonnaruwa, February 2009. Garbage-burning power generation (10 MW) is expected to start in FY2010.

Sri Lanka has signed on a financing plan of 15 million dollars development aid from the International Finance Company in June 2008. The government intends to introduce and popularize small-scale hydroelectric plants, wind-power station, and various technology for biomass energy utilization, including biomass power generation of 1 MW class.

Among the Sri Lanka's energy demand spectrum today, biomass takes the largest share of 59%. Nearly 95% of households use wood for fuel, and 86% of inhabitants obtain wood from the forest for free. Therefore, efficient technology for making better use of wood energy will be promoted from now on. For example, promotion of wide use of wood chips (pellets), popularization of modern efficient woodstoves, calcined-lime kilns with improved furnace, brass smelting furnaces with biogas generation technology and etc.

Keywords: *Sri Lanka, biomass power plant, garbage-burning power generation, biomass energy utilization, wood pellets production, Industry*

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0107

Successful Flight Experiments with Biofuels

The total carbon dioxide emission from commercial aircrafts in the world is estimated to be around 2.5 to 3 percent of the total CO₂ emission by the consumption of fossil fuel throughout the world (ICAO: International Civil Aviation Organization). To reduce CO₂ emission, air-transport industries are paying big efforts on R & D for utilization of biofuel.

On January 7, 2009, Continental Airlines of USA, first among US airline-companies, conducted an experimental flight using biofuel. The biofuel was produced from Jatropha (60%) and a kind of alga (40%). This is also the first flight in the world using alga. A Boeing 737-800 type aircraft was used in the test flight. Mixture of biofuel (50%) and regular jet-fuel (50%) was burnt in one of the two engines of the aircraft that flew about 90 minutes.

In Asia, the Japan Airlines Co. conducted a similar test flight first in Japan, using biofuel of different components. Raw materials used for this biofuel were Camelina (84%) which grow on poor soil, Jatropha (15%) and a kind of alga(1%). Mixture of the biofuel (50%) and regular jet-fuel (50%) was burnt in one of the four engines of the Jambo aircraft, which flew for one and half hour from Haneda to Sendai and returned to Haneda.

The first flight using biofuel was attempted by the Virgin Atlantic Airlines Co. on February 24, 2008. They used a biofuel produced from babasu oil and coconut oil, and the flight lasted forty minutes. The second test flight was successfully made on December 30, 2008, by the Air New Zealand Co., where they used Jatropha biofuel, and the flight lasted for two hours. Thus, JAL's test flight comes to the fourth record in the world. It is expected, in this year, many other airlines companies may conduct more elaborate flight experiments using biofuels.

Keywords: *Japan, carbon dioxide, commercial aircraft, biofuel, Jatropha, algae, Camelina, babasu oil, coconut oil, Industry*

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0108

Synthesizing DME (Dimethyl Ether) from wooden biomass

Iwatani Corporation and National Institute of Advanced Industrial Science and Technology announced on May 12, 2009, “We succeeded in synthesizing DME from wooden biomass eucalyptus chips”. DME (Dimethyl Ether: $\text{CH}_3\text{-O-CH}_3$) is used as gas for spray cans in Japan, but it has characteristics similar to those of LP gas (liquefied petroleum gas) and can also be utilized as automobile fuel. DME can also be produced from natural gas, coal, heavy oil, biomass, etc. The development of DME derived from the wooden biomass leads to the spread of domestic biomass fuel, and it has an important significance for Japan that depends on overseas sources for its energy resources.

In the DME producing method announced this time, DME is synthesized at a relatively low pressure, lower than 1MPa. Since it is not subject to the High Pressure Gas Control, the manufacturing equipment is small in scale. It is, therefore, possible to produce biomass DME using small-scale equipment at biomass production place and consume it at the place. This research result is expected to develop into “a business model utilizing mobility and also a model of local production for local consumption of bio-fuel.”

DME is a “clean” energy that does not contain sulfur and produce sulfur oxides (SOx) and particulate matter (PM) when it is burnt. Since it is produced from biomass, it is expected to become “carbon-neutral energy that does not discharge CO_2 .” In the future, they will continue their research mainly on use automobile fuel and its mixed use with LP gas for home use taking advantage of the characteristics of biomass DME.

The exhaust gas control of diesel vehicles in Japan is increasingly severe year by year as shown in the figure. The short-term control was applied in 1994, long-term control in 1998, new short-term control in 2003, and new long-term control in 2005. In 2009, the post new long-term control is planned to be established. As severe control has been introduced in succession in a short period, the development of DME vehicles that run operating diesel engines with DME has been promoted. The running tests demonstrate that DME vehicles comply with the new control.

Keywords: *dimethyl ether, wooden biomass, eucalyptus chip, biofuel, carbon-neutral energy, Japan, Industry*

Test Use of E3-Gasoline has started

On February 26, 2009, Nippon Steel Engineering Co.(NSE) announced that the company has started test use of E3-gasoline (gasoline with 3% of bioethanol content) on real engines. NSE also presented to the public their facilities used for blending and supplying the E3-gasoline. The bio-ethanol was manufactured from waste foods using NSE-developed process. This is an outcome of the R & D project named “Food Recycling Experiment Project - Ethanol Production from Waste Foods”, which NSE has been conducting under the contract to New Energy and Industrial Technology Development Organization (NEDO) , for five years from FY2005 to FY2009.

Waste foods collected at Kitakyushu City and surrounding areas are used to produce ethanol. The waste foods are first ground into pieces and added with water, and put into saccharification process. Then it is fermented by adding yeast and turns into ethanol. Presently, ethanol production rate at NSE is 400 liter/day. NSE is conducting test use of their E3-gasoline on 20 different cars operated by the municipal offices and cars of NSE for business use.

At Miyakojima Island in Okinawa prefecture and in Osaka prefecture, test use of E3-gasoline has already begun. The raw material for production of bio-ethanol, however, is construction waste wood in the case of Osaka, while it is molasses of sugar cane in the case of Okinawa. So this is the first pioneering case in Japan, where waste foods are used for producing ethanol.

Keywords: *Japan, E3-gasoline, bioethanol, saccharification process, waste foods, Industry*

Thermal Power Station is beginning a full-scale process for utilizing biomass

Sewage sludge has now become regarded as one of useful biomass resources. As an example of utilization of sewage sludge for thermal electric power generation, the sewage sludge of Tokyo is presently heat-processed under 500 deg.C, and made into a solid-type carbonized fuel This carbonized fuel is mixed with coal and used as fuel at Nakoso thermal power station of Joban Joint Power Co. Ltd.. Nakoso power station consumes three million ton of imported coal every year to generate electric power. The present mix ratio of the carbonized fuel to coal is about 1 percent. Thus, to reduce coal by this amount is possible.

As regards the use of sewage sludge for thermal power generation, on 27 March 2009, J-Power (Electric Power Development Co., Ltd) presented a project plan of utilizing sewage sludge discharged from Hiroshima City. 100 ton/day of sewage sludge (46 % of the total generated in Hiroshima City) will be made into pellets and carbonized

under the temperature of 250 to 350 deg. C so as to enrich the calorific value (4,500 to 5,300 Kcal/kg). The pellet fuel will be mixed (at a ratio of 0.2 %) with coal and burnt at some of their thermal power plants. J-Power plans to accomplish this challenge by 2011.

Meanwhile, on 1 April 2009, Asahikasei Chemicals Co. presented a power generation project of 14MW, where 100,000 ton/year of woody biomass will be mix-burnt with coal (at 60 % mix ratio). A woody pellet production plant will be constructed at Nobeoka No.2 power station site. The construction of pellet plant will start in July 2010 and the plant will be put into operation in July 2012. Incidentally, the company has already realized mix-burning of biomass with coal at a rate of 10,000 ton/year.

It is reported that, in northern Miyazaki prefecture, Forest Energy Kadogawa Co. has already started production of woody pellets (25,000 ton/year). The forest industry in Miyazaki prefecture gets new market by these woody biomass utilization. This news proves that business circumstance for supply of woody pellet has readily established.

Keywords: *Japan, sewage sludge, biomass resources, woody biomass, pellet plant, Industry*

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0111

Tokyo Gas Co. Presented a Biogas Generation Research Plant

On 4 June 2009, Tokyo Gas Co. made a public presentation on a biogas generation research plant installed at “Ecokkuru-Koto” a showroom of town-cleaning office, Koto Ward, Tokyo. The proof plant can produce methane gas, by methane-fermentation technique, using paper trash and food waste issued from offices and factories in the ward. The construction of the plant started in December 2008, completed in February 2009, and trial run was duly made. Two years from now of proof experiment/production is on the plan.

Everyday, about 300 kg of paper trash and food waste are collected and put into methane-fermentation tank of the plant. The bio-gas generated by the plant will be removed impurities like sulfur. The purified methane will be mixed with city gas, and distributed among the district. The plant can recover 63 cubic meter/day of bio-gas, which is equivalent to city gas consumption by thirty standard households. The plant is designed so that it can recover more than 150Nm³ of biogas per one ton of garbage. This criterion is designated in “the Standard for Efficient Biogas Recovery System” by the Ministry of Environment as a hurdle for applying for the Promotion Grant for Forming Recycling Society. This proof experiment is the first case of “urban biomass-energy recovery system” in Japan.

Tokyo Gas Co., before constructing the test plant, conducted a range of laboratory experiment for generating biogas from office garbage using methane fermentation technique. The result is shown in the Table. This experiment has shown that 1 ton of office garbage could yield 160 to 282 Nm³ of bio-gas, in which methane content was 53 to 56 %. This experiment verified that the criterion, more than 150 Nm³ per one ton of garbage, designated in “the Standard for Efficient Biogas Recovery System” by the Ministry of Environment was cleared with much margin. Getting this result, Tokyo Gas Co. decided to construct the proof research plant in the Ecokkuru-Koto, which would verify biogas generation capability further in detail.

Keywords: *Japan, biogas generation, methane-fermentation technique, paper trash, food waste, urban biomass-energy recovery system, Industry*

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Use of E5 obligatory in the Philippines

From the viewpoint of energy security, the Republic of the Philippines, where most oil and coal are imported from abroad, issued the 2006 Biofuels Law (Republic Act 9367). The Act designates obligatory use of bioethanol and biodiesel produced from domestic biomass resources such as coconut, jatropha, sugarcane, etc. These biofuels are to be used for running automobiles, motorcycles and various combustion engines.

The Biofuels Act has been enacted since February 6, 2009. The law makes it obligatory that every oil company should sell E5 (gasoline containing 5% of bioethanol). Sugarcane is the main raw material for the ethanol. By this enactment, the demand of ethanol for the country's annual consumption will be 230,000 kl, which corresponds to 20 million tons of sugarcane. Further, the use of E10 (gasoline containing 10% of bioethanol) will be made compulsory by 2011.

Keywords: *Biofuels Law, bioethanol, biodiesel, E5, sugarcane, Industry*

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Wood Pellets Production Business is Rising

So far in Japan, about forty factories have been producing wood pellets, amounting to about 30,000 ton a year. Recently, however, more and more companies are planning to come into wood pellets production business that is now regarded as promising. Particularly pellets production from coffee lees seem to be worth noting. It appears that pellet business is becoming viable not only in rural areas but also in urban.

The reason for the rise of this new eco-business may be the frantic rise-and-fall of crude oil price in recent years on one hand, depletion of fossil resources and governmental efforts such as "Carbon-Offset Life Campaign" by the Ministry of the Environment, "Biomass Town Project" by Ministry of Agriculture, Forestry and Fisheries on the other hand. Off course, the fact that Meiken Lamwood Corporation at Maoka, Okayama has produced 10,000 ton of wood pellets in FY2008, selling 2 billion yen and expecting enough profit, would be a good promise of this business, indeed.

Selling wood pellets (of 4,100 kcal/kg rating) at 40 yen/kg on the market, inclusive of distribution cost, seems to be viable. Like the case of the greenhouse of tropical botanical garden in Honai Park of Sanjo City, Niigata, the pellet-fuel will find a way to be used for small scale heating of local area. Some municipalities have already began planning how to utilize wood pellets made from sawdust or thinned wood.

Keywords: *Japan, wood pellets production, coffee lees, pellet-fuel, Industry*

Woody Bioethanol Proof Production Plant in Akita

Japanese government has set a goal for domestic production/consumption of bioethanol, that will replace gasoline in the future, as 50,000 KL in FY 2010, 1,000,000 KL in FY 2020, and 3,800,000 KL in FY 2030.

In order to drastically expand domestic bioethanol production, use of woody biomass is becoming attractive because it would not interfere with the production of agriculture foods or feeds. Rice straw, waste wood, sorghum grown on idle farmlands, as well as forest wood residue that is estimated as much as 8.5 million cubic-meter every year, these materials seem to be promising as sustainable raw materials in the future.

At Akita City, Akita prefecture, the Forestry and Forest Products Research Institute(FFPRI) has been installing a bioethanol production proof plant that will utilize woody biomass. The plant has been completed and its celebration ceremony was held on 23 June 2009. Seven hundred million yen were spent for the plant that can produce 125 KL of ethanol annually. The development project for production technology of bioethanol from domestic woody biomass is promoted and funded by the Forestry Agency. Under general management and supervision of FFPRI, the project has been conducted jointly by Tokyo University, Waseda University, Akita Prefectural University, Akita Prefecture and Kita-Akita City. Various technical verification and plant improvement will be carried out during five years from FY 2008 to FY 2012.

Wood residue generated in cedar forests owned by Akita Prefecture and Kita-Akita City will be used as main raw material. First, alkaline pulping process using aqueous sodium hydroxide eliminates lignin from mashed wood. Then, “simultaneous saccharization-fermentation process” using enzyme and yeast will be adopted to produce bioethanol efficiently. The research team intends, within four years, to achieve a yield that will produce 250 liter of bioethanol from 1 ton of woody biomass, and also a production cost of 100 yen/liter.

Keywords: *Japan, bioethanol, woody biomass, wood residue, simultaneous saccharization-fermentation process, Industry*

MARINE SCIENCE

Adoption of Modified Commercial Scale Mud Crab Hatchery and Nursery Systems in Alaminos City, Pangasinan

Cerezo, Rolando B. , Rebugio, Jesamine F.

Pangasinan's vast fishpond and mangrove areas have not been fully tapped for mud crab production. The main reason identified for this is the limited supply of crab seedstock. At present, there is no reliable source of seedstock in Pangasinan. The total requirement of Pangasinan for crab seedstock is estimated at 8.89 million based on the total area (ha) devoted to mud crab polyculture in the province. Mud crab growers in Pangasinan procure wild juvenile crabs from Cagayan, Bicol and Visayas but the volume is limited. Thus, an adoption of a modified commercial scale mud crab hatchery and nursery systems in Alaminos City would be helpful. A model mud crab hatchery will be constructed to enable the local government unit (LGU) of Alaminos City to produce seedstock in commercial quantity to boost the production in Pangasinan and nearby provinces. The hatchery aims to produce 480,000 juvenile crabs per year to supply the nursery and grow-out ponds. Likewise, the hatchery technology will promote the mud crab hatchery and nursery technologies in the city of Pangasinan and coastal towns (Infanta, Dasol, Burgos, Agno, Bolinao, Anda, Bani, Sual, Labrador, Lingayen, Binmaley, Dagupan City and San Fabian), and nearby provinces of La Union, Ilocos Sur, Ilocos Norte and Zambales. (**Author's abstract**)

Keywords: *hatchery, nursery, polyculture, mud crab, Marine science*

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0116

Biological Evaluation of Existing Feed Formulations for the Grow-out Culture of the Mud Crab, *Scylla serrata* *Catacutan, Mae R.*

This study was conducted to identify a formulated pelleted feed for the grow-out culture of the mud crab. A commercial crab feed (CCF) was evaluated together with fish by-catch (FBC) and three test diets (formulated and pelleted) of similar dietary energy (1723 MJ/Kg diet) based on published works. The test diets contained 48% (D-1), 43% (D-2), and 38% (D-3) crude protein (CP), respectively. All the five dietary treatments were fed to crablets (5 to 6 g body weight) that were individually stocked in 60-L tanks. Each dietary treatment was fed to six crabs. Crustaceans grow by molting which is not simultaneous, hence, each crab was monitored daily. After the third molt (M3) survival rates in D-1, D-2 and D-3 ranged from 33%-66% compared with only 16% in FBC, and 0% in CCF where no crab survived to molt for the second time (M2). Nutrients in FBC may not be sufficient to sustain growth and survival, while water stable CCF may lack a feed attractant. Diets D-1, D-2, and D-3 were evaluated in another feeding experiment to identify the basal diet for the crab. All crabs molted until M3 and no significant differences were noted on growth performance between treatments. However, D-1 (48% CP) was identified as the basal diet due to better numerical values observed in terms of feed conversion ratios and specific growth rates. (**Author's abstract**)

Keywords: *Scylla serrata, feed formulation, grow-out culture, Marine science*

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0117

Breeding and Culture of the Polychaete, *Marphysa mossambica*, as Feed for the Mud Crab *Scylla serrata* Broodstock

Alava, Veronica R. , Biñas, Joseph B. , Mandario, Mary Anne E.

Marine worms (Annelida: Polychaeta) are considered as important food for crustacean broodstock because they contain hormones and correct balance of essential nutrients for reproduction. *Marphysa mossambica* (Peters, 1854) occurs in muddy coastal areas and is abundant in fish farms where it builds burrows in nutrient-rich sediments. This species encapsulates their eggs and larvae in gelatinous masses (jelly cocoons). It is a multiple spawner, and breeders are repeatedly spawning in tanks. Culture techniques have also been developed and established in tanks. Based on dry weight, cultured *M. mossambica* contained 62-66% crude protein and 7-12% lipids with levels of highly unsaturated fatty acids (HUFAs) such as arachidonic (20:4n-6), eicosapentaenoic (20:5n-3) and docosahexaenoic acid (22:6n-3) at 0.2-0.5%, 0.2-0.3% and 0.3-0.5%, respectively. Stocks were monitored for the presence of white spot syndrome virus (WSSV) using polymerase chain reaction-based diagnostic methods. The WSSV-free polychaetes mass-produced in tanks were utilized as live food for mud crab *S. serrata* broodstock. Mud crab broodstock fed natural food (mussel, fish, and squid) with live *Marphysa* on daily feed rotation produced higher number of crab zoeae, larval survival, total lipids and HUFAs than those fed natural food without live *Marphysa*. Production of nutrient-rich WSSV-free polychaetes in captivity can play a significant role in supporting crustacean hatcheries that supply seeds to the nursery and grow-out. (**Author's abstract**)

Keywords: *Breeding, culture, polychaete, Marphysa mossambica, mud crab feed, mud crab broodstock, Marine science*

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0118

Defects in the Handling, Storage and Transport of Mud Crab

Peralta, Jose P. , Cheung, Dominique S.

Consumers prefer to buy live mud crabs. Moribund and dead crabs have very low market value. Immediately after harvest, the crabs are tied to render their claws immobile. The time between harvest and arrival of crabs at the final destination is 3-5 days. During the holding and transport period, the crabs are no longer fed and are sometimes subjected to stressful conditions (e.g. high temperature) which may result to weight loss, muscle emaciation and other undesirable conditions of the crabs, and mortality. Likewise, ammoniacal odor (strong urine-like smell) that affects flavor is sometimes observed. Crabs with emaciated muscle and undesirable odor are considered rejects.

This paper presents the initial results of the project on the Improvement in the Handling, Storage and Transport of Mud Crabs under Sub-program C entitled Improvement of Feeds and Stock Management Practices in Mud Crab Grow-out Culture under the National Mud Crab Science and Technology Program. (**Author's abstract**)

Keywords: *Mud Crab, high temperature, muscle emaciation, ammoniacal odor, Marine science*

0119

Development of Aquasilviculture at BFAR-NBFTC, Pagbilao, Quezon

Dieta, Romeo E. , Dieta, Florida C.

Aquasilviculture technology verification project was conducted at the National Brackishwater Fisheries Technology Center (NBFTC) of the Bureau of Fisheries and Aquatic Resources (BFAR) in 1996-2000. Results indicated that given the proper technology, management and favourable market, and polyculture of highvalue species (grouper and mud crab) will provide better return on investment. Dissemination of the technology through training started in 2001. In 2002, a 4-hectare undeveloped fishpond of NBFTC was converted into an aquasilviculture project to showcase the technical and economic feasibility of the technology with emphasis on the polyculture of mud crab, grouper and saline tilapia that would serve as a model livelihood project for coastal fisherfolk. In 2011, the BFAR launched the Philippine National Aquasilviculture Program to help restore mangroves that serve as breeding and nursery grounds of fish, and to provide livelihood projects through aquasilviculture to coastal fisherfolk. With increasing cost of development and management for aquasilviculture, integration of mangrove crab fattening and/or soft-shelled crab production have shown to improve profit under the present economic condition. (**Author's abstract**)

Keywords: *Aquasilviculture technology, National Brackishwater Fisheries Technology Center , Bureau of Fisheries and Aquatic Resources, Marine science*

0120

Development of Immunostimulant for Mud Crab, *Scylla serrata*

Traifalgar, Rex Ferdinand

Non-specific immune activation is considered a potential prophylactic approach in the prevention of disease outbreaks in crustacean aquaculture. The present investigation evaluates the dietary supplementation of bacterial and algal derived immunostimulants including peptidoglycan, ergosan, mannan oligosaccharide and acidic polysaccharides from *Ulva*, *Sargassum* and *Padina* to enhance the immunological responses and resistance of *Scylla serrata*

juveniles against white spot syndrome virus (WSSV) infection. Each of the test immunostimulant was optimized for dose and frequency of administration.

Results showed significant enhancement of shrimp survival against WSSV infection if Mannan oligosaccharide is supplemented at 2000 mg kg⁻¹ diet applied every 3 days. Optimum dose and frequency of application for peptidoglycan was determined as 1000 mg kg⁻¹ diet applied every 3 days while a dose of 2000 mg kg⁻¹ diet applied every 3 days was found optimum for ergosan. Enhancement of survival was also observed in crabs given the acidic polysaccharide extracts from seaweeds. Better survival was observed in the treatment receiving *Ulva* at 1000 mg kg⁻¹ applied every 3 days. Similar dose and frequency were also observed to enhance the resistance of the juvenile crabs against WSSV when maintained with diets supplemented with *Padina* and *Sargassum* acidic polysaccharides. The high survival in these treatments is associated with the prominent enhancement of immunological responses including phenol oxidase activity, respiratory burst and total hemocyte counts. At optimum dosage and application frequency, these immunostimulants are observed to improve overall growth performance of the juvenile crab. These results suggest that dietary supplementation of peptidoglycan, ergosan mannan oligosaccharide, and acidic polysaccharides from *Ulva*, *Sargassum* and *Padina* at a dose described above can be used to boost the immunological response and enhance the resistance of *S. serrata* juveniles against WSSV infection. (**Author's abstract**)

Keywords: Mud Crab, *Scylla serrata*, white spot syndrome virus (WSSV), immunostimulant, Marine science

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0121

Development of Protocol for the Production of Hatchery-reared Mud Crab *Scylla serrata* Juveniles for Soft-shell Crab Farming

Quinitio, Emilia T. , Libunao, Gardel Xyza , Parado-Estepa, Fe D.

Development of economically viable techniques for growing hatchery-reared juvenile crabs to suitable sizes will address the problem on the source of seed stocks for soft-shell crab farming. This paper reports the production of hatchery reared mud crab *Scylla serrata* from juveniles in the nursery to 73-106 g body weight (BW) crabs in the grow-out pond for the individual system soft-shell crab farming. Likewise, the performance of hatchery-reared *S. serrata*, and wild *S. tranquebarica* and *S. olivacea* juveniles was determined in the soft-shell crab production set-up.

The BW increased from 1.8-1.9 g to 78-113.7 g when stocked at 0.5 ind m⁻² and from 1.6-2.3 g to 73-106.7 g at 1.0 ind m⁻² after 75 days. Growth rates at both stocking densities were

comparable. However, survival was significantly higher (*PS. serrata* ($46.0 \pm 1.75\%$) had significantly higher BW increase than females ($39.4 \pm 2.05\%$). Crabs stocked at sizes of 51-60 g showed significantly greater percent increase in BW ($43.26 \pm 0.98\%$) compared with those at 61-70 g ($40.98 \pm 1.33\%$), 71-80 g ($38.55 \pm 1.04\%$), 81-90 g ($36.34 \pm 1.27\%$) and 91-100 g ($38.52 \pm 1.67\%$). Among the three species, hatchery-reared *S. serrata* ($42.14 \pm 1.34\%$) had significantly higher mean percent BW increase compared with *S. olivacea* ($38.23 \pm 0.49\%$) and *S. tranquebarica* ($36.16 \pm 0.78\%$). *S. serrata* had significantly shorter mean culture period (24.11 ± 0.95 days) than *S. tranquebarica* (28.48 ± 0.54 days) and *S. olivacea* (28.75 ± 0.34 days).
(Author's abstract)

Keywords: Hatchery-reared juvenile crabs, mud crab, *Scylla serrata*, soft-shell crab, Marine science

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0122

Diseases Affecting Wild and Farmed Mud Crab in the Philippines

Tendencia, Eleonor A. , Cabilitasan, Ma. Venuz C.

Mortalities due to cannibalism and diseases have been reported as major problems in the grow-out phase of mud crab production. This study aimed to identify and describe diseases affecting farmed and wild mud crab (mangrove crab) including predisposing, risk and protective factors, and possible prevention and control measures. A total of 767 wild and farmed mud crab samples were collected. External examination showed abnormalities such as short abdominal flap, discoloration of the abdominal region, darker carapace, lesions on carapace, claws and legs, and presence of epibionts like algae and the barnacles *Balanus* sp. on the carapace. Internally, necrotic, black and brown gills, and discolored gonads were observed. Stalked barnacles, *Octolasmis* spp., were observed in the gills. White spot syndrome virus (WSSV) was detected in 14 samples sourced from farms and Infectious hypodermal and haematopoietic necrosis virus (IHHNV) in 2 wild samples. WSSV was implicated in mortality cases. Low temperature and presence of WSSV positive shrimp were identified as risk factors for WSSV infection or outbreak. Pathogenicity tests for some isolated bacteria suggested that these may cause mortality in mud crab under stressful conditions. To prevent mortality due to WSSV infection, it is recommended to avoid polyculture of mud crab with shrimp and/or other crustaceans.

Keywords: *Scylla* spp., diseases, farmed mud crab, Marine science

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0123

Effect of Feed Binder on Water Stability and Digestibility of Formulated Feed for the Mud Crab *Scylla serrata*

Catacutan, Mae R.

The binding capacity of six natural and eight synthetic feed binders were tested in a basal diet formulated for the mud crab. Incorporation levels of natural binders ranged from 1 to 25% while those of synthetic binders ranged from 0.1 to 5% and these were tested for pellet stability in seawater by a) 10-min immersion, and b) at different time intervals. Pellets with synthetic binders were more water-stable than pellets with natural binders. Three synthetic binders and natural binders (glutinous rice starch and carrageenan + CMC) showed best results. The Apparent Digestibility Coefficients (ADC) of crude protein (ADCCP) and crude fat (ADCCFt) of the basal diet were determined when selected feed binders were included in the formulation. These were determined by using an inert indicator, chromic oxide. Results showed that the ADCCP and ADCCFt of the basal diet were not similar when different binders were used, and these differences ranged from 3 to 7%. Carrageenan combined with a synthetic binder improved ADCCP and ADCCFt values. (**Author's abstract**)

Keywords: Feed binder, water stability, digestibility, formulated feed, mud crab, *Scylla serrata*, Marine science

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0124

Enhancing Mud Crab Population through Mangrove Restoration

Lebata-Ramos, Ma. Junemie Hazel , Doyola-Solis, Ellen Flor , Sibonga, Rema C. , Binas, Joseph B. , Walton, Mark , Le Vay, Lewis

Mangroves are known as important nurseries for different species of fish and shellfish. In the Philippines, mud crabs *Scylla* spp. are among the most valuable crustaceans harvested from the mangroves and are considered a delicacy. However, varying levels of overfishing have been reported in different parts of the country. The decrease in production may be due to increasing demand for the resource and the loss of mangrove habitat. This problem may be addressed through regulation of fishing effort, rehabilitation of habitats, mangrove-friendly aquaculture and enhancement of wild crab stocks. This study shows the effect of mangrove rehabilitation on mud crab population.

From July 2010 to December 2011, a total of 2.166 tons of mud crabs (n=17,558) have been collected from a 66.5 ha abandoned pond that has been recolonized by mangroves. The catch was dominated by *S. olivacea* (79.96%), then *S. tranquebarica* (19.92%) and *S. serrata* (0.12%). Male to female ratio was at 1.09:1. Individual daily yield ranged from 0.06 to 8.4 kg while catch per unit effort in terms of quantity and biomass ranged 0.02-1.46 crab gear⁻¹ day⁻¹ and 1.1-213.54 g gear⁻¹ day⁻¹, respectively. The results showed that mud crab population in this study site was much higher than the population in the reforested (Walton et al., 2006, 2007) and natural mangroves (Lebata et al., 2007) with almost the same area. For 18 months of sampling (April 2002-September 2003), only 3,924 crabs were sampled in the natural mangroves while 10,504 in the reforested mangroves. Mud crab production in the present study site resulted in a yield of 21 kg ha⁻¹ yr⁻¹, 5 and 3 times higher than the yield reported in the natural and reforested mangrove

areas, respectively. These results imply that habitat restoration can be very effective in restoring natural populations of mud crab. (**Authors' abstract**)

Keywords: *Mangrove, Mud Crab, Scylla spp., S. olivacea, S. tranquebarica, S. serrata, Marine science*

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0125

Evaluation of the Bioremediation Capacity of the Polychaete, *Marphysa mossambica* (Peters, 1854) in Pond Sediments

Mandario, Mary Anne E. , Alava, Veronica R. , Anasco, Nathaniel C.

Marphysa mossambica is commonly found in brackishwater ponds and is an important natural food for cultured stocks particularly mud crabs. To understand the burrowing activity of polychaete, survival and capacity to bioremediate pond sediments, tank experiments were conducted. In a completely randomized design with three replicates per treatment, small (1-month old, 28 mg) and large (3-month old, 139 mg) hatchery-bred *M. mossambica* were reared in two sediment types for 30 days without feeding. Aeration was supplied and water change was done every other day. Polychaete-free sediments served as control. Sediments obtained from SEAFDEC/AQD Dumangas Brackishwater Station were sun-dried, ground and passed through 1-mm sieve.

Initial sediment A had 1.86% organic matter, 1,171 ppm available sulfur (SO_4^{2-}), 194.23 ppm iron (Fe) and 7.86 pH while initial sediment B contained higher organic matter (4.1%), available sulfur (2,456.67 ppm), similar iron level (199.34 ppm) and was more acidic (4.91 pH). In sediment A, small and large polychaetes did not differ ($p>0.05$) with the control in reducing organic matter but both significantly reduced ($p<0.05$, 2.67%). In sediment B, only the large polychaetes reduced ($p<0.05$) in sediment A (97%, 87%). The study demonstrated the bioremediation capacity of *M. mossambica* particularly in reducing available sulfur and iron in sediments. (**Author's abstract**)

Keywords: *Marphysa mossambica, Bioremediation, Polychaete, Marine science*

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Genetic Diversity and Stock Delineation of Philippine Populations of the Orange Mud Crab, *Scylla olivacea*

Paran, Faith Jessica M. , Ravago-Gotanco, Rachel June

The orange mud crab, *Scylla olivacea*, is regarded as an important fishery resource due to high demand and high market value. However, mud crab populations are threatened by over exploitation and habitat degradation, and would benefit from resource management interventions. The study examined patterns of genetic diversity and connectivity of orange mud crab populations across the Philippines, with the aim of identifying putative management units. A total of 387 *Scylla olivacea* were collected from ten localities across the Philippine archipelago. Phylogenetic analysis of mitochondrial control region (mtDNA-CR) DNA sequences revealed cryptic diversity among *Scylla olivacea* specimens with four mitochondrial lineages recovered. Analysis of molecular variance revealed that Philippine populations do not constitute a single genetic stock (OST=0.00262; P=0.00015). Thirteen microsatellite loci were also utilized as additional markers to infer population structure and estimate genetic variation. Overall, *S. olivacea* populations exhibit high haplotype diversity (mean $h=0.9803$) and nucleotide diversity (mean $\pi=3.46\%$), which may be indicative of a large, stable population within Philippine archipelagic waters. This study provides information on genetic diversity and population structure of *S. olivacea*, which will be useful towards developing management and conservation strategies for sustainable development of natural *S. olivacea* populations in the Philippines. (Author's abstract)

Keywords: *Scylla olivacea*, orange mud crab, mtDNA-CR, Marine science

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Growth, Survival, Proximate and Fatty Acid Composition of Sandworm *Perinereis quatrefagesi* (Grube, 1878) Fed Variable Feed Types

Biñas, Joseph B. , Alava, Veronica R., Campos, Wilfredo L.

Sandworm *Perinereis quatrefagesi* has been used as feed for crustacean broodstock due to its reproductive-enhancing properties particularly protein and highly unsaturated fatty acids (HUFAs). Juvenile sandworms collected along the coast of Guimbal, Iloilo were reared in tanks and fed three nutritionally variable feed types: fish fecal waste, fish meal and rice bran. After 56 days, feeds affected (p^{-1} dry weight. High crude protein fish meal promoted better (p^{-1}) than fish feces ($1.2 \pm 0.3\% \text{ day}^{-1}$) and rice bran ($1.1 \pm 0.3\% \text{ day}^{-1}$). However, crude fat content of sandworm was higher (p^{-1}) than in fecal waste ($13.6 \pm 2.9 \text{ g } 100 \text{ g}^{-1}$) and fish meal ($10.5 \pm 3.1 \text{ g } 100 \text{ g}^{-1}$) treatments. Levels of highly unsaturated fatty acids (HUFAs) such as 20:4 *n*-6, 22:6 *n*-3 and 20:5 *n*-3 did not differ significantly ($p > 0.05$) at 0.41 ± 0.21 to $0.89 \pm 0.51 \text{ g } 100 \text{ g}^{-1}$, 0.21 ± 0.24 to $0.43 \pm 0.22 \text{ g } 100 \text{ g}^{-1}$ and 0.57 ± 0.46 to $0.88 \pm 0.31 \text{ g } 100 \text{ g}^{-1}$, respectively.

The study demonstrated that *P. quatrefagesi*: (1) can survive well in nutritionally variable feed types although it grows better in high protein diet; (2) crude protein levels were high regardless of feed types; and (3) crude fat content was high in high fat diet but *n*-3 and *n*-6 HUFAs were not significantly different regardless of feed types. (**Author's abstract**)

Keywords: *Perinereis quatrefagesi*, Sandworm, fatty acid, protein, growth, Marine science

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0128

Handling, Storage and Transport Conditions of Mud Crabs in Trading Centers

Peralta, Jose P. , Chan, Justin Paul D.

This study aims to improve the handling, storage and transport conditions of mud crabs. The usual practice of the crab growers in the Philippines is to bring the market size crabs to middlemen, brokers or operators of small trading centers immediately after harvest; then the crabs are brought to municipal traders or operators of bigger buying station. The crabs are sent to the exporters in Manila or Cebu. The crabs are exported mostly to Singapore, Taiwan, Hongkong and mainland China. The crabs are classified based on the species, body weight, sex, gonad maturity and intactness of limbs. Crabs are rejected for export when they are soft-shelled, very lean, or have incomplete limbs and abnormalities. Crabs with emaciated muscle ('hagas'), ammoniacal odor (strong urine-like smell) and in an undesirable state are also rejected.

This paper presents the initial results of the project on the Improvement in the handling, storage and transport of mud crabs under Sub-program C entitled Improvement of Feeds and Stock Management Practices in Mud Crab Grow-out Culture under the National Mud Crab Science and Technology Program. It also presents issues and concerns on the present practices, and presents possible recommendations. (**Authors' abstract**)

Keywords: *Mud Crabs*, emaciated muscle, ammoniacal odor, Marine science

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0129

Identification of Mud Crab Species in Coastal Areas of Pangasinan

Cerezo, Rolando B. , Tapia, Mariel C.

The study was conducted to identify the mud crab species (*Scylla* spp.) that thrive in 12 coastal municipalities and 2 cities in Pangasinan. Ten mud crab samples were taken from each of the sampling site and classified based on Keenan et al. (1998). Likewise, the abundance and differences in size and weight of the mud crab samples were determined.

The study showed that there are only three mud crab species, *Scylla serrata*, *S. tranquebarica* and *S. olivacea*, found in the coastal areas of Pangasinan. *S. serrata* was the most abundant species (54.28%), followed by *S. tranquebarica* (24.28%) and *S. olivacea* (22.14%). Crabs weighing more than 300 g (≥ 12 cm carapace width or CW) were obtained from the municipalities of Anda, Bolinao, Dasol, Burgos, Bani, Agno, Alaminos and Infanta. These municipalities are geographically situated in coastal areas where *S. serrata* are found. Crabs weighing below 300 g (< 12 cm CW) were collected from the municipalities of Sual, Labrador, San Fabian, Lingayen, Dagupan and Binmaley. These towns have mangrove areas and low saline waters where *S. tranquebarica* and *S. olivacea* thrive. (**Author's abstract**)

Keywords: *Scylla* spp., *Scylla serrata*, *S. tranquebarica*, *S. olivacea*, identification of mud crab, Marine science

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0130

Implication of Mud Crab Culture Technology Transfer on Rural Coastal Communities: The Case in Northern Samar, Philippines

Baticados, Didi B. , Agbayani, Renato F. , Quinitio, Emilia T.

The socio-economic implications of technology transfer of mud crab culture on small-scale growers in Northern Samar and the mechanism of nursery technology transfer were investigated. The study covered four Peoples Organizations (POs), each operating in villages of the four municipalities of Northern Samar namely, Lavezares, Rosario, Laoang, and Pambujan. These were sites of the Philippine-Australian Community Assistance Program - assisted mud crab culture livelihood projects. Interviews from 60 beneficiaries revealed that most (76%) were relatively new to mud crab culture, particularly fattening or growout, but 65% were gleaners of mud crabs for more than 5 years. The average age of respondents was 45 years old and were predominantly male. Most (93%) were married with an average household size of six. A cost and return analysis of mud crab fattening in pens using only two compartments showed that the net income (P4,832/month for a 30-day culture period) is not sufficient if shared among 40 PO members participating in only one economic activity. Consequently, most (63%) respondents whose livelihood projects were cooperative undertaking were no longer keen with the cooperative-run project. Interestingly, those (83 %) who operated their own farm wanted to

continue and expand (26 %), particularly those in Rosario. The motivation factors that influenced growers to continue mud crab culture and adopt the nursery technology being disseminated were primarily economic with extra income and source of cash as main reasons for adoption. Majority also claimed that the nursery technology that was being transferred by SEAFDEC/AQD was simple.

The mud crab pond nursery technology transfer involved community training and participation of beneficiaries, beginning with the linking of technologists and socio-economists with on-the-ground partners. Thereafter, season-long training and farm demonstration followed comprising lecture series and hands-on demonstration. Nursery pond operations were conducted in an open pond (Rosario) and in a pond with a mangrove area (Pambujan). Survival in the pond with a mangrove area was higher (68%) than in an open pond (50%) for phase 1, suggesting that the mangrove played a role on a mud crab endurance. However, survival in phase 2 (72%, Pambujan; 83%, Rosario) showed a reversed trend, suggesting that bigger crablets can withstand/endure harsh pond conditions.

Results of the demonstration indicated that the nursery technology is a viable enterprise, showing an ROI of 93.50% in Rosario and 198.04% in Pambujan. Most (83%) of the growers were interested in the nursery technology, although only few PO members participated in the season-long training. Ownership of area, market, and farm distance from household were the more important considerations that influenced small-scale growers in adopting the technology.

(Author's abstract)

Keywords: *Mud Crab, Peoples Organizations (POs), Marine science*

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0131

Induction of Molting in Hatchery-reared Mud Crab *Scylla serrata* Juveniles Through Temperature Manipulation or Autotomy

Huervana, Joana Joy D.C. , Corre Jr., Valeriano L. , Quinitio, Emilia T.

The effects of water temperature and autotomy of chelipeds on growth, survival and molting of mud crab, *Scylla serrata*, juveniles were investigated under laboratory conditions in separate experiments. Hatchery-produced crabs at the intermolt stage with 2.0-2.3 cm carapace width and 1.7-2.2 g body weight were either exposed to temperature levels of 29, 32 and 35°C and ambient temperature of 24-31°C or subjected to autotomy (voluntary removal of one or two chelipeds). The crabs were allowed to molt twice prior to termination.

All crabs held at 35°C had 100% mortality due to incomplete molting during the first molt. The mean survival of crabs upon termination was 58, 64 and 50% for ambient temperature, 29 and 32°C, respectively. Specific growth rate (SGR) of crabs in the ambient ($2.83 \pm 0.12\%$) and 29°C ($3.02 \pm 0.15\%$) were comparable but significantly lower than (P

The survival of crabs with intact chelipeds ($51.17 \pm 3.56\%$) was comparable to those with one ($50.55 \pm 2.36\%$) or two ($43.41 \pm 1.59\%$) autotomized chelipeds. Juveniles with intact ($5.80 \pm 0.47\%$) or one autotomized cheliped ($5.45 \pm 0.30\%$) had a significantly higher SGR than crabs with both chelipeds autotomized ($4.20 \pm 0.52\%$) in the first molt. On the second molt, however, high SGR was observed in crabs with two chelipeds autotomized. The molt interval was significantly shorter in the autotomized crabs (one cheliped: 28 ± 1.66 days; two chelipeds: 23 ± 0.63 days) compared to those with intact chelipeds (36 ± 1.52 days). The results suggest that optimum water temperature for rearing *S. serrata* juveniles ranges from 29 to 32°C. Likewise, autotomy of one cheliped can promote molting without adversely affecting the growth and survival of the juveniles. (**Authors' abstract**)

Keywords: *Scylla serrata*, mud crab, water temperature, molting, Autotomy, Marine science

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0132

Initiatives on Mud Crab Culture at the Palawan Aquaculture Corporation *Tech, Elsie , Emboltorio, Cheryl , Galila, Domingo , Ogsimer, Cornelio , Lim, Kimberly*

Mud crab has long been a prime commodity in both local and global market and is regarded as one of the important high-value crustacean species produced in the Philippines. Decades ago, its culture basically relied on the availability of wild seedstock collected and grown to marketable size, or on wild lean adult crabs that were fattened for a short period.

Developments and refinements in the hatchery and nursery techniques paved the way to bringing up culture activities to commercial levels. The Palawan Aquaculture Corporation embarked on mud crab culture in the mid 2014 where initial trials started. Collaboration with SEAFDEC/AQD was later forged bringing forth improvements in the hatchery, nursery and grow-out culture. Hatchery reared juvenile crabs are now being sold. (**Author's abstract**)

Keywords: *Mud crab culture, Palawan Aquaculture Corporation, juvenile crabs, Marine science*

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0133

Management Strategies for Grow-out Culture of Mud Crab *Genodepa, Jerome G.*

There is an increasing interest in mud crab farming because of the growing demand for mud crab in domestic and international markets. Different methods for rearing crabs in ponds, pens and cages have evolved through several years of research and experiences of farmers.

Mud crabs are cultured in brackishwater earthen ponds and pens in mangroves. Fattening of lean crabs are also integrated with the grow-out culture system. Cannibalism is one of the major factors affecting the survival of crabs in grow-out ponds and pens. Hence, various strategies are recommended to reduce cannibalism such as stocking density of less than 2,000 crabs ha⁻¹, provision of suitable shelters, sufficient quantity of natural food and formulated feeds that are evenly distributed in the pond or pen. Feeding rate used in the pen is adjusted to avoid excess feeds that can attract rats and other land animals that can damage the enclosures. Selective harvesting is normally practiced since mud crabs do not grow or get fattened at the same time even if they belong to the same batch. (**Author's abstract**)

Keywords: *Mud crab, pond grow-out, mangrove pen, management strategies, Marine science*

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0134

Mangrove Structure and Mud Crab Population in Northern Samar *Quinitio, Emilia T. , Vista, Evelyn B. , Vista, Rafael C. , Lebata-Ramos, Ma. Junemie Hazel*

This study assessed the mangrove community structure, relative seasonal abundance of all size classes of crabs (catch per unit effort or CPUE) and percent composition of the catch in two collection grounds in Pambujan and Rosario, Northern Samar using cylindrical bamboo traps and lift nets. Mangroves in Pambujan was dominated by *Avicennia marina* and *A. alba*. The initial total count of mangrove trees (67 stems ha⁻¹) was slightly higher compared with the

final count (61 stems ha⁻¹). On the other hand, mangroves in Rosario was dominated by *Rhizophora apiculata* and *R. stylosa*. The total count of mangrove trees was higher in the initial (108 stems ha⁻¹) compared with the final (46 stems ha⁻¹). However, saplings and seedlings increased in both sites after 18 months. Mean CPUE ranged from 0.04 to 0.4 crabs using cylindrical bamboo traps in the monthly spring tide sampling for 19 months in Pambujan. High mean CPUE was recorded in February and August 2008. Mean CPUE ranged from 0.04 to 0.41 crabs using lift nets in the monthly spring tide sampling. The highest mean CPUE was noted in August. The initial and final CPUE were comparable. In Rosario, mean CPUE ranged from 0.3 to 1.78 crabs monthly caught in cylindrical bamboo traps and from 0.04 to 0.77 crabs in lift nets. In general, the number of crabs caught in both traps was higher in Rosario than in Pambujan. Mud crab ranged from 2.02-72.2% of the monthly total catch in lift nets in Pambujan. Other species of crabs ranging from 27.78 to 86.36% were the dominant catch in several months. In Rosario, mud crab ranged from 12.5 to 82.35% of the monthly total catch. The catch composition of the cylindrical bamboo traps was more varied compared with lift nets in both sites. The decrease in the population of mud crabs may also be associated with the decrease in mangrove trees. With the continuous cutting of trees and regular extraction of all sizes of mud crabs, the industry may no longer become sustainable. This paper is the first to be done on the assessment of the mud crab population in Northern Samar and the information gathered can be used as basis for the development and improvement of the existing fisheries legislation for the conservation and management of the remaining wild resources. (**Author's abstract**)

Keywords: *Avicennia marina*, *A. alba*, *Rhizophora apiculata*, *R. stylosa*, Marine science

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0135

Mangroves as Mud Crab Habitats

Primavera, Jurgenne H.

The paper reports the use of mangroves by *Scylla* species both as wild and culture habitats. Based on published literature, natural mangrove crab populations are described in terms of population density, dispersal and movement within and outside mangroves, crab burrows and associated mangrove species. Strategies for *Scylla* conservation depend on the kind of mangrove habitat - (mangrove) restoration for open fringing mangroves where crab recruitment and abundance are determined by habitat availability vs stock enhancement in closed basin mangroves with restricted recruitment and limited movement of crabs.

Mangrove crabs are also reared in monoculture in mangrove cages and pens, or in polyculture with milkfish in extensive ponds (where mangroves used to thrive). The paper describes a SEAFDEC Aquaculture Department study to evaluate the effects of mud crab net pen systems on mangrove macroflora, and the replacement of dietary trash fish with low-cost pellets. Results showed that incomplete, low-cost pellets can replace fish biomass requirement in mud crab diets, but that crab presence resulted in fewer mangrove seedlings and saplings. Economic analysis showed the viability of crab culture in mangrove pens using a combination of fish biomass and

pellets to reduce the requirement for (low-value) fish, which is a food item of poor coastal communities. (**Author's abstract**)

Keywords: *Mangroves, mangrove pens, mud crab culture, Marine science*

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0136

Morphological Deformities in Mud Crab *Scylla serrata* Juveniles Exposed to Antibiotics during the Larval Stage

Pates Jr., Gaudioso S. , Quinitio, Emilia , Quinitio, Gerald F. , Parado-Esteva, Fe D.

The effects of antibiotics on the survival, growth and external deformities of mud crab *Scylla serrata* larvae and juveniles were determined. Zoeae were exposed to 0, 3, 6, 9, 12 mgL⁻¹ oxytetracycline (OTC) and 0, 0.5, 1, 1.5, 2 mgL⁻¹ furazolidone (furan) until the late megalopa in the first and second experiments. The treatments that gave the best results in the first and second experiments were conducted simultaneously in the third experiment. The surviving crab instar from each replicate were grown in nursery tanks for one month.

Significantly higher survival and faster growth rate of Z5 were attained when 3 and 6 mgL⁻¹ OTC or 0.5 and 1 mgL⁻¹ furan were used. Morphological deformities observed in zoea 5 were bent dorsal, rostral and furcal spines. Percentage occurrence of morphological deformities was similar in all treatments. Significantly (P⁻¹ OTC and 0.5 mL⁻¹ furan in the third experiment. Morphological deformities observed in juveniles were fused frontal and lateral spines, asymmetrical and depressed tip of abdominal flap and gap between sternites. High percentage of deformities was observed in juveniles that were previously exposed to 6 mgL⁻¹ OTC or 1.0 mgL⁻¹ furan. There was no significant difference (P>0.05) observed in the survival of juveniles in both treatments of OTC and furan. However, growth was significantly (P

The study shows the apparent negative effects of antibiotics and highlights the need to eliminate or find alternatives, thereby preventing possible harm to the organisms and the environment.
(**Authors' abstract**)

Keywords: *Scylla serrata, Mud Crab, oxytetracycline, furazolidone, morphological deformities, Marine science*

Mud Crab Fattening Project of KAMAMANA in Del Carmen, Siargao Island
Sulima, Agapito E.

The Kaanib ng mga Mangingisda at Magsasaka ng Numancia Aqua-Agrikultura (KAMAMANA), established in Del Carmen, Siargao Island in 2011 is a People's Organization active in promoting the advocacy in 1) protecting the environment and natural resources, 2) providing services for the family welfare, and 3) managing sustainable livelihood programs and community development. One of the major livelihood programs presently being implemented by KAMAMANA is the fattening of mud crab (mangrove crab), *Scylla serrata*, in plastic containers set up in a mangrove area. Tenurial rights to manage a 2-hectare mangrove area for 25 years was granted to KAMAMANA by the Department of Environmental and Natural Resources.

Crabs obtained from the mangrove areas of Del Carmen and nearby municipalities are purchased and stocked in plastic containers. The crabs are fed trash fish and mollusks once every afternoon to satiation until they are fattened, usually for 1-2 weeks. The major problem encountered is mortality after molting. Four KAMAMANA members are involved in the crab fattening. When mortalities occur, the dead crabs are usually charged to members assigned in the operation. The fattened crabs are sold to local restaurants, hotels, resorts and walk-in buyers or brought to traders in Surigao City. The net income is divided into the following: members involved in the culture (50%), treasurer (10%), business manager (15%), organizational share (5%), savings (5%) and trust fund (15%). (**Author's abstract**)

Keywords: *Scylla serrata*, KAMAMANA, mud crab fattening, Marine science

Mud Crab Production Trials at the College of Fisheries and Marine Sciences, Aklan State University, New Washington, Aklan
Primavera-Tirol, Yasmin H. , de la Cruz, Ronnie , Pastrana, Eduardo B.

Two hatchery and nursery trials have been conducted at the College of Fisheries and Marine Sciences, Aklan State University (ASU) for the Multi-species Hatchery and Fishfarm Project from August to September 2014 and April to May 2015, in collaboration with the Aquaculture Department (AQD), Southeast Asian Fisheries Development Center (SEAFDEC) under the National Mud Crab Science and Technology Program of the PCAARRD-DOST.

Two ASU staff underwent training on Mud Crab Hatchery, Nursery and Grow-out Operations at SEAFDEC/AQD from September to October 2013. This was followed by SEAFDEC/AQD's provision of technical assistance during the actual hatchery and nursery operations using *Scylla serrata* at ASU. Survival rates of 3% and of 66-76% were recorded in the hatchery and nursery phases, respectively. The natural food consisting of rotifer and *Artemia*, and commercial formulated diet were fed to *S. serrata* larvae (zoea to megalopa). Juvenile crabs were fed formulated feeds and molluscs. Water temperature ranged from 27 to 30°C and salinity from 29 to 33 ppt in the hatchery. Initial results and insights are discussed and evaluated as guide for future hatchery and nursery protocols. (**Author's abstract**)

Keywords: *Scylla serrata*, Mud Crab Hatchery, rotifer, *Artemia*, Marine science

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0139

Mud Crab *Scylla serrata* Hatchery Operation *Santos, Mario , Santos, Francisco*

The initial exposure of the Santos family in aquaculture was the culture of milkfish and mud crab in brackishwater pond in Quezon. The milkfish fry were obtained from our own milkfish hatchery, in which several broodstock are maintained as source of eggs. The juvenile crabs for stocking were wild-caught obtained from Quezon, Camarines or Bicol Region traders. In the late 2012, SEAFDEC/AQD collaborated with the Mar-ial Hatchery for the seed production of mud crab under the National Mud Crab Science and Technology Program of the Department of Science and Technology. This collaboration was timely since the source of juvenile crabs was no longer reliable. Furthermore, excess crabs that would be produced from the hatchery can also be sold to other farmers. Training at SEAFDEC/AQD and technical assistance on site were provided by SEAFDEC/AQD prior to the operation of the mud crab hatchery. Part of the existing milkfish hatchery facilities were utilized for the crab larval rearing. The protocol of SEAFDEC/AQD was followed with some modifications based on the existing facilities and source of water supply. After the successful runs, a separate hatchery facility dedicated for mud crab larval rearing was constructed in 2013. Four runs were conducted with 1-2% survival rate from zoea 1 to crab instar. Problems encountered during the runs include: insufficient rotifers since the culture had to be shared with milkfish larvae, poor water quality due to typhoon and presence of a wharf nearby, low water temperature, human error, resignation of trained staff, lack of good quality broodstock source nearby, and MDS. The problems were addressed one by one. Although the technology has been developed, this has to be modified accordingly. (**Author's abstract**)

Keywords: *Scylla serrata*, Mud Crab, milkfish, Marine science

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0140

**Nursery and Grow-out Feeding Management Approach of Mud Crab Farmers in the
Philippines: Santeh Management**
Gabiota, Julius Remar A.

Mud crab farming has been one of the means of livelihood of many Filipino farmers in coastal areas, specifically in Southern Luzon and Visayas. Nursery and grow-out operations in these areas vary in terms of their feeding management and techniques for a better yield. Farmers in Bicol region, specifically Sorsogon which is one of the sources of wild crablets in the country, are presently using pelleted feeds for nursing different crab sizes. On the other hand, farmers in Quezon, Bataan, Masbate, Negros and Capiz are growing crabs to marketable size for domestic and export markets.

It was noted that there are still farmers in some areas that use low value fish for feeding crabs resulting in the deterioration of the pond bottom and water environment. On the other hand, pelleted feeds serve as an alternative feed that addresses the problem of the declining supply of trash fish, corn, mussel and snails. The price of trash fish has increased significantly due to its unavailability in several areas. In addition, pollution of the water environment and fluctuations in the water parameters for crabs due to improper pond preparation, pollution and climate change have added stress to the crabs. (**Authors' abstract**)

Keywords: *Mud crab farming, pollution, water environment, pond management, Marine science*

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0141

**Nursery Culture of Mud Crab *Scylla serrata* Fed Diets Supplemented with Tryptophan at
Two Stocking Densities**
Alava, Veronica R. , Lucero, Marjorie Aijee , Sumile, Jony D. , Parado-Estepa, Fe D.

Cannibalism has been recognized as one of the major problems in crab culture. The use of dietary tryptophan (TRP) that has been reported to reduce cannibalism in crabs under laboratory conditions was verified in pond nursery culture at two stocking densities. The first phase used hatchery-produced early crab instar. After 3-4 weeks, survivors were sorted and the small size crabs were further reared in the second phase. Crabs were stocked in 12-m² net cages installed in brackishwater pond and fed three times daily at 0830, 1300 and 1630 h. The feeding scheme used was a combination of mussel meat (M) and formulated diet (FD) at 30:70 ratio. The original FD contained 45% crude protein (used in Experiment 1, 2 and 3) that was lowered to 40% crude protein in the new basal diet used in the succeeding experiment. The two TRP-supplemented diets had 0.5% and 0.7% TRP levels. Results showed that the TRP-supplemented feeds did not give consistent results in terms of growth and feed conversion ratio, indicating that the original basal diet (0.4% TRP and 45% crude protein) or the new basal diet (0.4% TRP and 40% crude protein) were sufficient to be used together with mussel meat as feed for juvenile crabs. Higher survival rates were obtained at 50 m² (phase 1) and 10 m² (phase 2) than at 30 m² and 5 m² stocking density, respectively. All trial runs produced positive returns on investment. (Author's abstract)

Keywords: *Mud Crab, Scylla serrata, tryptophan, formulated diet, mussel, cannibalism, Marine science*

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0142

Nursery Culture of Mud Crab *Scylla serrata* Using Different Feeding Rates

Alava, Veronica R. , Sumile, Jony D. , Parado-Estepa, Fe D.

The effect of different feeding rates on the production and profitability of Phases 1 and 2 (3-week each) nursery culture of hatchery-produced crab *Scylla serrata* was determined. Minced mussel meat and formulated diet (at a ratio of 30:70) were fed to crabs. The crabs were stocked randomly in 12-m² net cages installed in the nursery earthen pond at stocking densities of 50 m² for Phase 1 and 10 m² for Phase 2. Crabs were fed three times daily at 0830, 1300 and 1630h h. In Phase 1, feed conversion ratio (FCR) at a feeding rate of 100% of initial crab biomass day⁻¹ for the entire three weeks was the lowest (p0.05) among crabs given different feeding rates. For Phase 2, the feeding rate of 40-30-20% of crab biomass day⁻¹ (week 1-2-3) resulted in lowest (p0.05) among feeding rate treatments. Profitability was better when feeding rate used was 100% of initial crab biomass day⁻¹ for the entire Phase 1 or 100-50-40% of crab biomass day⁻¹ (for week 1-2-3). A feeding rate of 50-40-30 % of crab biomass day⁻¹ (week 1-2-3) was more profitable in Phase 2. (Author's abstract)

Keywords: *Mud crab, Scylla serrata, nursery culture, feeding rates, Marine science*

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0143

Nursery Culture of Mud Crab, *Scylla serrata*, Using Different Ratios of Natural Food to Formulated Feed

Alava, Veronica R. , Sumile, Jony D. , Parado-Estepa, Fe D.

The effect of feeding different ratios of natural food to formulated feed on the production and profitability of Phases 1 and 2 of nursery culture (3 weeks per phase) of hatchery-produced crab *Scylla serrata* was investigated. The feeds consisted of: mussel meat (M) alone, formulated diet (FD) alone, and their combination at M:FD ratios of 5 : 95, 10 : 90, 15 : 85, 20 : 80, 25 : 75 and 30 : 70. The crabs were stocked randomly in 12-m² net cages installed in the nursery pond at stocking density of 50 m⁻² for Phase 1 and 10 m⁻² for Phase 2. Crabs were fed three times daily at 0830, 1300 and 1630 h. Results showed that in both phases, the survival rate, body weight, carapace width, and feed conversion ratio of crabs fed M, FD, and combination at different ratios were not significantly different ($p>0.05$). Profitability was better in 15 M:85 FD or 20 M :80 FD (Phase 1) and 30 M:70 FD ratio (Phase 2). The use of complete formulated diet as feed for crabs reduced the reliance on wet natural food. (**Author's abstract**)

Keywords: Nursery culture, mud crab, natural food, formulated feed, Marine science

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0144

Overview of the Mud Crab Industry in the Philippines

Quinitio, Emilia T.

Mud crab farming has long been established in the Philippines and the country is the second top producer in the world. Except for *Scylla paramamosain*, the three other species, *S. serrata*, *S. tranquebarica* and *S. olivacea* are commonly found in the country, but *S. serrata* is the preferred species for farming. Crab seeds for farming are mainly from the wild and in recent years, a small percentage from the hatchery. Due to the apparent decline of the wild crab stocks, provincial and municipal ordinances have been issued by a number of Local Government Units (LGUs) along with the Bureau of Fisheries and Aquatic Resources (BFAR) to conserve and manage the remaining resources. From the hatchery, megalopa or crab instars are grown in net cages installed in the nursery pond. Mud crab farming engages mostly in long-term grow-out culture of juvenile crabs to market size for 3-5 months, short-term fattening of lean crabs for 15-45 days, and recently, soft-shell crab production. Polyculture of juvenile crabs to market size with one to three other commodities in earthen brackishwater ponds is usually practiced. Mud crabs for soft-shell crab production are mainly from the wild, while SEAFDEC/AQD demonstrates the use of hatchery-produced juvenile mud crabs as seedstock.

Refinement is continuously being done to improve the economic viability of producing crabs, although basic technologies have been developed for all phases of culture (hatchery, nursery, grow-out, fattening and soft shell crab production). The major issues facing the industry are the lack of seedstock, difficulty of zoea 5 to molt to megalopa stage, cannibalism particularly at the nursery phase, species identification at the juvenile stage, use of fish as aquafeed, diseases, effects of climate change and quality of crabs at postharvest. In 2012, the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) of the

Department of Science and Technology (DOST) started funding projects under the National Mud Crab Science and Technology Program (NMCSTP) to address these issues. The major aim of the Program was to improve the production, profitability and sustainability of crab farming. SEAFDEC/AQD leads in capacity building with focus on the sustainability of the mud crab industry. Various collaborations and research studies on mud crab culture enabled SEAFDEC/AQD to package mud crab technologies, conduct local and international training courses and on-site technology demonstrations, and publish extension manuals and scientific publications since the mid1990s. Research and Development activities have been translated into improved production. With the recent developments and refinements of technologies, it is expected that the Philippines will increase its production by 25-50% in the next 5 years. (Author's abstract)

Keywords: *Mud crab industry, mud crab culture, research and development, capacity building, Marine science*

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0145

Philippine National Standard for Live Mud Crabs: Establishing Food Safety and Quality Requirements

Matubang, Mark F. , Palomares, Teresita S. , Peralta, Jose P. , Tobias- Quinitio, Emilia , Ragaza, Rosario J. , Alejo, Julieta V. , Regazpi, Prescilla B. , Romero, Cherry E. , Montoya, Haydee Ann , Trinidad, Jaypee G. , Roscom, Karen Kristine A.

The Bureau of Agriculture and Fisheries Standards (BAFS) of the Department of Agriculture (DA), in collaboration with the relevant government and research agencies, academe and industry organization, is currently developing the Philippine National Standard (PNS) for live mangrove crabs (also known as mud crabs). This PNS defines the food safety and quality requirements for live mangrove crabs in order to ensure consumers' health and make the product globally competitive. The process in the development of standards include review of the existing requirements of local and foreign markets and internationally recognized standards, creation of the Technical Working Group, initial drafting of the PNS, conduct of public consultations in major production areas, finalization of the draft for the PNS, notification to the World Trade Organization and approval of the DA Secretary.

The PNS for live mangrove crabs specifies the scope of the standard, product description, essential composition and quality factors, hygiene, handling, labeling requirements, methods of sampling, examination and analysis, definition of defectives, and the requirements for product lot acceptance. (Author's abstract)

Keywords: mangrove crabs, quality factors, hygiene, handling, labeling, food safety, Marine science

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0146

Pilot Scale Production of Pellets Suitable for Mud Crab *Scylla serrata*

Coloso, Relicardo M. , Catacutan, Mae R. , Peralta, Jose P. , Genodepa, Jerome G. , Duno, Khrsha , Gardoce, Rosthon

Studies were conducted towards the pilot scale production of stable and nutritionally adequate pellets suitable for mud crab *Scylla serrata* to help in efforts to increase mud crab production in the Philippines. Preliminary studies showed that mud crabs preferred pellets which were spherical or cylindrical and contained marine based attractants. Two practical diets were formulated and prepared in the Pilot Feed Mill of SEAFDEC/AQD. The extruded diets, along with a commercial mud crab grow-out diet, were subjected to proximate and Ca/P analyses as well as cholesterol analysis and water stability tests. The diets were fed to crabs in a controlled laboratory experiment using fiberglass tanks with flow-through, aerated seawater, and monitored from initial molt (M0) up to the second molt (M2). Tests revealed that the crabs fed Diet 1 (CP 48.28%, CF 7.74%, Ca 5.23%, P 12.93%, cholesterol 0.173%) showed the highest growth and better survival than those fed Diet 2 or commercial diet. Crabs fed Diet 1 took a shorter time to attain two molt cycles from M0. Survival was 70% after M2. Diet 1 was water stable within two hours. Abnormalities were observed including absent swimming legs or chelae, exposed gills, sores on exoskeleton, incomplete molting, or soft exoskeleton, but none that could be directly attributed to a specific treatment. Incomplete molting and slow hardening of the exoskeleton in crabs that accounted for the mortalities could be due to the low cholesterol levels in the diets especially in the commercial diet which had the lowest cholesterol level. Cholesterol supplementation of the artificial diet would be needed to improve molting success and survival of mud crabs in grow-out culture. The results of these experiments will be used to formulate a cost-effective grow-out diet for mud crab (supported by DOST-PCAARRD Grant in Aid). **(Author's abstract)**

Keywords: *Scylla serrata*, food pellet, cholesterol, Marine science

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0147

Polyculture of Mud Crab in Region 3

Bonifacio, Maurino

The polyculture of mud crab with one to three other species (milkfish, tilapia and shrimp or sugpo) is a common practice in Region 3. Pond preparation is given importance prior to stocking of various species. Removal of sludge in the pond and application of probiotics are included in

the standard pond preparation. The size and stocking densities of each species vary depending on the season. The volume of water to be replaced is based on the transparency of the water.

The various species are fed natural food grown in the pond in addition to mollusks and low value fish given specifically for mud crab and shrimp. When pond water becomes transparent (indicating the decrease in phytoplankton density), the water is agitated using a small boat. If water continues to be transparent, fertilizers are applied to enhance growth of natural food. The pond water and animals are closely monitored to prevent diseases. Some of the early signs of occurrence of disease include the presence of bubbles on the water surface, and presence of weak shrimp on the feeding trays and along the dikes. The presence of weak shrimp and crab on the pond bottom and continuous swimming of these animals from night to dawn indicate poor pond water quality which can be remedied by circulating and flushing of the pond water every other day. (**Author's abstract**)

Keywords: polyculture, milkfish, tilapia, shrimp, Mud crab, Marine science

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0148

Population Structure of *Scylla serrata* from Microsatellite and mtDNA Markers

Vince Cruz, Chona Camille E. , Ablan-Lagman, Ma. Carmen

Determination of the population structure and connectivity of natural populations of *Scylla serrata* are useful tools for decision making related to conservation and management efforts of this species. They provide important considerations as recovery and sustainability of the industry relies on the availability of hardy recruits that can replenish harvested resources from the system. In the case of marine domesticated species, admixture is expected due to commodity trade and exchanges.

Current population structure of five wild populations of *S. serrata* from Pangasinan, Bataan, Cagayan, Quezon, and Panay was determined using five microsatellite markers, cross-amplified from *Scylla paramamosain* in a total of 259 samples. Mitochondrial 16S rDNA sequences of 25 representative individuals from the same locations were used to provide a comparison with original evolutionary patterns. Quality check of microsatellite data revealed no null alleles in the data set, with all loci and populations exhibiting Hardy-Weinberg Equilibrium. Pairwise FST

analysis reveals F_{ST} values between 0.001-0.08432 with 9 out of the 16 possible comparisons considered significant. Phylogenetic analysis was performed on the 16S rDNA sequences, supported by bootstrap values. Both sets of data suggest 2 distinct groupings: the east coast populations of Cagayan and Quezon, the west coast populations of Pangasinan and Bataan, with admixture observed in the group from Panay. Additional data from 5 microsatellite markers specifically developed for *S. serrata* and the D-loop region will be added to the analysis.

The results from both mitochondrial and microsatellite markers, revealing an East-West separation of *S. serrata* populations, suggest that current and evolutionary population patterns are matching. Aquaculture practices appear to have not yet significantly affected the population structure of this domesticated species, as initially speculated. (**Author's abstract**)

Keywords: *Scylla serrata*, *mtDNA Markers*, *Scylla paramamosain*, *Marine science*

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0149

Private Sectors Perspectives: Problems and Constraints of the Mud Crab Grow-out Industry

Hocson, Herbert Renan

Mud crab aquaculture industry in the province of Capiz received much attention after production constraints due to diseases were encountered by the prawn industry. Fishpond operators sought for an alternative high value species and realized the potential of the king crab, *Scylla serrata*. This species is not native to Capiz and has to be sourced from other parts of the country, particularly from the Bicol region and Samar. The techniques for grow-out culture were gradually refined as farmers learned from the experiences of others. Presently, mud crab aquaculture is being done by private sectors based more on art. However, mud crab culture requires a lot of science to make the production consistent and sustainable. The practices of farmers and the problems they have encountered are presented together with the overall industry concerns. (**Author's abstract**)

Keywords: *mud crab*, *Scylla serrata*, *Marine science*

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0150

Recent Developments and Enhancing Transfer of the Nursery Technology for the Mud Crab *Scylla serrata*

Parado-Esteva, Fe D. , Alava, Veronica , Garibay, Esteban , Bejemino, Churchill , Sumile, Jony , Silvestre, Jenalyn , Qunitio, Emilia T.

The development of hatchery techniques for seed production of mud crab is expected to address the present problem on the depletion of wild seedstock supply for stocking in grow-out ponds. The nursery serves as the link between the two phases of culture as this involves growing of juvenile crabs produced in the hatchery to sizes that are suitable for stocking in the ponds.

Nursery rearing involves the use of net cages installed in ponds as holding system for ease in harvest and retrieval of crabs. In the first nursery phase, 0.3-0.5 cm carapace width (CW) juvenile crabs are reared to 1.5-2.0 cm CW for 3-4 weeks and stocks are harvested for selling or are grown further in a second nursery phase in which crabs reach 2.5-3.0 cm after another 3-4 weeks. This paper includes a review of techniques initially developed for the nursery and more recent refinements which involve the use of higher crab instar densities, provision of suitable shelters, trimming of claws and sorting. In addition, production results in farms of collaborators are presented to highlight the efficiency of dissemination and also discusses the challenges faced by the potential nursery industry. (**Author's abstract**)

Keywords: *Scylla serrata, nursery, trimming of claws, sorting, private sector collaboration, Marine science*

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0151

Strategies to Reduce Disease Incidence in Mud Crab

Amar, Edgar C. , Somera, Mechil D. , Madero, Sherlyn B. , Tendencia, Eleonor A. , Faisan Jr., Joseph P.

Mud crab hatchery suffers from low survival due to susceptibility to bacterial infection in the early larval stages among many causes. Despite food safety issues, antibiotics continue to be used in the absence of effective alternatives. In this study, screening of plant extracts was conducted to determine their suitability as antimicrobial agents against pathogens causing low survival in the hatchery. In addition, potential probionts were isolated from the gastrointestinal tract of mud crab, and water and sediments of mud crab grow-out ponds.

Crude ethanolic extracts from various terrestrial and mangrove trees were tested for *in vitro* antimicrobial activity and toxicity to mud crab zoea and megalopa. In addition, the *in vivo* antimicrobial efficacies of the selected extracts were tested by oral administration followed by experimental challenge with *Vibrio harveyi*. On the other hand, the putative probionts, were tested for pathogenicity against mud crab zoea and megalopa and quorum sensing inhibition activity against *V. harveyi*. Finally the extracts and probionts were tested for their efficacy in simulated hatchery and grow-out trials.

Results showed that extracts of *Terminalia cattapa* and the potential probiont *Bacillus subtilis* G100R11 showed antimicrobial and probiotic activity in *in vitro* and *in vivo* tests. In simulated hatchery trials, *T. cattapa* administration successfully produced crab instar with a survival of 1.3-1.8% in trials 1 and 2 comparable to antibiotic control. *B. subtilis* produced crab instar with survival of 0.8-1.0% in trials 1 and 2, better than the commercial probiotic with 0-0.13% survival. Using *T. cattapa* and *B. subtilis*, survival was above 30% until zoea 5 but suddenly dropped below 5% during metamorphosis to megalopa where high incidence of incomplete molting was observed. If difficulty affecting the molting process is addressed, high survival from zoea to megalopa and crab instar will be achievable. (**Authors' abstract**)

Keywords: Mud crab hatchery, antimicrobial, *in vitro*, *in vivo*, *Vibrio harveyi*, *Terminalia cattapa*, *Bacillus subtilis*, Marine science

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0152

High Throughput RNA Sequencing Reveals Temperature Tolerance Mechanisms in *Scylla serrata*

Ablan-Lagman, Ma. Carmen , Meyer, Eli

The effects of increasing temperature from global climate change threaten the sustainability and production of mud crabs from farms and wild populations in mangroves. Adaptation of mud crab populations to temperature stress is difficult to evaluate until now, with the emergence of RNA-Seq, a method which evaluates total mRNA expression under different conditions. In this study, 10 individuals each of *S. serrata* from Buguey, Cagayan were exposed to 26°C and 32°C for two weeks and the mRNA profiles were compared based on 186 million high quality pair-end reads which were aligned to a *S. serrata* reference transcriptome assembled de novo from 24,350 contigs with an average N50 of 1564 bp. Temperature related differences in gene expression were not significantly detected between the control and treatment groups and this was mostly due to the highly expressed genes such as the low and high molecular weight heat shock proteins. However, variations were greater among genes involved in the process of cell cycle regulation, the dissimilation processes such as oxidative phosphorylation, reproduction and transport across membranes. Greater differences were observed between immature or mature males and females. (**Author's abstract**)

Keywords: *Scylla serrata*, RNA sequencing, gene expression, temperature, Marine science

Trading of Juvenile Crabs and Grow-out Culture in Capiz

Panaguiton, Graciano J

Known as the seafood capital of the Philippines, Capiz offers wide variety of best tasting seafood products like crabs, shrimp, oysters, and mussels to name a few. However, despite the strategic location of the province, it imports *Scylla serrata* juveniles, which is not a common species in the area, from nearby provinces such as Bicol Region, Samar, Surigao, and Cagayan. The price of the juvenile crabs depends on the availability, size, and season; usually, the peak season occurs from December to April.

Upon arrival in Capiz, the juvenile crabs were sorted, counted, and repacked for shipment to pond owners/operators. Some of the problems encountered in trading juvenile crabs include: inconsistent supply, high cost of juvenile crabs during the off-season, incorrect identification species, and mortality induced by stress and poor handling. Prior to stocking of crabs, the pond is being prepared according to the standard procedure; some pond owners also practice polyculture to maximize the pond in harboring different species at the same time. Demand feeding and regular water replacement are also practiced to achieve best produce. Common species used in polyculture include milkfish and shrimp.

In harvesting, pond operators used gill net (*pukot*) or cast net (*lumpot*) for milkfish; cast net for shrimps; and lift nets, *patuloy*, crab pot (*panggal*) for crabs. Despite the quality produce, grow-out ponds encounter the following problems: cannibalism, slow growth, viral disease, muscle emaciation, difficulty in molting, and poaching. The problems should be addressed to obtain a survival rate of more than 50%.

Keywords: *Grow-out culture, Juvenile crabs, Capiz, Scylla serrata, Marine science*

Updates on the Larviculture of Mud Crab at SEAFDEC/AQD

Quinitio, Emilia T. , Huervana, Joana Joy D.C. , Virgula, Juliette C. , Parado-Estepa, Fe D.

Although the mud crab hatchery technology has been developed, issues such as high cost of production due to the need for additional facilities and labor for natural food culture, inconsistent survival rate at megalopa stage due to Molt Death Syndrome (MDS), and disease due to luminescent bacteria (*Vibrio* spp.), remain to be addressed. Refinements on the existing mud crab larviculture technology were done to address these problems.

Poor nutrition, low water temperature and application of prophylaxis during the zoea I stage have been identified as possible causes of MDS. Six shrimp formulated diets (FD) were tested, and 3 of these proved to be suitable for mud crab larviculture. Larval performance was compared using the 3 diets + natural food (NF, rotifers and *Artemia*) and NF alone as control. No significant difference was noted in the survival among the 4 treatments, although BP Nippai fed larvae had higher values. Lesser occurrence of MDS was observed in all the larvae fed FD+NF. Three mud crab larval diets with various attractants (squid, annelids, and squid + annelids) were also formulated and fed to the larvae. Results showed no significant difference among the 3 diets. The results of another experiment investigating the effects of the reduction of natural food showed that larvae fed 50% NF + 50% FD and 75% NF + 25% FD had higher survival compared to those fed 75% AD + 25% NF and no NF at all. The results indicate that the larvae cannot survive with formulated diet alone. It has been observed that frequency of antibiotic application can be reduced to every 5 days if good quality mud crab larvae are used. Formalin stress test proved to be a reliable method to determine the quality of a batch of newly hatched zoeae. All prophylactic treatments are stopped when megalopae reach the benthic stage.

To accelerate the dissemination of science-based mud crab hatchery technology to industry stakeholders, SEAFDEC/AQD entered into an agreement with private hatchery operators, State Universities and Colleges, and Local Government Units on giving assistance during initial hatchery operations. Technicians were given free training, followed by in-situ hatchery operations with assistance from SEAFDEC/AQD with the funding from PCAARRD-DOST. Crablets are now being produced by the collaborators. Increase in the production of hatchery-reared crablets will eventually reduce the dependence on wild-sourced mud crab seed stock for farming. (**Author's abstract**)

Keywords: *Vibrio* spp., Mud Crab, Molt Death Syndrome (MDS), *Artemia*, Marine science

The 2014 Hepatology Society of the Philippines Consensus Statements on the Diagnosis and Treatment of Hepatitis C

Payawal, Diana A. , Go, Arlinking O. , SalvaÁa, Angela D. , Ong, Janus P. , Tan, Judy L. , Labio, Madaline Eternity D. , Jamias, Jade D. , Cua, Ian Homer Y. , Campos, Jane R. , Wong, Step

Hepatitis C virus (HCV) infection is a devastating disease that is increasingly being diagnosed among Filipinos, especially in at-risk populations. There are disease-specific nuances in the evaluation and management of this infection. Furthermore, advances in the field brought about by clinical research are rapidly moulding the way the researchers evaluated and managed HCV patients. Evidently, consensus statements formulated by experts in the field are needed in order to serve as a guide to physicians who see HCV patients in the clinic. With this in mind, the Hepatology Society of the Philippines spearheaded the formation of these statements which aimed to address issues in the diagnosis, evaluation, treatment, and follow-up care of patients with HCV infection. Recommendations on the specific tests to perform in the evaluation of HCV patients before, during and after treatment, and first-line treatment of patients with acute and chronic HCV infection were provided. Treatment algorithms for chronic HCV infection, divided according to viral genotype, were also devised. The researchers acknowledged the limitations brought about by the local inavailability of some drugs/treatment regimens in the local setting at the time of the formulation of these statements. As such, these statements will be revised as soon as new data become locally applicable. (**Author's abstract**)

Keywords: *Hepatitis C virus (HCV), liver cirrhosis, hepatocellular carcinoma (HCC), Medicine*

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The 2014 Hepatology Society of the Philippines Consensus Statements on the Management of Chronic Hepatitis B

Wong, Stephen , Ong-Go, Arlinking K. , Ong, Janus P. , Lontok, Ma. Antoinette DC. , Macatula, Therese C. , Labio, Madaline Eternity D. , Bocobo, Joseph C. , Balce-Santos, Dulcinea A. , Jamias, Jade D., Yu, Ira I. , Payawal, Diana

Chronic hepatitis B virus (CHB) infection is a serious problem that affects over 300 million people worldwide and is highly prevalent in the AsiaPacific region. In the Philippines, an estimated 7.3 million Filipinos or 16.7% of adults are chronically infected with HBV, more than twice the average prevalence in the Western Pacific region. In view of the above, the Hepatology Society of the Philippines (HSP) embarked on the development of consensus statements on the management of hepatitis B with the primary objectives of standardizing approach to management, empowering other physicians involved in the management of hepatitis B and advancing treatment subsidy by the Philippine Health Insurance Corporation (PhilHealth). The local guidelines include screening and vaccination, general management, indications for assessment of fibrosis in those who did not meet treatment criteria, indications for treatment, on-treatment and post-treatment monitoring and duration of antiviral treatment. Recommendations on the management of antiviral drug resistance, management of special populations including patients with concurrent HIV or hepatitis C infection, women of child-bearing age (pregnancy and breastfeeding), patients with decompensated liver disease, patients receiving immunosuppressive medications or chemotherapy and patients in the setting of hepatocellular carcinoma are also included. However, the guidelines did not include management for patients with liver and other solid organ transplantation, patients on renal replacement therapy, and children. The consensus statements will be amended accordingly as new therapies become available. (**Author's abstract**)

Keywords: *Hepatitis B, guidelines, management, Medicine*

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0157

2014 Updated Recommendations for Preschool Vision Screening: Guidelines for Filipino Children Entering the Philippine Public School System

Lim, Jane Melissa L. , Mehta, Toral D. , Santiago, Alvina Pauline D. , Cubillan, Leo

INTRODUCTION: In 2004, the Philippine Guidelines on Periodic Health Examination (PHEX): Effective Screening for Diseases among Apparently Healthy Filipinos was published with recommendations for screening for vision impairment. Since that time, the Philippine education system has shifted to the K to 12 curriculum, and with full implementation of Republic Act 10157 (Kindergarten Education Act), Filipino children entered school earlier at age 5 years. This made the previous recommendations unenforceable in this new age group.

NEW RECOMMENDATIONS: The 2014 revised recommendations were: (1) Vision screening for amblyopia and strabismus is recommended for all children at least once using an age-appropriate chart (Level 2); and (2) Screening infants at 6 months of age for ocular problems, and at age 2 to 3 years, at 5 years, and every 1 to 2 years thereafter for visual acuity and ocular alignment may be done (Level 4).

COMMENT: The Philippine Eye Research Institute (PERI) incorporated the LEA Symbols in its vision screening kit, as the LEA Symbols was not only an age-appropriate chart but also had the added features of equal blurring of the optotypes precluding guesswork, and fulfilled the criteria set by international bodies. Included in this kit was a LEA symbol and number chart, right occluder glasses, left occluder glasses, and a 10-foot string to measure distance consistently. The vision screening kit has been pilot tested in several public schools and have gained the reputation for ease of use, reliability, and reproducibility

CONCLUSION: The younger age of Filipino children at school entry, pegged at 5 years of age or more, meant that the initial recommendations for students age 7 years were no longer enforceable. The LEA symbols chart, now endorsed internationally as an effective preschool vision test, offered the advantages of being validated and having undergone repeated calibration; lacking in cultural bias as symbols were easy to recognize across cultures; and having the actual screening process akin to a “play” situation. Currently, the LEA symbols chart form part of the PERI Vision Screening kit and is available locally through the PERI. **(Authors' abstract)**

Keywords: *Preschool vision screening, Vision screening kit, LEA Symbols, LEA Numbers, Vision screening recommendations, Medicine*

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4-Year Prevalence and Outcome of Initial Screening for Retinopathy of Prematurity in a Tertiary Hospital

Luz, James Rommet D., Banzon, Marcel

Objective: To determine the 4-year prevalence and outcome of initial screening for retinopathy of prematurity (ROP) among newborn infants in a tertiary hospital.

Methodology: Medical records of infants screened for ROP at a tertiary hospital were reviewed. Findings on initial examination and outcomes on follow-up were recorded. Prevalence was determined using frequencies and percentages. Statistical analyses correlating ROP to age of gestation and birth weight were done using chi square.

Results: Fifty eyes of 25 infants, 9 boys and 16 girls with mean birth weight (BW) of 1318 grams and mean age of gestation (AOG) of 31 weeks, were included in the study. Nine eyes were positive for ROP with a prevalence of 18%. One eye had stage 4 zone II ROP with plus disease. Three eyes had stage 3 ROP with plus disease. Five eyes had Stage 1 zone III ROP. Regression was noted on follow-up after treatment. Statistical analysis revealed no significant correlation between BW and ROP staging ($\chi^2 = 6.50$) but significant correlation between AOG and ROP staging ($\chi^2 = 13.69$).

Conclusion: Despite the increasing prevalence of retinopathy of prematurity worldwide, only a small number of infants were identified on initial screening at a tertiary hospital from 2008 to 2012. Some of these patients came back for follow up and showed significant improvement from baseline after treatment. There was a significant correlation between AOG and ROP staging. **(Authors' abstract)**

Keywords: *Retinopathy of prematurity, Screening, Age of gestation, Birth weight, Medicine*

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Aberrant Diffuse Expression of p63 in Prostate Adenocarcinoma

So, Jeffrey , Andai, Jose Jasper , Casimero, Faye Vi

We report a rare case of prostatic adenocarcinoma with diffuse aberrant p63 expression in the luminal cells. p63-positive prostatic adenocarcinoma often has distinctive morphology and immunoprofile, but may be confused with benign mimickers of prostate cancer. It is suggested that this tumor variant is molecularly distinct from usual type prostatic adenocarcinoma. Despite sometimes exhibiting seemingly unfavorable Gleason patterns, a less aggressive biologic behavior is often observed. Literature regarding molecular profile, morphologic characteristics, grading, and prognosis of this entity is reviewed. **(Author's abstract)**

Keywords: *aberrant, AMACR/HMWCK/p63 cocktail, needle biopsy, prostatic adenocarcinoma, p63, Medicine*

Accuracy of Blood Glucose Measurements Using Capillary and Arterial Line of Extracorporeal Circuit of Hemodialysis Among Diabetic Patients Undergoing Outpatient Hemodialysis at The Medical City

Yao, Christy S. , Sia, Genevi

Accurate and reliable glucose level measurements are essential for ensuring safe and effective glycemic control among diabetic patients undergoing hemodialysis (HD). Capillary blood glucose (CBG) monitoring is the standard of care of glycemic control assessment in patients with diabetes on maintenance HD. In the Philippines, glucose monitoring during HD involves either standard finger stick (CBG) or blood sample from the arterial line (AL) of extracorporeal circuit of HD machine. However, anecdotal observations noted over the years have shown discrepancies in the glucose values from the two sites. This study aimed to determine the accuracy of blood glucose measurements of capillary and AL of extracorporeal circuit of HD machine using point-of-care (POC) glucose meter in comparison to central laboratory venous plasma among diabetic patients undergoing outpatient HD in a private tertiary hospital in the Philippines. Determining the most accurate and reliable method of glucose level measurement is vital in helping patients attain glycemic control. To date, there is limited published data regarding the accuracy of blood glucose values obtained through CBG and AL of extracorporeal circuit of HD machine while patients are undergoing dialysis. The researchers used a prospective, cross-sectional, analytical study involving thirty patients. Forty blood samples from 30 patients obtained through CBG, AL and the peripheral venous plasma of the opposite arm were simultaneously analyzed. Specifically, StatStrip was utilized as the POC glucose meter. Accuracy of AL of extracorporeal circuit and CBG were determined and assessed in accordance with International Organization for Standardization (ISO) 15197:2013 minimum accuracy criteria for glucose meters. Regression analysis was used to determine whether AL and CBG significantly predict peripheral venous blood glucose levels.

Analysis showed that there is a statistically significant difference in the glucose values obtained from AL and CBG (p-values 0.005 and <0.0001) when compared to venous plasma glucose. However, this may not pose clinical significance in routine practice. It is noteworthy that both AL (concordance rate (CR)=100%) and CBG (CR=96.5%) satisfied the revised ISO 15197:2013 accuracy criteria for glucose value greater than or equal to 100mg/dL. Both CBG and AL blood glucose measurement significantly predict venous plasma blood glucose level. POC blood glucose value from both AL of extracorporeal circuit during HD and CBG satisfied the accuracy criteria set by ISO 15197: 2013 for glucose value greater than or equal to 100mg/dL. Thus, confirming the glucose level by CBG monitoring is not necessary in patients with arterial glucose value of greater than or equal to 100 mg/dL during HD. (**Authors' abstract**)

Keywords: *accuracy, arterial line, capillary blood glucose, hemodialysis, point of care glucose meter, Medicine*

The Accuracy of Mean Neutrophil Volume Relative to Blood Culture for the Diagnosis of Sepsis: A Meta-analysis

Almirol, Bernadette Joy , Villanueva, III,

Background. Sepsis is difficult to diagnose clinically because the signs and symptoms are non-specific. Blood culture is the gold standard, but it has low sensitivity and it takes at least 24-48 hours before results are released. Cell population data such as mean neutrophil volume (MNV) has recently been shown to be significantly increased in septic patients both with high WBC and normal/low WBC count.

Objective. The aim of the present study was to conduct a meta-analysis of published papers on the accuracy of MNV in diagnosing sepsis relative to blood culture.

Methodology. Electronic databases including PubMed/Medline, Elsevier/Scopus, and Google Scholar were reviewed. Papers that were not retrieved in full text and papers that do not have data on MNV were excluded. The sensitivity and specificity were pooled, and the area under the receiver operating characteristic curve (AUROC) is computed.

Results. Seven studies including 994 participants were included in the meta-analysis. With a mean cut-off value of 153.15 fL [149.1315, 157.1685], the pooled sensitivity and specificity were 0.82 [0.71, 0.89], and 0.78 [0.68, 0.86] respectively. The AUROC is 0.87 [0.83-0.89].

Conclusions. MNV is a potential indicator for sepsis with high specificity and sensitivity, with moderate to high test accuracy. GRADE evaluation indicated a moderate quality of evidence: despite the large effect size, there is a serious risk of bias and high heterogeneity between the included studies. **(Authors' abstract)**

Keywords: *Mean Neutrophil Volume, sepsis, accuracy, blood culture, Medicine*

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0162

Acral Lentiginous Melanoma in Filipinos: Report of Two Cases

Dayrit, Johannes F. , de la Serna-Mah, Ana Maria O. , Escueta, Luella

Introduction: Acral Lentiginous Melanoma is a clinicopathologic subtype of malignant melanoma. It is the most common expression among the four variants in Asian population. Its prognosis is generally poorer than the other subtypes. Hence, early diagnosis and surgical excision is the key in management.

Case Summaries:

A 65-year-old male presented with a 10-year history of patch on the second digit of the right hand. There was history of trauma to the finger where subungual hematoma developed. Five years after the injury, a black macule was noted on the previously bruised area. The lesion in-creased in size involving the periungual area with destruction of the nail plate. Biopsy showed acanthosis and basal layer hyperpigmentation. Intra-epidermal and dermal vacuolated

melanocytes were seen. The patient was referred to an oncologist and orthopedic surgeon for management. An 88-year-old male had a 2-year history of black patch on the interdigital area between the 4th and 5th digits of the left foot. No history of trauma was reported prior to the appearance of the lesion. Biopsy showed lentiginous proliferation of atypical melanocytes in the epidermis. Referral to an oncologist and orthopedic surgeon for treatment was made.

Conclusion:

Clinical management of ALM begins with an accurate diagnosis. Therefore it is important to remain vigilant and where there is clinical suspicion, patients should be referred for a derma-tological opinion. A typical patient profile, which includes age of onset, location of the lesion, prior trauma, and its relatively high incidence in the Asian population must be borne in mind. **(Authors' abstract)**

Keywords: *Acral Lentiginous Melanoma, malignant melanoma, Biopsy, Medicine*

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0163

Acute Myocardial Infarction in Very Young Filipino Adults

Yap, Emily Mae L., Medrano, Ana Beatriz

Acute myocardial infarction (AMI) is rare in “very young” patients and studies among Filipinos are scarce. The objective of this study was to determine the prevalence, clinical, echocardiographic and angiographic features, and outcome of this population. A retrospective study of patients aged 19 to 30 years old who were diagnosed with AMI at the Philippine Heart Center from 2012 to 2016 was done. The prevalence of AMI in very young Filipino adults at our institution was 0.93% (11/1182). The mean age was 26.5 ± 3.4 years with a male predominance (82%). Chest pain was the most common symptom (91%). More than half of the patients did not have hereditary diseases. Eight patients were smokers (72%). There was one case of illegal drug use (methamphetamine) (9%). There were only two cases of non-ST elevation myocardial infarction (NSTEMI) (18%). ST elevation myocardial infarction (STEMI) of the anterior wall was seen in four cases (36%), inferior wall in three cases (27%) and anterolateral wall in two cases (18%). Six patients (45%) had left anterior descending artery (LAD) involvement. Two patients (18%) had right coronary artery (RCA) involvement. Two patients (18%) had both LAD and RCA involvement. The youngest patient, a 19-year-old female with Takayasu arteritis, had three-vessel involvement. Five patients (45%) underwent percutaneous coronary involvement (PCI) of the LAD while two had PCI of the RCA (18%). All patients were discharged improved. Acute myocardial infarction (AMI) in the young has not been extensively studied among Asians. Chest pain is the most common clinical presentation with STEMI being more frequent than NSTEMI in this age group. Male gender and smoking were the most common risk factors. Early recognition and prompt management of AMI, particularly revascularization (if indicated), are of paramount importance to optimize outcomes. **(Authors' abstract)**

Keywords: *acute myocardial infarction, young, Filipinos, smokers, Medicine*

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Acute Renal Infarction Secondary to Membranous Glomerulopathy

Ogbac, Frederick E. , Gapuz, Kristine T. , Panlilio, Cherisse Ann P. , Baldonado, Alicia N.

Acute renal infarction often presents with abdominal pain, nausea, vomiting, and fever. With other more common illnesses presenting with the same symptoms, it is often misdiagnosed leading to delayed treatment. The researchers presented a case of a young female diagnosed to have Membranous Glomerulopathy who presented with sudden onset flank pain in whom was initially treated as urinary tract infection. A 19-year-old female diagnosed with membranous glomerulopathy presented at the Emergency Room (ER) with severe, right sided, flank pain of acute onset, associated with nausea and vomiting. No fever, dysuria, hematuria, or history of trauma; her vital signs were within normal range. Abdominal examination revealed a distended but soft non-tender abdomen with positive shifting dullness and fluid wave test. Right sided costovertebral angle tenderness was elicited. Initial diagnostics showed leukocytosis with neutrophilic predominance, serum creatinine of 0.77mg/dL, and proteinuria of >600mg/dL. Abdominal ultrasound showed non-specific findings, thus contrast-enhanced computed tomography scan (CT-Scan) of the abdomen was done which revealed areas of non-enhancement in the upper to middle portions of the right kidney which may relate to areas of ischemia and/or infarction, likely due to thrombosis involving the more distal portion of the right renal artery and massive ascites. Result was confirmed by computed tomography angiography (CTA) of the kidneys showing right renal artery thrombosis. Evaluations for other causes of renal artery thrombosis aside from patient's concurrent membranous glomerulopathy were done and were negative. Anti-coagulation therapy was initiated using low molecular weight heparin (LMWH) and was thereafter maintained on warfarin. In conclusion, a high index of clinical suspicion is needed to diagnose acute renal infarction because of its nonspecific symptoms which can mimic other conditions. Early diagnosis and prompt initiation of anti-coagulation therapy is important to avoid irreversible kidney damage. Acute renal infarction should be considered as a cause of acute onset flank pain in patients with risk factors and normal initial screening test.

(Authors' abstract)

Keywords: *Acute renal infarction, membranous glomerulopathy, flank pain, case report, Medicine*

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Adherence to Guidelines on Anticoagulant Management Among Adult Patients with Atrial Fibrillation at the Philippine General Hospital

Punzalan, Felix Eduardo R. , Lavente, Jodette Joy H. , Gervacio, Giselle G. , Macapugay, Leor

Atrial fibrillation (AF) is the most common cause of embolic stroke. Although there is impressive risk reduction in stroke associated with warfarin therapy in clinical trials and guidelines on anticoagulation in AF, there are limited data

on how well these goals are being met. This study aimed to determine the adherence to guidelines on anticoagulant management among adult patients with AF at the Department of Internal Medicine Ward of the University of the Philippines - Philippine General Hospital (UP-PGH). This is a prospective study, which included patients aged 18 years and older with diagnosis of AF, which can be paroxysmal, persistent, longstanding or permanent. Upon admission, patients were interviewed and information like age, gender, duration of AF, co-morbid illnesses, and medical history were collected using a checklist. Risk factors for bleeding, use of antiplatelet/anticoagulant agents and International Normalized Ratio (INR) values were also determined. There were 40 subjects included in the study, majority of which were female (77.5%) and in the 40-50 years age range (35%). There were 21 (52.5%) patients who had valvular AF and 19 (47.5%) who had non-valvular AF. Of those patients with valvular AF, 80.9% received warfarin. Of those patients with non-valvular AF, 94.7% were at moderate or high risk for thromboembolism, but only 47.4% of those patients received warfarin. We found that only a small percentage of patients (16%) had INR in the therapeutic range of 2.0-3.0. The majority of the patients had their INR in the sub-therapeutic ranges at 40% and 24% at INR values of 1.5-1.99 and 0-1.49 respectively. The majority of the patients on warfarin had INR monitoring ≥ 30 days, and these were patients already on chronic or long-term warfarin use. Those patients who had more frequent INR monitoring were those newly initiated on the treatment whose INR values were in the sub-therapeutic range. The adherence of anticoagulant management among AF patients admitted at the Internal Medicine Wards of UP-PGH, to evidence-based clinical practice guidelines, was high at 80.9% for patients with valvular AF and was quite low at 47.4% for non-valvular AF patients. Patients were found to have low bleeding risks based on a HAS-BLED score and patients with moderate to high thromboembolic risk factors were more often prescribed with warfarin, although only a few patients achieved a therapeutic INR. A more frequent INR monitoring including a close follow-up with the patients should be performed to achieve target INR in most patients with AF. Moreover, we should not discount starting anticoagulation in patients with non-valvular AF who have moderate to high thromboembolic risk factors. **(Authors' abstract)**

Keywords: atrial fibrillation, anticoagulation, warfarin, anticoagulation guidelines, Medicine

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0166

Adverse Drug Reaction to Nevirapine in an Immuno-Compromised Patient: A Case Report *Hernandez Lei Anne Michelle R. ,, Encarnacion, Lonabel*

Adverse drug reaction in an immuno-compromised patient is a common condition brought about by poly-pharmacy, and notably due to the use of antiretroviral medications. We present a case of a 35 year old male, who initially presented with a morbilliform rash.. The patient was treated initially as a case of drug hypersensitivity reaction who did not respond to regular course of intravenous corticosteroid. After revealing his sero-positive human immunodeficiency virus (HIV) status, corticosteroid was discontinued and the patient responded with conservative management. **(Author's abstract)**

Keywords: nevirapine, drug hypersensitivity reaction, adverse drug reaction, Medicine

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Agreement on Keratometry Readings and Computed IOL Power using Haigis and SRK/T formulas between Ray Tracing (iTrace®) and Partial Coherence Interferometry (IOLMaster®) among Patients in an Outpatient Surgical Center

See, Thonnie Rose O., Nepomuceno, Richard

Objective: To determine if there is an agreement between keratometry readings and intraocular lens (IOL) power calculation using Haigis and Sanders, Retzlaff and Kraff theoretical (SRK/T) formulas obtained by iTrace® and IOLMaster®.

Methods: A retrospective chart review of patients who underwent preoperative biometry using both IOLMaster® and iTrace® from January 2015 to July 2015 and satisfied the inclusion/exclusion criteria were included in the study. The average keratometry, cylinder power and predicted IOL power were computed accordingly. Agreement between devices was analyzed using Bland Altman.

Results: A total of 70 eyes from 35 study participants were included in the analysis. The means of average keratometry values obtained from IOLMaster® and iTrace® were 43.9 ± 1.3 D and 43.6 ± 1.3 D respectively. The paired mean differences in the average keratometry and cylinder power between instruments were -0.3 ± 0.3 and 0.1 ± 0.4 respectively. There was a statistically significant difference in the proportion between the number of times there will be a need to change IOL power and the number of times IOL power will remain the same using the Haigis formula with a p value of <0.0005 .

Conclusion: Average keratometry values, cylinder power and IOL calculation using the Haigis formula obtained by the two devices tested did not show agreement. There is agreement using the SRK/T formula. (**Authors' abstract**)

Keywords: ray tracing, partial coherence interferometry, keratometry, IOL power, SRK/T, Haigis, Medicine

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Airway Management In A Patient With Goldenhar Syndrome Using Classic Laryngeal Mask Airway: A Case Report

Polcarpio, Josefina T., Estrada, Maureen Thea C., Jamora, Vanessa

Goldenhar Syndrome is an embryonic developmental anomaly involving the first and second arches resulting in a wide spectrum of birth defects including ocular, auricular, facial, cranial, vertebral and cardiac anomalies. Among the various deformities associated with the syndrome, hemifacial microsomia, maxillo-mandibulo-facial hypoplasia, and neck bones fusion are anesthesiologist's concern because these features are precursors to difficult airway management, particularly so that its corrective surgical procedures are to be done under general anesthesia. For the excision of the right ocular dermoid with plastic-reconstructive skin grafting of this 9 years old female patient, we were able to prevail over this dilemma by using a right fitting face mask and classic flexible LMA while she was breathing spontaneously under Sevoflurane general anesthesia. Early recognition and keen knowledge of the disorder and proper

preparation for its anticipated anesthetic implications are the foundation of successful peri-operative management of patients with Goldenhar Syndrome. **(Author's abstract)**

Keywords: *Goldenhar Syndrome, Oculo-Auriculo-Vertebral Spectrum, Classic LMA general anesthesia, Medicine*

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0169

Alport syndrome

Tiuseco, Karen Angela L., Lim Bon Siong, Ruben , Dualan, Ivo J

Objective

To present a case of Alport syndrome, its pathogenesis, etiology, clinical manifestation, diagnosis, and management.

Methods

This is a case report.

Results

A 22-year-old male presented with blurring of vision associated with bilateral anterior and posterior lenticonus. The patient had a history of blurring of vision on both eyes, occasional right lower-quadrant pain on urination, frothy urine, and bilateral hearing loss. Family medical history showed one brother who died at 15 years of heart disease, and another brother at 17 from chronic kidney disease. Slitlamp examination showed a conspicuous oil droplet reflex seen through retroillumination. Anterior and posterior bulging of the lens was noted, highly suggestive of anterior and posterior lenticonus. On indirect ophthalmoscopy, no perimacular dot-and-fleck retinopathy was seen. Further systemic workup revealed elevated serum levels of blood urea nitrogen (BUN) and creatinine, and marked proteinuria and hematuria. Ultrasound of the kidneys revealed bilateral renal parenchymal disease. Pure tone audiometry confirmed bilateral moderate sensorineural hearing loss.

Conclusions

There should be a high index of suspicion for Alport syndrome in any patient presenting with anterior and posterior lenticonus. A thorough history-taking and physical examination, including slitlamp examination through a dilated pupil, are necessary to fully support its diagnosis. There is no specifically defined treatment for Alport's syndrome; management should be individualized and approached in a multidisciplinary fashion. Lenticonus can be treated by phacoemulsification with careful capsulorrhexis. **(Authors' abstract)**

Keywords: *Alport syndrome, anterior lenticonus, posterior lenticonus, oil-let reflex, Medicine*

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Angle-supported intraocular-lens implantation for the correction of moderate to high myopia

Uy, Harvey Siy , Chan, Pik Sha , Francisco, III, Jesus , Panggat, Kevin Matthew Sera

Objectives

This study evaluated the efficacy and safety of an angle-supported phakic intraocular lens (PIOL) for the treatment of moderate to high myopia.

Methods

This is a case series of 13 eyes of 8 patients with moderate to high myopia that underwent implantation of an acrylic, angle-supported PIOL. The main outcome measures were manifest refraction, uncorrected visual acuity (UCVA), best-corrected visual acuity (BCVA), endothelial-cell count (ECC), intraocular pressure (IOP), and adverse events.

Results

The mean spherical equivalent (SE) improved from -11.79 ± 4.12 diopters (D) preoperatively to -0.08 ± 0.58 D postoperatively ($p = 0.000$), UCVA from 0.016 ± 0.015 to 0.79 ± 0.29 postoperatively ($p = 0.000$), and BCVA from 0.76 ± 0.33 to 0.86 ± 0.27 ($p = 0.017$). The ECC slightly decreased from 3033.57 ± 367.71 cells/mm² preoperatively to 2947 ± 279.86 cells/mm² (2.8% loss) postoperatively ($p = 0.400$). The mean preoperative IOP was 16.36 ± 3.53 mm Hg while the mean three-month postoperative IOP was 15.72 ± 4.15 mm Hg ($p = 0.659$). Two (15%) eyes experienced transient postoperative IOP rise on the day of the surgery, which resolved by postoperative day 1 using topical timolol maleate. The mean follow-up was 2.54 ± 1.39 months (range, 1 to 5 months).

Conclusion

Acrylic angle-supported phakic intraocular lens (PIOL) implantation is an effective and safe method of correcting moderate to high myopia. (Authors' abstract)

Keywords: Angle-supported phakic intraocular lens, Refractive surgery, Endothelial cell count, High myopia, Medicine

Antibiotic Prophylaxis for Chemotherapy-Induced Febrile Neutropenia in Hematologic and Solid Organ Malignancies

Abad, Cybele Lara , Reside, Evelyn Victoria , Lim, Aileen Anne , Molina, Ramon

Febrile neutropenia (FN) frequently develops among cancer patients receiving chemotherapy and is associated with significant morbidity and mortality. Although the use of empiric antibiotics has been a standard of care for FN according to the last 2010 Infectious Disease Society of America (IDSA) guidelines, the role of prophylactic antibiotics in patients with high risk features in preventing febrile neutropenia remains to be elucidated. This study aimed to investigate the role of antibiotic prophylaxis in preventing post-chemotherapy FN among patients with hematologic and solid organ malignancies. A literature search of published English language clinical trials was performed using PubMed, MEDLINE, and the Cochrane Collaboration from January 1980 – October 2015. Four hundred thirty two articles were extracted from our literature search and narrowed down through specified inclusion and exclusion criteria. Results were analyzed based on 1) incidence of FN in post chemotherapy cancer patients, 2) mortality rate, and 3) incidence of FN with different antibiotics. Assessment of methodological quality of each study was done using the Jadad scale. Odds ratios and Forest plots were computed and generated respectively using RevMan 5.2 (© 2013 the Cochrane Collaboration). Antibiotic prophylaxis reduced the incidence of FN (OR 0.59[0.37, 0.91]). Overall effect was significant; $Z = 2.35$ ($p = 0.02$). Febrile episodes occurred less frequently in those patients who received prophylactic antibiotic treatment (OR 0.43 [0.34, 0.53]) $Z = 7.59$ ($p < 0.00001$). The combined results in this sub-analysis on different antibiotic regimens used demonstrated that prophylaxis in general prevented FN by up to 3.51-fold among cancer patients who received chemotherapy, OR 3.51[3.10, 3.98]. Results were statistically significant at $Z = 19.68$, $p < 0.00001$. Antibiotic prophylaxis reduces the incidence of FN among cancer patients treated with cytotoxic chemotherapy, decreases febrile episodes in neutropenic patients, and overall, prevented FN by up to 3.51-fold. (**Authors' abstract**)

Keywords: antibiotic prophylaxis, febrile neutropenia, chemotherapy, cancer, Medicine

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0172

Antifungal Activity of Voriconazole on Local Isolates: an In-vitro Study

De Mesa-Rodriguez, Roslyn , Carino, Noel S. , Agahan, Archimedes Lee D. , Cubillan, Leo DP. , De Sagun-Bella, Kar

Objective: To determine the in-vitro activity of voriconazole and compare it with amphotericin B, fluconazole, itraconazole, ketoconazole, and caspofungin against local yeast and mold clinical isolates *Candida albicans*, *Candida sp.*, *Aspergillus terreus*, *Aspergillus niger*, and *Fusarium cylindrocarpone*.

Methods: Review of the Institute of Ophthalmology microbiology records were done and was the basis for the local isolates included in the study. Mean inhibitory concentration (MIC) was determined using YeastOne Sensititre Microtitre Colorimetry method (TREK Diagnostic Systems, England). Two-way ANOVA, Duncan, and Pearson chi-squared tests were used to analyze the data.

Results: All isolates tested were sensitive to voriconazole. Eighty percent (80%) of the isolates were sensitive to amphotericin B and 25% showed resistance to itraconazole. Yeast pathogens were all sensitive to amphotericin B and voriconazole. More than 50% of the yeast pathogens were resistant to ketoconazole. Molds or filamentous fungi showed higher susceptibility to voriconazole than amphotericin B and the other antifungals.

Conclusion: Voriconazole exhibited good in-vitro activity against the isolates tested. It has the same efficacy on yeast pathogens (*Candida albicans* and *Candida sp.*) when compared with amphotericin B. It has superior efficacy on filamentous fungi (*Aspergillus* and *Fusarium*). There is a role for voriconazole in the treatment of ocular infections, especially in the setting of poor antifungal drug availability. **(Authors' abstract)**

Keywords: Voriconazole, Amphotericin B, Antifungal susceptibility, *Candida*, *Fusarium*, *Aspergillus*, Medicine

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0173

The Antimicrobial Efficacy of Multipurpose Contact Lens Solutions on Standard Strains of Common Ocular Pathogens

Iguban, Eleonore B., NaÃ±agas, Juan Pablo R. , De Mesa-Rodriguez, Roslyn

Objective: To compare the antimicrobial effects of locally available multipurpose contact lens solutions (MPS) on the growth of standard strains of contact lens-related ocular pathogens and to establish the recommended duration of exposure to these solutions to achieve maximal antimicrobial efficacy.

Methods: This study, a single-blind controlled experiment, evaluated five locally available MPS in terms of their antimicrobial efficacy towards common contact lens-related ocular pathogens, such as *P. aeruginosa*, *S. aureus*, *E. coli*, *F. solani*, and *C. albicans*, using the stand alone criteria. Microbial viability counts were obtained at serial durations: after 1 hour, 3 hours, 6 hours, and 12 hours of exposure.

Results: MPS containing polyquaternium-1 and myristamidopropyl dimethylamine (MAPD) and polyhexamide reduced the bacterial concentrations by 3 log and fungal concentrations by 1 log, enabling them to fulfill the stand alone criteria for disinfecting solutions as mandated by ISO/CD 14729. This antimicrobial efficacy was most evident at 6 hours of exposure to the challenge organisms. MPS containing polyquaternium-1 and MAPD also have the broadest spectrum of effectivity against gram-negative and gram-positive bacteria, and *C. albicans*. All MPS tested have poor microbial activity against *F. solani*.

Conclusion: Multipurpose contact lens solutions demonstrated variability in their antimicrobial activity. MPS with broad spectrum efficacy and effectivity, such as those containing polyquaternum and MAPD, are preferred to prevent contact lens-related ocular infections.**(Authors' abstract)**

Keywords: Contact lens, Multipurpose contact lens solutions, Microbial keratitis, Infectious keratitis, Silicon hydrogels, Medicine

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Antimicrobial potency of colloidal silver compared with antibiotic eye drops

Verzosa, Lee G. , Concepcion, Dean D., Nuevo, Jose Jurel M

This study determined the antimicrobial potency of colloidal silver against *Escherichia coli*, *Staphylococcus epidermidis*, *Staphylococcus aureus*, and *Bacillus subtilis* compared with that of tobramycin, lomefloxacin, and moxifloxacin eye drops. Three concentrations of colloidal silver (10, 20, and 30 ppm) were impregnated in filter paper discs placed on the surface of agar inoculated with test organisms, namely, *Escherichia coli*, *Staphylococcus epidermidis*, *Staphylococcus aureus*, and *Bacillus subtilis*. Antibacterial activity testing (ABAT) and Kirby-Bauer disc diffusion were employed to test the antimicrobial potency of colloidal silver against ophthalmic antibiotics (tobramycin, lomefloxacin, and moxifloxacin). Resulting zones of inhibition of the antimicrobials tested were compared with those of the control antibiotic ampicillin. Sensitivity and resistance of the different pathogens were determined. Twenty-two-millimeter zones of inhibition in the Kirby-Bauer were observed in the 30 ppm preparation of colloidal silver for both *S. aureus* and *B. subtilis*, showing strong inhibitory activity compared with ampicillin (16mm and 10mm respectively). A 12-mm zone of inhibition was measured for *S. epidermidis*, showing slight inhibitory activity. ABAT showed that *E. coli*, *S. epidermidis*, *S. aureus*, and *B. subtilis* were resistant to the different concentrations of colloidal silver but sensitive to ampicillin, tobramycin, lomefloxacin, and moxifloxacin. Kirby-Bauer disc diffusion test demonstrated that *S. epidermidis*, *S. aureus*, and *B. subtilis* were sensitive to the 30-ppm concentration of colloidal silver. On the other hand, ABAT yielded negative results for colloidal silver at 10, 20, 30 ppm when tested against these organisms. (**Authors' abstract**)

Keywords: Colloidal silver, antimicrobial, alternative medication, culture, Medicine

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Anxiety and Depression in Heart Failure Patients: A Prospective, Cross-Sectional Study

Raya-Ampil, Encarnita , De Leon, Francesca Rose G. , Ramirez, Marcellus Francis , Muljadi, Na

Anxiety and depression are the two most common mental disorders among medically ill patients with prevalence of 10%-50%. Anxiety and depression are prevalent in patient with heart disease and are associated with high morbidity and mortality. This study aimed to determine the prevalence of anxiety and depression and its correlation with clinical profile in heart failure patients using the Hospital Anxiety and Depression Scale Filipino Version (HADS-P). A prospective cross-sectional study was conducted. HADS-P questionnaire was administered to heart failure patients admitted at the University of Santo Tomas Hospital from December 2013 to November 2014. After securing consent from the attending physicians and patients, the HADS-P questionnaires were then administered to the patients at the end of hospitalization by the investigator/s. The recommended cut-off score for HADS-P is score of 11. Chi-square and Independent T-tests were used in this study. 144 heart failure patients were enrolled in this study. The prevalence of depression and anxiety among heart failure patients is 13.2% and 25.7%, respectively. Having prior coronary angiography, coronary angioplasty, EF <40%, and multiple co-morbidity diseases/s are significant factors for depression. While among patients with anxiety, the significant factor is the length of hospital stay. This study showed that depression and anxiety are common among heart failure patients. Heart failure patients should be screened for depression and anxiety especially among those having above mentioned clinical profile. The HADS-P questionnaire is an easily applied screening method. A formal psychiatric referral can be taken and should be a part of the comprehensive management among heart failure patients with depression and anxiety. (**Authors' abstract**)

Keywords: anxiety, depression, heart failure, cross-sectional, heart disease, hospital anxiety and depression scale, HADS, Medicine

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0176

Apolipoprotein Levels in Patients with Acute Coronary Syndrome (LIPAS): A Pilot Study

Sy, Rody G. , Taquiso, Jezreel L. , Reganit, Paul Ferdinand M. , Santos, Lourdes Ella G. , Punzalan, Felix Eduardo R. , Llanes, Elmer Jasper B. , Barcelon-Cruz, Mariel I. , Ramos, John Daniel A. , Cunanan, Ell

Lowering levels of low-density lipoprotein cholesterol (LDL-C) are proven to reduce cardiovascular risk. However, some individuals experience acute coronary events despite normal LDL-C levels. Recent studies have focused on modifiable lipoprotein targets, such as apolipoprotein B (apo-B) and apolipoprotein A-1 (apo A-1) and lipoprotein (a), as targets for therapy. Apo-B is the primary apolipoprotein of LDL-C representing total number of atherogenic particles. Apolipoprotein A-1 is the major component of HDL complex. This study will determine the prevalence of elevated apo-B and low apo A-1 among adult Filipinos with acute coronary syndrome (ACS). This is a cross-sectional study involving 95 patients with ACS admitted in a tertiary hospital from November 2015 to May 2016. Levels of apo-B, apoA-1, lipoprotein (a), total cholesterol, triglyceride, LDL-C, and high-density lipoprotein cholesterol (HDL-C) were measured within 24 hours upon admission. Forty-eight (48%) percent of patients was diagnosed with Non ST-Elevation-ACS, 39% with ST-Elevation myocardial infarction (STEMI) and 13% with unstable angina. Thirtytwo (32%) percent were on low- to high-intensity statin treatment. The mean LDL-C, non-HDL-C, and HDL-C levels were 109 mg/dL, 135 mg/dL, and 36.89 mg/dL, respectively. The prevalence of elevated apo-B (mean=103.79 mg/dL; target:<80 mg/dL) was 82%, while that of low apo A-1 (mean=119 mg/dL; target: >120 mg/dL for males, >140 mg/dL for females) was 63%. Lipoprotein (a) levels are high (mean = 48.51 nmol/L; normal:<35 nmol/L) in 42% of patients. Among those on statin therapy, the mean LDL-C was 85 mg/dl, but the mean apo B and lipoprotein (a) levels were elevated at 87.57 mg/dL and 41 nmol/L, respectively. Elevated levels of apo B and lipoprotein (a) and low level of apo A-1 are highly prevalent in patients with ACS. Apo-B and lipoprotein (a) levels are likewise elevated among patients with normal LDL levels. (**Authors' abstract**)

Keywords: lipas, acute coronary syndrome, apolipoprotein, Medicine

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0177

The Appropriate Grading Tool to Assess Acne Severity in Face-to-face Consultation and Digital Skin Images

Servas, Jerlyn Maureen P. , Mabilin-Prieto, Karen B., Prieto, Elizabeth

Background: Acne vulgaris is a multifactorial disease of the pilosebaceous unit affecting adolescents and young adults. This study examined whether acne assessment measures, validated for face-to-face use, can be used to assess

acne lesions captured from digital images. The use of digital images is a useful and innovative way to continue delivery of follow-up care to patients despite barriers such as distance and time.

Objective: To determine the most appropriate acne-grading tool to assess the acne severity during face-to-face consultations and in digital skin images.

Method: A total of eighteen patients with facial acne vulgaris were included. Two dermatologists-in-training evaluated the acne-severity during face-to-face visit using validated acne assessment measures: Total Inflammatory Lesion Count (TILC), LEEDS Technique and Investigator's Global Assessment (IGA). Digital images obtained during initial consult were presented to the same raters during weeks 6 and 12 and graded accordingly. Cohen's kappa was used to measure agreement between evaluations of two raters and acne grading tools.

Results: Raters had significant moderate agreement in ratings using the three grading tools during face-to-face visit but Investigator's Global Assessment had the highest measure of concordance. Ratings on the digital images by each rater during week 6 and 12 had significant substantial agreements based on Total Inflammatory Lesion Count. The inter rater reliability had significant moderate agreement in ratings of digital images during week 12 using Total Inflammatory Lesion Count and Investigator's Global Assessment. Total Inflammatory Lesion Count had the highest intra rater agreement during ratings of face-to-face and digital skin images, while LEEDS had the lowest measure of concordance.

Conclusion: All the three acne severity tools may be used for evaluating acne severity during face-to-face consultation. The Investigator's global assessment may best be used for face-to-face assessments while the total inflammatory lesion count may best be used in digital skin images. (**Authors' abstract**)

Keywords: *acne assessment, acne grading tool, digital skin images, Medicine*

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0178

The Appropriate Use of Proton Pump Inhibitors in Adult Patients Admitted in the Intensive Care Unit of a Tertiary Hospital

Ibañez-Guzman, Leticia , So-Cabahug, Jack

Introduction: Proton pump inhibitors (PPI) have been used as stress ulcer prophylaxis (SUP) in intensive care unit (ICU) patients due to their high risk for stress-related upper gastrointestinal (GI) bleeding. With its dramatic increase in prescription, studies have noted its misuse and associated complications. This study aimed to determine the appropriateness of the use of PPIs in adult patients in the ICU of Medical Center Manila (ManilaMed).

Methods: This eight-month study conducted a retrospective chart review, and analyzed through descriptive statistics using Stata 13. Out of 292 patients, 188 satisfied the inclusion and exclusion criteria. The indication of use of PPI was based

on the American Society of Health-System Pharmacists (ASHP) Therapeutic Guidelines on SUP.

Results: The patients were mostly male, median age of 62 years, stay in the ICU of five days, overall hospital stay of 13 days, and 75% were admitted from the emergency room. About 58% of PPIs were prescribed in the intravenous route

for an average of 10 days, 38% of which is prescribed by cardiology consultants. Of the 73% of patients prescribed PPIs, most were septic and intubated for >48 hours, as well as being older and with longer overall hospital stay. Only 53.7% were prescribed appropriately; adverse outcomes included pneumonia, GI bleeding, anemia, renal failure, combined complications and overall mortality.

Discussion: The 46% inappropriate use of PPIs may indicate its routine use was common. The adverse outcomes, despite appropriate use, cannot be concluded as having causative effect owing to the nature of the study and given the possibility that these patients may have been sicker on admission hence prescribed the PPI.

Conclusion: Results indicated that PPI prescription in the ICU were mostly guidelines compliant. This paper recommends the development of ManilaMed's own strategies to minimize its inappropriate use, in turn allowing proper allocation of funds and maximizing medical treatment. (**Authors' abstract**)

Keywords: *appropriate use, proton pump inhibitors, adult patients, ICU, Medicine*

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0179

Assessment of Cognitive Impairment in Systemic Lupus Erythematosus Using the Mini-Mental Status Exam and the Montreal Cognitive Assessment Test-Filipino Version

Manapat-Reyes, Bernadette Heizel , Tee, Kenneth D. , Osio-Salido, Evelyn , Hernandez, Ana Teresa S. , Magbitang, Angeline Therese D. , Corpuz, Al

Cognitive impairment (CI) in patients with systemic lupus erythematosus (SLE) presents with or without overt signs of central nervous involvement. The prevalence of CI is variable, ranging from 19-80%. It is often overlooked, leading to high healthcare costs and productivity loss. The usual tools for detection are expensive, time-consuming and not locally available. Detection of CI using the Mini Mental State Examination (MMSE) and Montreal Cognitive Assessment Test (MoCA) is more clinically relevant and practical. The objectives of this study were to determine the prevalence of CI in SLE patients using MMSE/MoCA, to determine the degree of impairment in the different cognitive domains, and to characterize patients with CI in terms of disease activity, education, and employment. The study was a cross-sectional study of 62 SLE patients, 19 years or older, at a rheumatology clinic. Demographic and disease characteristics were collected. The validated Filipino versions of the MMSE/MoCA test were administered. Descriptive and non-parametric statistics were applied. Most patients are female (96.77%), below collegiate level of education (58.06%), and unemployed (70.97%). Mean disease duration is 8.92 (SD±7.03) years. Mean age at diagnosis is 28 (SD±10.30) years. Hypertension is the most common co-morbidity. Most have low lupus disease activity or are in remission (80.65%). Most are on prednisone (72.58%), with an average dose of 11.88mg/day (SD±10.66). The prevalence of CI is 38.71% (MMSE-P) and 77.42% (MoCA-P). The presence of CI is not related to educational level, employment, and disease activity. Cognitive impairment (CI) is common in this cohort of SLE patients. Disease activity, level of education and employment do not seem to affect its occurrence. The MMSE-P and MoCA-P are rapid

tools to assess the presence of CI and should be used in clinical practice to improve the quality of care for patients with lupus. (**Authors' abstract**)

Keywords: *systemic lupus erythematosus, cognitive impairment, mini mental state examination, montreal cognitive assessment test, neuropsychiatric lupus, cns lupus, Philippines, Medicine*

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0180

Assessment of Compliance to 2016 Surviving Sepsis Campaign Bundles among Adult Patients Admitted at ManilaMed–Medical Center Manila Diagnosed with Sepsis

Roxas, Evalyn , Benjamin, Cherry L

Introduction: Sepsis is an emerging problem that needs to be recognized early and addressed promptly with hydration and appropriate antibiotics. This study aims to assess the adherence to surviving sepsis campaign (SSC) bundle within three hours and six hours, length of hospital stay and mortality among adult patients admitted at ManilaMed–Medical Center Manila diagnosed with sepsis.

Methods: A retrospective cohort study was performed in all adult patients admitted at ManilaMed–Medical Center Manila diagnosed with sepsis and septic shock from January to September 2017. Parameters for SSC bundle for three and six hours were used to assess compliance. Outcomes such as length of hospital stay and mortality were determined.

Results: This study included a total of 85 subjects and majority are females (56%). Mean age of study subject was 67.5 ± 17.67 years. Adherence to SSC bundle in three and six hours were observed particularly in blood cultures (45%), administering

broad-spectrum antibiotics (69%), fluid resuscitation at 30 mL/kg for hypotensive patients (22%) and administering vasopressors (78%) to maintain systemic perfusion. However, adherence to other parameters of the bundle was not observed, namely: measurement and re-measurement of lactate levels and measurement of CVP and SCVO2. In terms of outcome, the average length of hospital stay is 11 days and mortality was 42%.

Discussion: Sepsis is a fatal disease if not promptly recognized and addressed. The SSC bundle was formulated to guide clinicians and other healthcare providers in managing sepsis or septic shock patients. Some of the parameters are absent or are not routinely done in some institution, maximizing the resources that are present is ideal.

Conclusion: The compliance rate is deemed submaximal since eyeing for a 90-100% compliance rate is recommendable in a tertiary hospital. Emphasis on early identification, obtaining blood cultures and timely initiation of antimicrobials should be done. (**Authors' abstract**)

Keywords: *sepsis, surviving sepsis campaign bundle 2016, compliance, Medicine*

**Assessment of Health Care
Needs of Older Persons
with Type 2 Diabetes Mellitus**
De Leon, Anjanette S., De Leon, Josephine

The global prevalence of diabetes by 2030 estimated an increase in number of people with diabetes. People who are 64 years of age will be 82 million in developing countries and 48 million in developed countries. The study aimed to assess the health care needs of older persons' physical, cognitive, functional and self-care abilities and determine relationship of these to their profiles. These assessments are the bases in designing modules for Diabetes Self-Management Education training module for Diabetes Educators. A descriptive correlational design was utilized to assess the health care needs of 100 young older persons. The Filipino Activities of Daily Living (Fil-ADL) and the Filipino Instrumental Activities of Daily living were utilized to assess the functional status of the older persons. The Montreal Cognitive Assessment (MOCA-P) and cognitive function exams were used to assess cognitive status while Mini- Nutritional Assessment (MNA) was used to assess nutritional status of the older persons. The Self-Care Inventory Revised (Sci-R) was used to assess self-care behaviors of older persons to diabetes management. Frequency and percentage were used to describe the health care needs of older persons, while mean and standard deviation were used in assessing knowledge and self-care abilities. Chisquare test for Association was utilized to determine relationship of the health care needs and the profile of the respondents. Study shows that most of the older persons are female, 66-70 years old, married and had primary education. The older persons' knowledge in diabetes is satisfactory, had a normal nutritional status, was functional in daily living activities (ADL), was functional in their instrumental activities of daily living (IADL), was normal of their cognitive status, and sometimes perform self-care abilities to diabetes management. There is significant relationship between knowledge, civil status and history of diabetes. Nutrition and cognitive status had significant relationship to their civil status, education and history of diabetes. The functional status of the older persons has significant relationship with history of diabetes. It is necessary to include the culture-based health care needs of older persons and to consider demography such as education and history of diabetes in designing the training module for diabetes educators. **(Author's abstract)**

Keywords: *Diabetes mellitus, diabetes self-management education (DSME), older persons, diabetes educators, Medicine*

**Assessment of Malnutrition Risk Among Patients with Rheumatic Diseases in the
Rheumatology Clinic of a Tertiary Training Government Hospital in the Philippines Using
the Malnutrition Universal Screening Tool**

*Hernandez, Ana , Corpuz, Allan , Magbitang, Angeline-Therese , Salido, Evelyn , Limgenco-Hipe, Juneth Ria,
Tee, Kenne*

Malnutrition is a frequently neglected problem among patients with chronic illnesses. It correlates with decreased functionality and quality of life and increased morbidity and mortality. The prevalence of malnutrition in chronic rheumatologic conditions ranges from 15-24%. There is an unfounded suspicion that malnutrition is common among Filipino patients with rheumatic diseases. The study will bridge this knowledge gap and pave the way for a more holistic approach in the care of rheumatic diseases. The researchers aimed to assess the risk of malnutrition among patients of the rheumatology clinic of the Philippine General Hospital. This was a cross-sectional study. After getting informed consent, the researchers collected data on demographics and disease characteristics and administered the Malnutrition Universal Screening Tool (MUST). They classified patients according to malnutrition risk and managed accordingly. One hundred eighty-two patients are included (86% are female), with mean age of 45 years old (SD=16.65). The majority (54%) has less than collegiate level of education and 76% are below minimum wage earners. Twelve percent are smokers and 16% are alcohol beverage drinkers. Thirty-nine percent have systemic lupus erythematosus (SLE), 17% have rheumatoid arthritis (RA) and 16% have osteoarthritis (OA). The average duration of illness is 75 months. Ten percent are at high risk and 18% are at moderate risk of malnutrition. Six percent of SLE patients have high risk and 24% at moderate risk while 19% and 16% of patients with RA, respectively, have high and moderate risk of malnutrition. Among patients with OA, 6.9 % have high and 3.4% have moderate risk of malnutrition. Using the MUST routinely identifies patients at risk of malnutrition. Twenty-eight percent of patients at the rheumatology clinics of the Philippine General Hospital have moderate to high risk of malnutrition. Identifying those at risk of malnutrition allows for timely intervention and optimal care. (**Authors' abstract**)

Keywords: *rheumatic diseases, malnutrition, malnutrition universal screening tool, Philippines, Medicine*

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0183

Association Between Tumor Necrosis Factor- α -308G/A Polymorphism and Chronic Obstructive Pulmonary Disease in Patients of the University of Santo Tomas Hospital

Vargas, Andrea G. , Isagan, Abe Ernest Johann E. , Sempio, Earl Louis A. , Lanzona, Isaias A. , Rodriguez, Rashm

Chronic obstructive pulmonary disease (COPD) has been associated with enhanced inflammatory response to noxious particles and irritants. Tumor necrosis factor- α (TNF- α) has been observed to be present in elevated levels in COPD patients. Up-regulation of TNF- α production may be a result of mutations in the gene complex coding for its production. The main objective of this study was to determine an associated between the COPD and TNF- α gene polymorphism in patients of the University of Santo Tomas Hospital (USTH). The occurrence of TNF- α -308G/A gene polymorphism was examined in patients diagnosed with COPD at the USTH. The recruited participants underwent spirometry likewise COPD assessment test scores were determined. Blood samples were collected for genotyping. Recorded data were then statistically analysed. Forty-nine percent of the total number of participants were diagnosed with COPD (FEV1/FVC < 70) while 51% were part of the control group (FEV1/FVC > 70). Frequencies of the rare allele (A) were found to be higher (0.11) in the control group compared to the patient group (0.04). Participants with smoking history are less likely to develop COPD when carrying the heterozygous genotype G/A (OR 0.10, 95% CI 0.01–0.79, p=0.021). Within the overall participant population, occurrence of the rare allele 'A' was higher in the control group (0.12) compared to the patient group (0.7). Heterozygous (G/A) genotype is less likely to have COPD (OR 0.29, 95% CI 0.07-1.21) though disease-SNP polymorphism relationship did not have strong statistical association (p=0.08). TNF- α -308G/A gene polymorphism is associated with the development and pathogenesis of COPD. Smokers bearing the heterozygous rare G/A allele are less likely to develop the disease as compared to their counterparts bearing the wild type allele. Genotypes containing the rare 'A' allele (G/A and A/A) are less likely to develop the COPD. (**Authors' abstract**)

Association, Incidence and Clinical Profile of Patients with Obstructive Sleep Apnea and First-Onset Stroke in a Tertiary Hospital: A Prospective Descriptive Study

Anacay, Cynthia B., Picar, Rosalina

Objective: To determine the association, incidence, and clinical profile of patients with Obstructive Sleep Apnea (OSA) and first-onset stroke admitted and managed in a tertiary hospital using the STOP-BANG and Berlin questionnaire.

Design: This is a prospective descriptive study.

Participants: Patients 18 years old and above diagnosed with first-onset cerebrovascular disease by their neurologist were qualified for this study. This study included patients presenting as hemiparesis or hemiplegia, sensory or cranial nerve deficits; with hemispheric or brainstem lesions and with evidence of cerebral infarction or hemorrhage on either CT scan or MRI of the head.

Results: 172 first-onset stroke patients were identified from July to September 2014. 52 patients fulfilled the inclusion criteria. Using the Stop-Bang questionnaire, 71.1% of the 52 patients were identified to be of high risk of having OSA. Older male patients with neck circumferences greater than 40 cms, a BMI greater than 35kg/m² and those observed to stop breathing during their sleep are of high risk of having OSA. Of those patients with high-risk of OSA, 91.9% have hypertension. More than half (54.1%) had thrombotic stroke, while 27% and 18.9% had hemorrhagic and cardioembolic strokes, respectively. For the Berlin questionnaire, 69.2% of the same set of patients were diagnosed to have a likelihood of Sleep Apnea. Just like the results obtained using the Stop-Bang questionnaire, patients with likelihood of Sleep apnea using the Berlin questionnaire were found to be older, mostly males, with higher BMI, and with greater neck circumferences. 88.9% of patients with likelihood of sleep apnea have hypertension. Of the subject population, 42.3% were smokers, and 40.4% consume alcohol. 54.1% of those with high risk of OSA had thrombotic stroke, versus 27% and 18.9% of hemorrhagic and cardioembolic strokes, respectively.

Conclusion: There is a direct association and increased incidence of OSA in first-onset stroke based on the risk factors involved and the number of patients who tested positive for the Stop-Bang and Berlin questionnaire. Those who have OSA in Stop-Bang are likely also to have OSA in Berlin. Older age, male gender, a higher BMI, greater neck circumferences, smoking, hypertension and those observed to stop breathing during sleep have an increased risk or likelihood of OSA. Thrombotic stroke is the most common type of stroke seen, with 38.5% located at the subcortical area. Half of the lesions were noted at the right side of the brain, with patients initially presenting with left-sided hemiparesis and/ or dysarthria. (**Authors' abstract**)

Keywords: Obstructive Sleep Apnea (OSA), STOP-BANG, Berlin questionnaire, CT scan, MRI, Medicine

Association of Aortic Arch Calcification and Cerebrovascular Disease

Nonato, Rodean Andrew , Martyr, John Clifton , Matriano-Akut, Vi

This study was undertaken to determine whether there is a significant association between aortic arch calcification (AAC) on digital chest radiography (DCXR) and cerebrovascular disease (CVD) by computed tomography of the brain plain (BCT). It also aimed to determine if DCXR may be used to predict stroke. Retrospective Cross Sectional Chart Review Design was carried out to this study. All the 483 patients who underwent DCXR and BCTs at the Doctors Hospital, Inc. from January 2010 to December 2012 were included in the study. Demographic data and risk factors for atherosclerosis and CVD were obtained and analyzed. The DCXR were graded by three radiologists and its association with CVD on BCT using the Chi Square Test of Independence was done. Kruskal Wallis Test was employed. Cochran Inter rater validity between the three readers was tested. Odds ratio, sensitivity and specificity of DCXR to diagnose CVD on BCT were then determined. Of the 483 patients included in the study, 52.8% were females with an average age of 65.86 ± 14.46 years old. Patients of the older age group had a higher AAC grade (3) and had more infarcts on BCT. Although risk factors for AAC on DCXR and CVD on BCT were hypertension, dyslipidemia and renal disease, these were not statistically significant. Cross sectional analysis of variables showed that patients with an AAC grade of 1 was highly associated with infarcts and an AAC grade of 2 was associated with hemorrhagic stroke ($p=0.0200$). A statistically significant inter rater agreement was noted among the three radiologists that read the DCXR. The AAC grade (1) on DCXR is significantly associated with infarcts on BCT scan with a high specificity and strong positive predictive value. Larger studies may be necessary to determine the association of the other AAC grades (2 and 3) with the types of stroke. (**Authors' abstract**)

Keywords: *aortic arc calcification, cerebrovascular disease, stroke, Medicine*

Association of Cumulative Dissipated Energy and Postoperative Foveal Thickness among Patients with Age-related Cataract who Underwent Uncomplicated Phacoemulsification

Valero, Sherman O. , Ibanez, IV, Manuel Benjamin B. , Perez, J

Purpose: Cumulative dissipated energy (CDE) is a phacoemulsification unit parameter designed to monitor the amount of energy delivered during phacoemulsification. Studies have already shown that lower CDE levels have better surgical outcomes, specifically in corneal recovery. However, few literature exists regarding the correlation between CDE and foveal thickness.

Methods: In this prospective study, subjects with age-related cataract underwent cataract surgery by phacoemulsification. Central subfield thickness (CST), cube volume (CV), and cube average thickness (CAT) of the

macula were measured by spectral-domain optical coherence tomography (OCT) at three separate time-points: preoperative, 1 day, and 14 days after cataract surgery. To determine the correlation between parameters, Pearson's correlation coefficients and degree of association, and coefficient of determination (r^2) were used.

Results: One hundred eyes from 93 subjects were analysed. Preoperatively, mean CST was $247.71 \pm 21.44 \mu\text{m}$, CV was $9.38 \pm 0.82 \text{ mm}^3$, and CAT was $262.94 \pm 22.15 \mu\text{m}$. At 12.42 ± 11.05 of mean CDE exposure, the fovea increased in thickness in all measured parameters. The relationship between CDE and the change in foveal thickness values from baseline to postoperative Day 1 and Day 14 were examined. The correlation coefficients obtained for CST, CV, and CAT had low association to CDE. Furthermore, only the correlation coefficients of the difference between baseline and Day 1 of CST, and the difference between baseline and Day 14 observations of CV were significant (0.279 and -0.206, $p=0.005$ and $p=0.040$, respectively) but still with a low degree of association.

Conclusion: There is a low, significant, direct association of the difference of CST on Day 1 from baseline with CDE, and a low, significant, indirect association of the difference of CV on Day 14 from baseline with CDE after routine phacoemulsification. (**Authors' abstract**)

Keywords: *Phacoemulsification, Cumulative dissipated energy, Foveal thickness, OCT, Age-related cataract, Macular edema, Medicine*

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0187

Association of ocular manifestation and disease activity among Filipinos with systemic lupus erythematosus

Salido, Evelyn O. , Tee, Michael L. , Valenton, Mario V. , Flores, John G. , Cubillan, Leo D.P. , Remulla, Juancho C. , Ramil S. L

The study was conducted to determine the distribution of ophthalmologic manifestations of systemic lupus erythematosus (SLE) in Filipinos and correlate them with disease activity. SLE patients seen at the Rheumatology Section of the Philippine General Hospital (PGH) underwent complete work-up to determine disease activity and referred for a comprehensive ocular evaluation at the Department of Ophthalmology. One ophthalmologist performed all ocular examinations. The findings were correlated to disease activity using the chi-square test. Seventy-eight (78) patients diagnosed with SLE were included in the study. Ninety-eight percent (98%) were female. The mean age of the study population was 31.73 ± 9.58 years. The mean duration of the disease was 3.63 ± 3.70 years. The mean disease activity index was 10.36 ± 8.35 . Most of the patients (84.4%) had no ocular complaints at the time of examination. Posterior subcapsular cataract (PSC) was the predominant ocular finding in patients with no disease activity, occurring in 14.3% of patients. PSC was also the most common ocular finding in patients with mild to moderate disease activity (21.4%) and lupus retinopathy (16.7%) in those with greater disease activity. Ocular manifestations among Filipinos with SLE include lupus retinopathy, optic atrophy, glaucoma, periorbital edema, keratoconjunctivitis sicca, and posterior subcapsular cataract. PSC was the most common ocular finding in patients with mild to moderate disease activity and lupus retinopathy in those with greater disease activity. (**Authors' abstract**)

Keywords: *SYSTEMIC lupus erythematosus (SLE), Keratoconjunctivitis sicca, lupus retinopathy, Systemic Lupus Erythematosus Disease Activity Index (SLEDAI), Medicine*

Association of the Platelet–Lymphocyte Ratio (PLR) with Outcomes in Patients Admitted for Acute Coronary Syndrome: The PLACS Study

Punzalan, Felix Eduardo , Ramos, John Daniel A. , Reganit, Paul Ferdinand , Aherrera, Jaime Alfonso M. , Abrahan, IV, La

Patients with acute coronary syndrome (ACS) exhibit a wide spectrum of early risk of death (one to 10 percent). High platelet counts may indicate a propensity for platelet-rich thrombi. Lymphocyte counts drop during ACS due to stress-induced cortisol release. Combining these two markers, recent studies have found that the platelet-to-lymphocyte ratio (PLR) is associated with adverse cardiac events among patients with ACS, but local data is limited. The objective of this study is to determine if an elevated PLR taken on admission is associated with higher rates of adverse cardiac events. A retrospective cohort of adult patients with ACS admitted at the UP-Philippine General Hospital was analyzed. Leukocyte and platelet counts were measured by an automated hematology analyzer. The PLR values of these patients were computed, and they were stratified into two groups after determining the optimal cut-off from the receiver operating characteristic curve (ROC) curve. The primary outcome was in-hospital mortality. Secondary outcomes included development of heart failure, cardiogenic shock, reinfarction, and significant arrhythmias.

A total of 174 Filipinos with ACS were included. In-hospital mortality occurred in 30 patients (17%). These patients had a higher PLR compared to those who were discharged alive (p-value <0.0001). The optimal cutoff value of PLR to predict in-hospital mortality is 165, with a sensitivity of 77% and specificity of 70% (area under the ROC curve of 0.766). On multiple logistic regression analysis, a high PLR was an independent predictor of in-hospital mortality (RR 8.52; p 0.003) after controlling for the effect of other variables. The development of the predetermined secondary outcomes did not correlate with PLR on multivariate analysis. Among Filipino patients with ACS, an elevated PLR taken within 24 hours of admission is a useful marker to predict in-hospital mortality, thus providing vital information for risk stratification and more aggressive management strategies. (**Authors' abstract**)

Keywords: *platelet-lymphocyte ratio, acute coronary syndrome, Medicine*

Association of Vitamin D Receptor Gene Polymorphisms in the Occurrence and Spectrum of Leprosy in Filipino Patients Seen at Jose R. Reyes Memorial Medical Center

Mendoza, Donn M., Gulmatico-Flores, Zhar

Introduction / Background: Host genetic factors including major histocompatibility complex (MHC) polymorphisms influence both susceptibility to leprosy and also to leprosy type. Recent studies have implicated variation in the vitamin D receptor (VDR) gene in susceptibility to several diseases, including osteoporosis and

pulmonary tuberculosis. Putative polymorphisms at the VDR gene, which potentially modifies VDR mRNA stability and/or activity, have been implicated in susceptibility to intracellular pathogens.

Objectives: The general objectives of the study are to determine the effects of Vitamin D receptor gene polymorphism on the occurrence and spectrum of leprosy among Filipino patients seen at Jose R. Reyes Memorial Medical Center, Department of Dermatology Hospital.

Methods: Five (5) cc of whole blood samples obtained from patients diagnosed with Hansen's disease by smear and histological confirmation as well as healthy controls seen in the outpatient department. DNA was isolated from white blood cells using the phenol/chloroform method and was used for PCR amplification. The primers 5'-CAGAGCATGGACAGGGAGCA-3' and 5'-GGTGGCGGCAGCGGATGTACGT-3' yielding a product of 352 base pairs in the 61675 and 62026 positions of the VDR gene was used (Goulart et al., 2005). The PCR cycle conditions would be 94°C for 20 seconds, 60°C for 30 seconds, and 72°C for 30 seconds (35 cycles), using 2 mM MgCl₂, 0.2 mM dNTPs, 0.009 mM of each primer, 100 ng of DNA, and 1 U of Taq polymerase in a 25-μL reaction (Roy et al., 1999).

Results: Sixty (60) subjects were included in the study. A total of 43 (71.67%) patients who were diagnosed case of Leprosy with a spectrum of tuberculoid and lepromatous type. Fifteen patients (25%) were classified as tuberculoid type and 28 (46.67%) patients were of lepromatous type. Seventeen (28.33%) patients in the control group were composed of healthy volunteers unrelated to patients. The distribution of VDR genotypes at codon 352 in exon 9 was highly significant in between the control and lepromatous, tuberculoid and lepromatous type of Hansen's disease. Heterozygous type of VDR (Tt) were found to be highly significant among controls at 82.35% while 66.67% of tuberculoid has homozygous recessive type (tt) of VDR and 96.43% of lepromatous type has homozygous dominant type VDR (TT). Significant difference were observed between the HD group (tuberculoid and lepromatous) and control. $F_{stat} = 31.32$, ($p < 0.001$). Post-hoc analysis of genotypes between the clinical groups showed that tuberculoid vs lepromatous had significantly different genotypes ($p < 0.001$) and lepromatous type of HD vs control had significantly different genotypes ($p < 0.001$).

Conclusion: The polymorphism of VDR genotypes at codon 352 in exon 9 was highly significant in between the control, lepromatous, and tuberculoid type of Hansen's disease. Homozygous TT was highly associated with lepromatous type (odds ratio = 16, $p < 0.001$), and homozygous tt is highly related to the tuberculoid type (odds ratio = 5.8, $p < 0.001$). (**Authors' abstract**)

Keywords: Vitamin D Receptor, mRNA, leprosy, major histocompatibility complex (MHC), Medicine

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NP

0190

Asymptomatic Accessory Mitral Valve Leaflet with Left Ventricular Outflow Tract Obstruction

Tan-Delos Reyes, Myra, Mendoza, Jeffrey, Cuenza, Lu

An accessory mitral valve leaflet is a rare congenital anomaly usually associated with left ventricular outflow tract (LVOT) obstruction. Fewer than 100 cases have been reported mostly occurring in children. An asymptomatic 43-

year-old female who came in for pre employment clearance was noted to have a systolic murmur. Echocardiography revealed an accessory mitral valve tissue attached to the anterior mitral valve leaflet. There was also a significant gradient noted across the LVOT. Patient is presently asymptomatic and she was advised follow up for serial echocardiographic monitoring. Twelve lead electrocardiogram showed normal sinus rhythm with normal axis, poor R wave progression and no chamber enlargement. Chest radiography was normal. 2D Echo revealed an echogenic, parachute-like structure billowing into the LVOT during systole. Interrogation of the said structure using Doppler revealed a significant pressure gradient of 45mmHg along the LVOT. Accessory mitral valve with LVOT obstruction is an unusual finding. Clinical and echocardiographic recognition as well as surveillance is warranted in these patients. This is also important for determination of definitive management. (**Authors' abstract**)

Keywords: *accessory mitral valve leaflet, left ventricular outflow tract obstruction, Medicine*

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0191

An Atypical Presentation of Pulmonary Tuberculosis in an Asthmatic Adolescent: A Case Report

Anuran, Geannag

Pulmonary tuberculosis (PTB) screening is conventionally done with the use of a chest radio-graph. However, immunocompromised patients with PTB could present with a normal chest finding. It is therefore important to probe through the patient's history to determine if sputum smear microscopy would be needed even for screening.

A 15-year-old female, a known asthmatic since 3 years old, with history of receiving high cumulative doses of systemic corticosteroid for asthma exacerbations, consulted the emergency room for a 3-day history of worsening dyspnea. The patient was managed as a case of asthma in acute exacerbation and was also screened for PTB due to identified risk factors. Her chest radiograph turned out normal, but sputum smear microscopy were twice positive for acid-fast bacilli (AFB). This atypical presentation of PTB could be due to the patient's immunosuppressed state, brought about by her history of systemic steroid use, which predisposed her to the absence of a parenchymal or nodal involvement in her chest x-ray. The patient was maintained on a combined beta₂-agonist and inhaled corticosteroid for her asthma, and she was also started on anti-Koch's medications. Repeat sputum smear microscopy after two months of anti-Koch's treatment were twice negative for AFB. There were also no recurrence of her asthma symptoms.

Asthma patients with history of systemic steroid use are considered immunocompromised. PTB screening in this population should include sputum smear microscopy aside from the usual chest x-ray, because imaging could be normal, as what this patient exhibited. Inhaled steroids may also be given safely to this group of patients. (**Authors' abstract**)

Keywords: *Pulmonary Tuberculosis, Asthma, Adolescent, Chest X-ray Negative, Medicine*

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NP

Autoimmune Hemolytic Anemia Revealing Classical Hodgkin Lymphoma: Two Case Reports and Literature Review

Abdelfatteh, Zakhama , Rim, Klii , Leila, Njim , Sonia, Hammami , Khochtali , Walid, Bouteraa , Melek, K

Hodgkin Lymphoma (HL) is rarely associated with autoimmune hemolytic anemia. We report here two cases of such association: Case 1: 57 years old man who presented with tiredness and pallor. Physical examination revealed multiple left cervical lymph nodes. Blood count showed regenerative macrocytic anemia with signs of hemolysis. Auto immune hemolytic anemia was confirmed by a positive direct antiglobulin test for IgG and C3d; lymph node biopsy revealed lymphocytic rich HL. Case 2: a 50 year old man being treated for HL for few months presented to the emergency room for dyspnea and pallor. Blood count showed regenerative macrocytic anemia with positive direct antiglobulin test for IgG and C3d confirming the diagnosis of AIHA as a relapse of the lymphoma. These two cases show that clinicians should be aware of such association revealing the diagnosis or the relapse of the lymphoma to distinguish it from anemia of chronic disease. (**Author's abstract**)

Keywords: *Hodgkin lymphoma, Auto immune hemolytic anemia, Macrocytic anemia, Medicine*

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Awareness and Practice Patterns of Pediatricians Regarding Retinopathy of Prematurity: A Multicenter Study

Jimenez, Jose Melvin , Anzures, Rachelle , Chua, Carlos Emmanuel , Loy, Marie Joan , Te, Nikki Doreen

Objective: To assess the level of awareness and practice patterns of pediatricians in various government and private hospitals in the Philippines regarding retinopathy of prematurity (ROP).

Methods: This is a prospective, multicenter, cross-sectional study of the practice profile and awareness of pediatricians of the Philippine Pediatric Society (PPS) ROP screening recommendations. Six hundred selfadministered questionnaires were distributed to pediatricians from 40 randomly selected government and private hospitals in the Philippines between July and September 2013. Frequency distribution for each data was noted. Association of referral rates, distribution of barriers, and availability of protocol among the subgroups were analyzed using chi square.

Results: A total of 409 eligible surveys were analyzed with a response rate of 68.1%. 92% of the respondents referred their at-risk preterm babies to ophthalmologists for ROP screening. Of those who referred, 57% considered a cut-off value of less than 32 weeks age of gestation, and 45% considered a cut-off value of less than 1500g birth weight. 47% referred at 4-6 weeks post-natal age, and 48% had a protocol for ROP screening. Only 19% were aware of the PPS ROP screening recommendations. The major barrier encountered was the inability of the families to follow up after discharge (41%). Higher referral rates were noted from private institutions ($p=0.013$) and tertiary hospitals ($p=0.019$), including those with a protocol on ROP screening ($p=0.002$).

Conclusion: Majority of the respondents referred their at-risk preterm babies for ROP screening. A significant proportion was unaware of the PPS ROP screening guidelines. More than half do not have an established protocol. There were variations in practice patterns of the pediatricians in referring babies at-risk for ROP. Based on these, there is still a need to increase awareness among pediatricians. A uniform, national, published guideline on ROP screening, establishment of referral systems, and training of qualified ophthalmologists are recommended. **(Authors' abstract)**

Keywords: *ROP, Retinopathy of prematurity, Screening, Survey, Practice pattern, Medicine*

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0194

Barriers to Hand Hygiene Compliance in the Medicine Wards and Intensive Care Unit of a Tertiary Teaching Hospital in the Philippines

Malundo, Anna Flor G., Berba, Regina

Healthcare associated infections (HCAI) continue to be major problems in our institution. Studies have shown that hand hygiene remain to be the primary measure that prevents HCAI. This study aimed to measure hand hygiene compliance rate and determine factors affecting compliance. Healthcare workers in the medicine wards and intensive care units (ICU) were directly observed for compliance to the World Health Organization hand hygiene guidelines. In a month period, subjects were selected by convenience sampling. Factors affecting hand hygiene compliance was investigated. Survey of infrastructure and hand hygiene products was concurrently done. Thereafter, self-administered survey was distributed to assess knowledge, attitudes and perceptions toward hand hygiene.

Overall hand hygiene compliance was 11%. Compliance was less likely for doctors, in the ward, and before patient contact. On the other hand, compliance was likely among nurses, in the ICU, before aseptic procedure, after exposure to body fluid, and after patient contact. Demand for hand hygiene was high with mean of 35 (SD=nine) opportunities per hour of patient care. Hand hygiene products are less available in the wards than in the ICU. Sinks are not in convenient locations. Hand hygiene posters were either not visible or lacking. Majority of the survey respondents know at most only two of the five hand hygiene indications. Access to hand hygiene products, training and education, and reminders in the workplace are among the basic requirements in the implementation of hand hygiene programs. With problems related to these three components, hand hygiene compliance is expected to be low. Low compliance to hand hygiene was associated with professional status, location and indication. Barriers to hand hygiene include inadequate and inaccessible sinks and hand hygiene products in the ward, high demand for hand hygiene, poor knowledge of hand hygiene, and lack of reminders in the workplace. **(Authors' abstract)**

Keywords: *hand hygiene compliance, healthcare associated infections, Medicine*

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NP

Baseline Macular Pigment Optical Density among Filipinos with Age-related Macular Degeneration

Arroyo, Milagros H. , Santos, Jennifer Joy Y., Cubillan, Leo D

Objective: To compare the macular pigment optical density (MPOD) among Filipinos with and without age-related macular degeneration (AMD).

Methods: Consecutive patients with AMD and without posterior segment disease were recruited into the study. Baseline MPOD measurements using an autofluorescence spectrometer were obtained. MPOD in the 0.5 degree retinal eccentricity and the average of 3 measurements (MPOD Max) was the primary outcome measure.

Results: 120 patients, aged 50 to 80 years, were included into 3 groups: group 1 (n=40) without retinal disease, group 2 (n=40) with non-neovascular AMD, and group 3 (n=40) with neovascular AMD. The mean baseline MPOD were: 0.382 ± 0.10 DU for group 1, 0.333 ± 0.07 DU for group 2, and 0.283 ± 0.07 DU for group 3. Significant differences were present comparing the MPOD values of the 3 groups.

Conclusion: Eyes without retinal disease had higher MPOD than those with early non-neovascular or neovascular AMD. (Authors' abstract)

Keywords: *Macular pigment optical density, Age-related macular degeneration, Neovascular AMD, Medicine*

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NP

Baseline Retinal Nerve Fiber Layer Thickness and Visual Outcomes of Eyes with Ethambutol Toxic Optic Neuropathy

Cruz, Franz

Objectives: To determine the retinal nerve fiber layer thickness (RNFL) in eyes with ethambutol-induced toxic optic neuropathy (ETON) at the time of diagnosis and to describe the visual outcomes at 1, 3, and 6 months after discontinuation of ethambutol.

Methods: This was a retrospective chart review of 8 patients (15 eyes) diagnosed with ETON that had RNFL thickness measurements using Cirrus® spectral-domain optical coherence tomography (OCT) at the time of diagnosis. Visual function was measured on initial visit and at 1, 3, and 6-month follow-up. Snellen visual acuity was converted to logMAR. Color vision was measured using Ishihara 14-plate test chart.

Results: The mean duration from commencement of ethambutol intake to onset of visual symptoms was 16 weeks (range: 8-24). While, the mean duration from onset of visual symptoms to discontinuation of ethambutol was 4 weeks

(range: 2-14). The mean global RNFL thickness at time of diagnosis was 101.2 ± 17.0 microns. Mean RNFL in the temporal, superior, nasal, and inferior sectors were as follows: 79.2 ± 15.4 , 119.7 ± 27.9 , 71.7 ± 9.2 , and 136.7 ± 25.8 microns. Global and sectoral RNFL thicknesses were either normal or thick when compared to age-matched normal database. No eye displayed global or sectoral RNFL thinning. Mean baseline visual acuity and color vision were logMAR 1.2 and 5 plates, respectively. At 1, 3, and 6 months after discontinuation of ethambutol, mean visual acuity and color vision were 0.96 and 6, 0.63 and 11, and 0.44 and 13, respectively.

Conclusion: Patients with early ETON have normal or thick RNFL at time of diagnosis. They display good visual recovery 6 months following discontinuation of ethambutol. **(Authors' abstract)**

Keywords: *Ethambutol, toxic optic neuropathy, optical coherence tomography, retinal nerve fiber layer thickness, ethambutol-induced toxic optic neuropathy, Medicine*

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NP

0197

Biological Risk Assessment: Zika Virus Detection at the Research Institute for Tropical Medicine

Lupisan, Socorro , Tandoc, III, Amado , Centeno, Rex , Calzado, Catherine , Medina, Pl

Background. Biosafety is the application of containment principles and risk assessment. Risk assessment is an essential component of a biological risk management program. It determines the most appropriate mitigation control measure to minimize the risk of Laboratory Acquired Infections (LAIs). In the laboratory response to an emerging disease-causing pathogen such as Zika virus, the risk for laboratory exposure and infection must be assessed.

Objectives. We have conducted biosafety risk assessment of the Research Institute for Tropical Medicine's (RITM) Virology Laboratory to identify the hazards, characterize the risks, determine laboratory compliance with biosafety standards and the competence of the laboratory personnel involved as part of the institutional preparedness for disease outbreak investigation and surveillance of Zika virus. The information gathered shall guide the selection of appropriate mitigation control measures for the prevention of LAIs.

Methodology. We utilized the Biosafety for Microbiological and Biomedical Laboratories (BMBL) 5th Edition guidelines in conducting risk assessment. Risk characterization was performed by determining the likelihood and the consequence of the identified biological risk and plotting it in a diagram using Microsoft Excel. Risk

characterization result of ZikV was compared using the risk assessment tool, BioRAM©, developed by Sandia National Laboratory.

Results. The RITM Virology laboratory is generally compliant to the basic biosafety standards. Laboratory staff has established competence and experience in handling specimens for diagnostic test by ELISA and PCR. The risk of infection with ZikV is found to range from very low to low, however, the risk of acquiring other bloodborne

pathogens brought by handling serum samples is found to be higher.

Conclusion. We have analyzed the risk of acquiring Zika at the RITM Virology laboratory as part of the Institute's overall preparedness, through biological risk assessment process as described in BMBL 5th Edition. The risk of acquiring ZikV infection while performing diagnostic tests range from very low to low. The risk of acquiring other blood-borne pathogens is higher compared to the risk of infection to

the pathogen being assessed. Mitigation control measures against direct contact and percutaneous exposure must be implemented and monitored. This risk assessment strategy will further strengthen RITM laboratory's capacity to respond to infectious disease threats and increase staff confidence in dealing with infectious materials in the laboratory.
(Authors' abstract)

Keywords: *Zika virus, biosafety risk, risk assessment, biosafety, biohazards, likelihood, consequence, BioRAM©, Medicine*

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NP

0198

Bleb-related endophthalmitis

Lat-Luna, Margarita , Lim Bon Siong, Ruben , de Venecia, III, Angelito Brau

Objective

To report the risk factors, diagnosis, and treatment of bleb-related infections.

Methods

This is a case report.

Results

Two patients presented with acute pain, redness, and blurring of vision in the left eye. Both had undergone trabeculectomy with mitomycin C (MMC) for advanced chronic angle-closure glaucoma several years ago and were lost to follow-up. On consultation, both had severe conjunctival congestion, with severe anterior-chamber (AC) reaction, and hypopyon. The cystic blebs were thinned out with visible infiltrates. Ocular ultrasound revealed vitreous cells. Culture and sensitivity tests confirmed the presence of blebitis with secondary endophthalmitis.

Both patients were treated with intravenous moxifloxacin, atropine sulfate and moxifloxacin eye drops. Upon control of infection, they were started on topical steroid. Both responded well to treatment.

Conclusion

Bleb-related infection is one of the complications of glaucoma filtration surgery that clinicians should consider when presented with complaints of acute pain, redness, and blurring of vision following trabeculectomy. Diagnosis should

include staining, culture and sensitivity studies. Prompt treatment with broad-spectrum antibiotic is paramount to preserve vision. (**Authors' abstract**)

Keywords: *Bleb, Trabeculectomy, Endophthalmitis, Glaucoma, Mitomycin C, Medicine*

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(Filipiniana Analytics)
NP

0199

Blood Eosinophilia as Predictor for Patient Outcomes in Chronic Obstructive Pulmonary Disease (COPD) Exacerbations

Wang, Aileen D. , Villalobos, Ralph E

The eosinophilic phenotype of chronic obstructive pulmonary disease (COPD) has been demonstrated to respond better to corticosteroids and associated with better outcomes. This review aims to clarify the correlation of blood eosinophilia and outcomes patients with COPD exacerbations. The study is a review of cohorts and case-control studies that looked into eosinophilia and outcomes in exacerbations using the meta-analysis of observational studies in epidemiology (MOOSE) guidelines. The primary study outcome was length of hospitalization; other outcomes include readmission and mortality rate within one year, in-patient mortality, and need for mechanical ventilation.

Six studies were included in the review. Patients with blood eosinophilia had significantly shorter hospital stay compared to non-eosinophilic patients (mean difference 0.68 days [95% CI 1.09,0.27]). Eosinophilic patients had significantly less frequent readmissions (OR 0.69 [95% CI 0.55,0.87]) but there was no statistically significant difference in the one-year mortality rate (OR 0.88 [95% CI 0.73, .06]). Analysis showed a trend toward lower in-patient mortality among eosinophilic patients (OR 0.53 [95% CI 0.27,1.05]). Furthermore, COPD patients with eosinophilia had significantly less need for mechanical ventilation during an exacerbation (OR 0.56 [95% CI 0.35,0.89]). COPD patients with blood eosinophilia had significantly shorter hospital stay, less frequent readmissions, and are less likely to require mechanical ventilation compared to the non-eosinophilic phenotype. (**Authors' abstract**)

Keywords: *COPD, eosinophilia, chronic obstructive pulmonary disease, Medicine*

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NP

0200

Blood Pressure Lowering Effects of Sodium Glucose Transporter 2 Inhibitors Among Adult Patients with Type 2 Diabetes Mellitus: A MetaAnalysis

Jimeno,Cecilia A. , Cahyadi,

Sodium glucose transporter 2 (SGLT2) inhibitors are a new class of anti-diabetic agents that not only lower down blood sugar but can potentially cause weight loss and decrease in blood pressure. The aim of this meta-analysis was

to evaluate the magnitude of changes in blood pressure and safety parameters with the use of SGLT2 inhibitors among adult patients with type 2 diabetes mellitus (DM). Randomized controlled trials (RCTs) were retrieved from electronic databases. We used the method recommend by the Cochrane Collaboration to perform a meta-analysis of RCTs of SGLT2 inhibitor for type 2 DM. Of 137 studies retrieved in the literature search, 28 were eligible for inclusion. A total of 23,728 patients with average age of 50-63 years old, when SGLT2 inhibitor were compared with placebo or active comparators there were statistically significant reduction in systolic (MD: -4.01, 95% CI -4.03 to -3.99) and diastolic blood pressure (MD: -1.48, 95% CI -1.49 to -1.46). There were no significant differences in the incidence of hypoglycemia (RR: 0.94, 95% CI 0.90 to 0.99, $P<0.00001$) between SGLT2 inhibitors and control groups. The incidence of urinary tract infections was similar between the SGLT2 inhibitors and the control groups (RR: 1.12, 95% CI 1.01 to 1.25, $P=1.00$). There was statistically greater incidence of orthostatic hypotension among patients given SGLT2 inhibitors than the control group (RR: 1.41, 95% CI 1.14 to 1.75, $P=0.99$). Treatment with SGLT2 inhibitor provided statistically significant reductions in systolic and diastolic blood pressure in patients with type 2 DM compared with placebo or other anti-diabetic agents. (**Authors' abstract**)

Keywords: blood pressure, sodium glucose transporter 2 inhibitor, type 2 diabetes mellitus, Medicine

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NP

0201

Blood Pressure-Lowering Efficacy of Spironolactone in Patients with Resistant Hypertension: A Meta-analysis

Oliva, Raymond, Zamora, Mithi Kalayaan, Vallente, Jeremi

Resistant hypertension (RH) is defined as a blood pressure (BP) reading that remains above goal despite concurrent use of three optimally dosed antihypertensives of different classes, including a diuretic. Spironolactone, a mineralocorticoid receptor antagonist, has shown significant benefit in reduction of BP in recent trials and is used empirically as an add-on therapy for RH. The researchers' objective is to evaluate the BP-lowering efficacy of spironolactone in patients with resistant hypertension. A meta-analysis was performed on randomized controlled trials (RCTs) comparing office or home BP reduction using spironolactone with placebo or an alternative drug regimen on top of standard-triple drug therapy among patients with RH. The study was conducted in reference to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Five RCTs were included comprising a total of 662 patients. Three of these studies were found to have low risk of bias while two had unclear risk of bias. Compared to placebo, the addition of spironolactone significantly decreased office systolic BP (weighted mean difference [WMD]= -16.33, 95% confidence interval [CI]=-24.68 to -7.97, $P=0.0001$) and office diastolic BP (WMD=-6.12, 95% CI= -9.35 to -2.89, $P=0.0002$). Compared to an alternative drug regimen, additional spironolactone resulted in a significantly greater reduction in office systolic BP (WMD=-4.58mmHg, 95% CI=-7.19, -1.97, $P=0.0006$) and home systolic BP (WMD= -4.33, 95% CI= 5.55, -3.12, $P<0.00001$); while the addition of spironolactone had no significant difference compared to an alternative drug regimen in reducing office diastolic BP (WMD=-3.35, 95% CI=-12.08 to +5.38, $P=0.45$) and home diastolic BP (WMD= 0.00, 95% CI=-0.73 to 0.73, $P=1.0$). Spironolactone, when added to triple-drug anti-hypertensive therapy, showed significant reduction of systolic office and home BP. It should be considered as the add-on medication of choice for BP reduction in patients with RH. (**Authors' abstract**)

Keywords: resistant hypertension, anti-hypertensive, spironolactone, blood pressure, Medicine

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NP

Bumps of Blood Cells: Blastic Plasmacytoid Dendritic Cell Neoplasm in an Elderly Filipino

Mesina, Flordeluna Z. , Arevalo, Alejandro , Gatchalian, Ellen M. , Cheng, Christian Bern

Introduction: Blastic plasmacytoid dendritic cell neoplasm (BPDCN) is a rare and aggressive hematologic malignancy derived from the precursors of plasmacytoid dendritic cells. This malignancy presents with various noticeable cutaneous lesions and usually occurs in elderly males. Cutaneous manifestations usually precede leukemic dissemination to the lymph nodes, bone marrow, and peripheral blood which is associated with poor prognosis.

Case presentation: We present a case of a 60-year-old Filipino male with a four-month history of multiple hyperpigmented, reddish brown, firm, fixed, non-tender cutaneous nodules on the extremities, trunk, chest, and face. Two large masses

was also noted on the left arm and left upper back..Tissue biopsy of the cutaneous mass showed Immunohistochemical stain findings positive for LCA, CD68, CD4, CD56, and CD123 which are compatible with BPDCN. Patient was initially asymptomatic with relatively normal blood count and was treated supportively but serial blood count monitoring showed worsening with progression to acute myelogenous leukemia. Patient was then started on the 7+3 protocol of cytarabine and idarubicine which provided flattening of the cutaneous nodules and improvement of blood counts. However, due to complications of the disease and the treatment, the patient succumbed to severe pulmonary infection and sepsis.

Discussion: Due to the varied, non-specific cutaneous manifestations and the similarity in the morphology of the skin lesions with other cutaneous conditions along with the rarity of this disease, there is difficulty in establishing the diagnosis of BPDCN as well as standardizing its treatment. Immunohistochemical stains play an important role in confirming the diagnosis as well as ruling out other differential

diagnoses to tailor appropriate treatment.

Conclusion: Blastic plasmacytoid dendritic cell neoplasm (BPDCN) generally has a poor prognosis owing to the rapidity of its spread to the bone marrow and peripheral blood. Early diagnosis is essential to initiate early therapy and prevent progression. **(Authors' abstract)**

Keywords: *blastic plasmacytoid dendritic cell neoplasm, cutaneous nodules, acute myelogenous leukemia, case report, Medicine*

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NP

Candida endogenous endophthalmitis

Ong, Yu Ming , Tan, Soo Ken , Keat Eu Lim,

Objective

To report an uncommon case of bilateral candida endogenous endophthalmitis that presented as a diagnostic dilemma because of negative vitreous cultures.

Methods

This is a case report.

Results

A 47-year-old Indian with poorly controlled type 2 diabetes mellitus was referred with complaints of blurred vision for a week. Visual acuity was bilateral hand movement. Examination revealed bilateral panuveitis, with fine keratic precipitates and pigment deposits on the lens surface. Posterior-segment findings included severe vitritis, vitreous "cotton balls," multifocal retinal exudates, and fluffy chorioretinitis. The patient was treated with oral fluconazole and intravitreal amphotericin with no clinical improvement. A pars plana vitrectomy was performed resulting in improvement in vision.

Conclusion

Panuveitis in patients with uncontrolled diabetes mellitus should raise the suspicion of endogenous endophthalmitis with *Candida* being the most important differential. Blood and vitreous cultures for fungi will increase the microbiological yield. Prompt treatment with suitable intravitreal and systemic antifungal agents plus vitrectomy may prevent blindness. (**Authors' abstract**)

Keywords: *Candida, Endogenous, Endophthalmitis, Uveitis, Medicine*

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(Filipiniana Analytics)
NP

0204

Cardiac Morphology and Function of Hyperthyroid Patients Admitted at De La Salle University Medical Center

Escobin, Ma. Ailsa , Gurango, Jose Armand , Piores-Roderos, Olivia , Pagsisihan, Daveric A., Andag-Silva, Aim

Most characteristics and common signs and symptoms of hyperthyroidism are the effects of thyroid hormones on the heart and cardiovascular system. With the advent of echocardiography, characterizing the effects of hyperthyroidism on the heart has been described mainly for overt hyperthyroidism. Data on subclinical hyperthyroidism are still conflicting. The study was conducted to describe and compare the cardiac morphology and function of Filipino patients with uncontrolled overt and subclinical hyperthyroidism through echocardiogram, admitted at De La Salle University Medical Center (DLSUMC) for a period of five years and six months. This is a retrospective descriptive study that utilized review of medical records. Seventy-five hyperthyroid patients were included; 56% with overt hyperthyroidism and 44% with subclinical hyperthyroidism. Cardiac morphology and systolic and diastolic functions were determined in the population and compared between overt and subclinical hyperthyroidism using 2-dimensional echocardiogram. Cardiac morphology was slightly compromised due to slight thickening of interventricular septum (IVSTd) and left ventricular posterior wall thickness at diastole (LVPWTd). There was also an increase in left ventricular mass (LVM), more pronounced in overt hyperthyroidism. Systolic function parameters such as fractional

shortening (FS) and ejection fraction (EF) were normal. Impaired left ventricular myocardial relaxation manifested as low early mitral peak flow velocity, low E/A ratio and prolonged isovolumetric relaxation time (IVRT) was observed in most patients, particularly in overt hyperthyroidism. Abnormalities noted were comparable between the two groups of hyperthyroidism. With cardiac parameters affected even in subclinical hyperthyroidism, treatment might be indicated regardless if hyperthyroidism is overt or subclinical. (**Authors' abstract**)

Keywords: hyperthyroidism, heart function, echocardiogram, Medicine

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0205

Cardiac Tamponade as a Rare Manifestation of Systemic Lupus Erythematosus: A Report on Four Cases in the Philippine General Hospital

Magallanes, Jonray , Corpuz, Allan D. , Punzalan, Felix Eduardo , Salido, Evelyn O. , Manguba, Alexander , Lantion-Ang, Frances Lina , Aherrera, Jaime Alfonso M., Manapat-Reyes, Bernadette Heizel D.

Cardiac tamponade among systemic lupus erythematosus (SLE) patients is an unusual event. The pericardial effusion may be a consequence of uremia, infections in the pericardium, or the lupus pericarditis itself. The researchers presented four atypical cases of cardiac tamponade from pericarditis of connective tissue disease (CTD), all of which were treated with drainage and immunosuppressants. Due to the rarity of this combination, management was a challenge. Four females each sought consult for dyspnea associated with typical manifestations of connective tissue disease such as arthritis, characteristic rashes, serositis, typical laboratory features, and a positive ANA and/or anti-dsDNA. The first three cases fulfilled the criteria for SLE, while the fourth fulfilled the criteria for SLE-dermatomyositis overlap syndrome. Echocardiography was done due to suspicion of pericardial involvement and revealed massive pericardial effusion in tamponade physiology in all cases. Cardiac tamponade from serositis due to connective tissue disease [SLE (case 1 to 3) or SLE-dermatomyositis overlap (case 4)]. Other common etiologies of tamponade such as bacterial, tuberculous, malignant, and uremic pericardial effusion were ruled out by clinical and laboratory tools, including Gram stain and culture, cytology, PCR, and biochemical testing. The pericardial fluid of the first case tested positive for lupus erythematosus (LE) cells, indicative of lupus serositis.

All patients underwent pericardial drainage via tube pericardiostomy. They received high dose glucocorticoids after infectious etiologies for the pericardial effusion were ruled out. The fourth case with the overlap syndrome, however, required more immunosuppressants using azathioprine and methotrexate. Resolution of pericardial effusion was noted with this approach. Three of four were discharged improved, however, the third case suffered from worsening nephritis and pulmonary hemorrhage leading to her demise. Four cases of cardiac tamponade as a manifestation of connective tissue disease were presented. Literature underlines the rarity of this condition anytime during the course of SLE. Despite this, SLE should be considered as one of the differential diagnosis of cardiac tamponade, especially in patients who manifest with multi-systemic findings. Likewise, massive pericardial effusion should be considered in patients with a connective tissue disease presenting with subtle evidence of pericardial involvement. It requires timely identification and treatment with high dose steroids, after other causes such as infections have been excluded. Immediate drainage through pericardiocentesis or pericardiostomy in combination with immunosuppressants may be life-saving. (**Authors' abstract**)

Keywords: systemic lupus erythematosus, dermatomyositis, cardiac tamponade, Medicine

A CASE OF ACTINOMYCETOMA TREATED WITH CO-TRIMOXAZOLE (TRIMETHOPRIM + SULFAMETHOXAZOLE)

Abad-Venida, Ma. Luisa , Karki, Su

A 32-year-old man presented with a history of progressive, painful nodular growths with discharge consisting granules over the right thigh, inguinal area and right foot. Histopathological examination of the tissue biopsy was actinomycotic mycetoma. The patient showed improvement with trimethoprim-sulfamethoxazole. The novelty of our case is to use Co-trimoxazole as a first line treatment modality for all cases diagnosed or suspected as actinomycetoma. **(Author's abstract)**

Keywords: *actinomycetoma, trimethoprim-sulfamethoxazole, cotrimoxazole, Medicine*

A case of bilateral corneal opacity

Lim Bon Siong, Ruben , Comia, George Em

The study described an extremely rare case of acromesomelic dysplasia with bilateral corneal opacity in a 6-year-old female. This is a case report of a 6-year-old female who was referred for bilateral corneal opacity. Best corrected visual acuity for both eyes was 6/12. Ocular findings included normal corneal thickness with intact epithelium and diffuse mid to posterior stromal haze. The rest of the eye findings were within normal limits. Corneal topography showed symmetrical bow tie astigmatism of -3.38D for the right eye and -3.00D for the left eye. Treatment of the ocular findings in acromesomelic dysplasia includes corrective lenses for errors of refraction and polarized lenses for glare. Keratoplasty may be contemplated in cases with total corneal opacification. Follow-up is necessary to assess the progression of the disease and decide on appropriate management of symptoms. **(Authors' abstract)**

Keywords: *Corneal topography, symmetrical bow tie astigmatism, bilateral corneal opacity, posterior stromal haze, Medicine*

A Case of Churg-Strauss Syndrome Presenting with Foot Drop

Manapat-Reyes, Bernadette Heizel , Limgenco-Hipe, Juneth

Churg-Strauss syndrome (CSS), or eosinophilic granulomatosis with polyangiitis, is a rare syndrome that affects small- to medium-sized arteries and veins. Criteria for the diagnosis include: asthma (wheezing, expiratory rhonchi), eosinophilia of more than 10% in peripheral blood, paranasal sinusitis, pulmonary infiltrates (may be transient), histological proof of vasculitis with extravascular eosinophils, and mononeuritis multiplex or polyneuropathy. The worldwide incidence of CSS is approximately 2.5 cases per 100,000 adults per year and its incidence in the United States is one to three cases per 100,000 adults per year. In the Philippines, the exact incidence is unknown with very few published case reports about it. A 40-year-old Filipino male with a history of adult onset asthma and recurrent sinusitis manifesting with inability to dorsiflex the left ankle (foot drop), various dermatologic lesions, and arthralgia. Complete blood count showed hypereosinophilia. Electromyography revealed asymmetric moderate to severe sensory and motor denervation of limbs compatible with polyneuropathy. Skin biopsy revealed lymphocytic vasculitis. P-ANCA was positive. During his incumbent hospitalization, the skin lesions, arthralgia and neurologic manifestations improved on administration of high dose steroids. Pregabalin was used to control pain secondary to the mononeuritis multiplex. The study report a rare case of Churg-Strauss syndrome presenting as foot drop. This case highlights the importance of considering Churg-Strauss syndrome among adult patients presenting with neurologic complaint (inability to dorsiflex the left ankle/foot drop) and various dermatologic lesions. **(Authors' abstract)**

Keywords: *Churg-Strauss syndrome, mononeuritis multiplex, ANCA-associated vasculitis, Medicine*

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A Case of Eccrine Carcinoma Presenting with Neurological Manifestations

Soldivillo, Lynne Michelle B. , Picar, Rosalina Espiritu , Evaristo, Allen

Eccrine carcinoma is an extremely rare skin tumor where only 1/13000 specimens have been submitted to dermatopathological laboratories in the United States. There is no data yet to compare the Philippines with the international incidence of eccrine carcinoma. This is a case of a 69-year-old Filipino female who presented with a recurring invasive indolent tumor at the right fronto-parietal area who presented with left sided hemiparesis and seizure. The patient was presented with a recurrent invasive indolent mass on her right front-parietal area, grossly measuring five by four centimeters, nodular flesh colored, which extended intracranially. This was associated with left sided hemiparesis and due to the extent of the tumor encroaching through the brain parenchyma, patient was noted to have seizure episodes. The patient was given surgical and radiologic options however, she did not comply and died last December 2015. Results revealed that cranial MRI with MRA showed a heterogeneous enhancing intracranial mass with extracranial component with compressed entrapped and depressed superior sagittal sinus by the axial mass within calvarial penetration and scalp involvement compressing on the right parietal lobe with parenchyma edema. Biopsy was eventually done and findings were consistent with an eccrine carcinoma. In conclusion, this is the first case of eccrine carcinoma in our

institution. Due to the paucity of data, there are no guidelines to the management of an eccrine carcinoma. Hence the imperative need to raise awareness regarding this rare tumor because, without a high index of suspicion this rare entity may be overlooked or misdiagnosed. When presented with an indolent invasive recurrent tumor a high index of suspicion that an eccrine carcinoma may be suspected. Excision biopsy may be done for correct identification of the tumor. **(Authors' abstract)**

Keywords: *eccrine carcinoma, brain parenchyma, neurological symptoms, adnexal neoplasm, Medicine*

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0210

A case of intracranial chordoma associated with multiple-cranial-nerve palsy

Ali, Syed A. , Bodla, Ali A., Hutchison, Bru

This study reported a case of intracranial chordoma associated with multiple-cranial-nerve palsies, highlight its presenting features, and evaluate treatment options for this rare neoplasm. This is a case report of a 77-year-old man presented with diplopia and left sixth-nerve palsy. Further investigations revealed an intracranial chordoma. Surgical decompression was performed which resulted in complete resolution of the diplopia. Three months postsurgery, he was noted to have a right-third-nerve palsy. Repeat MRI showed tumor recurrence. Targeted proton-beam-charged-particle therapy was performed. Radiation therapy using targeted proton-beam-charged particle was shown effective in the treatment of intracranial chordoma, resulting in significant improvement in ocular motility and resolution of ptosis. **(Authors' abstract)**

Keywords: *multiple-cranial-nerve palsie, intracranial chordoma, Radiation therapy, Medicine*

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(Filipiniana Analytics)
NP

0211

A Case Report and Literature Review of Fetus in Fetu – A Rare Aberration of Embryogenesis in a 22-month-old Infant

Libanan, Lysa Lynn , Hilado, Josefa , Japitana, Ma.

Fetus in fetu (FIF) is an uncommon pathology resulting from an abnormal embryogenesis occurring in a diamnionic, monochorionic twinning during pregnancy. It is so rare that there is only one underdocumented case reported in the Philippines. We are faced with a curious case of a 22-month old male child who presented with a gradually enlarging abdomen, diagnosed as FIF as confirmed by radiologic studies. After undergoing the necessary laboratory and radiologic work-ups, the patient was stabilized and eventually cleared for surgery. He underwent exploratory laparotomy with excision of FIF, from which a fetoid structure was recovered.

Thorough gross and further radiologic evaluation of the recovered fetoid structure reveals findings that fulfilled the diagnostic criteria of a FIF. **(Author's abstract)**

Keywords: *fetus-in-fetu, teratoma, intra-abdominal mass, fetoid, Medicine*

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(Filipiniana Analytics)
NP

0212

A Case Report on a 29-Year-Old Male with Difficult to Treat Bronchial Asthma in Exacerbation: Rediscovering Asthma COPD Overlap Syndrome (ACOS)

Arquiza, Jonathan , Tibayan, Christoper J

Asthma chronic obstructive pulmonary disorder (COPD) overlap syndrome (ACOS) was formally described by the joint project of global initiative for asthma (GINA) and global Initiative for chronic obstructive lung disease (GOLD) as persistent airflow limitation with several features usually associated with both asthma and COPD. ACOS is identified by the features shared with both asthma and COPD. The underlying cause though remains unknown, hence the project did not offer current formal definition. The study was a case of a 29-year-old male, asthmatic with an eight - pack year smoking history who presented with chronic obstructive respiratory symptoms with no significant improvement on control of exacerbation despite standard maximal therapy. Diagnostic tests such as pulmonary function Tests, 2D Echo, chest CT scan and even assay for alpha 1 anti-trypsin were done to rule out for other disease entities and prognosticate the patient's condition leading to the diagnosis of asthma COPD overlap syndrome (ACOS). ACOS as a disease entity is still under debate and still has no current formal definition due to lack of specific biomarkers and lack of defining characteristics. Despite this, management should not be compromised since these patients often present with higher rates of exacerbations, hospitalization, associated co morbid illness and mortality. Treatment therefore is individualized. **(Authors' abstract)**

Keywords: *asthma, COPD, bronchial asthma, ACOS, Medicine*

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0213

A Case Report on Cerebrogenic Fatal Cardiac Arrhythmia in a Patient with Acute Ischemic Stroke

Deloso-AAñonuevo, Ethel , AAñonuevo, John , Alegria, Rainie

Patients with acute ischemic stroke are susceptible to cardiac arrhythmias however, fatal arrhythmias are rare in the absence of cardiac disease. Cardiac arrhythmias can develop in lesions at the right side of the brain specifically the insular, frontal and parietal area. Data that show the direct relationship of ischemic stroke and arrhythmia are scarce but they are indirectly attributed to an imbalance in the autonomic nervous system. This paper aims to present a rare case of an association between a fatal arrhythmia and right thalamic infarct. The study presented a case of a 39-year-

old admitted as a survivor of sudden cardiac death from ventricular fibrillation. She presented with a history of left sided weakness a week prior but no work-up was done. Baseline serum electrolytes and cardiac markers were all normal. Electrocardiogram (ECG) post-cardioversion showed sinus tachycardia. Echocardiogram and cardiac computed tomography (CT) angiography were normal. Magnetic resonance imaging (MRI) and angiography (MRA) of the brain showed an acute infarct at the right thalamus and an absent left internal carotid artery (ICA). Electroencephalogram (EEG) was negative. Bisoprolol was given and an Automatic Implantable Cardioverter Defibrillator (AICD) was subsequently placed. No recurrence of cardiac arrhythmia was noted on continuous cardiac telemetry monitoring during her hospitalization and on six months of follow-up. Fatal cardiac arrhythmias, can occur in patients with acute thalamic infarct even beyond 24 hours in the presence of other confounding factors despite the absence of cardiac pathology. This case showed the association of heightened autonomic imbalance caused by an acute stroke, decreased cerebral flow, and fatal arrhythmia. This elucidates the importance of cardiac monitoring in acute ischemic stroke. With the paucity of information on serious cardiac arrhythmia and ischemic stroke, a future study on this correlation will be useful. (**Authors' abstract**)

Keywords: *Cerebrogenic cardiac arrhythmia, post-stroke arrhythmia, acute ischemic stroke, Medicine*

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0214

Causes of Blindness and Severe Visual Impairment among Children Enrolled in an Early Intervention and Preschool Program of a School for the Blind in the Philippines

Del Mundo, Paul Samuel V., Chua, Carlos Emmanuel

Objective: To identify the avoidable causes of childhood blindness and visual impairment in a school of the blind in the Philippines.

Methods: The medical records of students enrolled at the Resources for the Blind early intervention and preschool program from 1999 to 2012 were reviewed. Demographic characteristics and causes of visual disability were abstracted and tabulated.

Results: A total of 90 records were included in the study. Eighty six (76.7%) had visual acuity classified as blind (<20/400) or severe visual impairment (<20/200 - 20/400, 18.9%). Majority (69.8%) were below 6 years of age and most (44.2%) were below 1 year. Retinopathy of prematurity was the most common cause (47.7%), followed by retinoblastoma (11.6%). Perinatal factors accounted for most of the etiologic causes (58.1%) of visual loss.

Conclusion: More than half of the causes of severe visual impairment and blindness were potentially avoidable, with retinopathy of prematurity as the leading etiology. (**Authors' abstract**)

Keywords: *childhood blindness, severe visual impairment, school for the blind, retinopathy of prematurity, Medicine*

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NP

Causes of failure of pneumatic retinopexy

Arroyo, Milagros H. , Tamesis-Villalon, Pearl , Sy, Robert T. , Roberto E. Flami

The study was to determine the causes of failure in eyes that underwent pneumatic retinopexy at the University of the Philippines-Philippine General Hospital (UP-PGH). A retrospective review of pneumatic retinopexy procedures performed at the UP-PGH from January 1996 to December 2002 was undertaken. Seventeen cases were analyzed as to preoperative and intraoperative variables: age; sex; preoperative visual acuity; presence of proliferative vitreoretinopathy(PVR); extent of retinal detachment; presence of macular detachment; presence, number, and type of lattice degeneration; previous cataract surgery; surgeon factor; and intraoperative use of cryotherapy. Two-tailed Fisher's exact test and Chi square test were used in the analysis of statistical significance. The following variables were shown to be significantly correlated with failure: eyes with breaks outside the 11-1 o'clock meridians ($p = 0.02$), eyes with less than or equal to 3 quadrants of retinal detachment ($p = 0.05$), and preoperative visual acuity worse than 5/60 ($p < 0.100$). Failure in eyes with retinal breaks outside the 11-1 o'clock meridians suggested poor patient compliance with regard to postoperative posture. In eyes with less than or equal to three quadrants of detachment, failure may ensue as a result of spillover of subretinal fluid to uninvolved quadrants. Future success with pneumatic retinopexy will rely ultimately on careful patient selection, surgeon familiarity with the technique, and patient cooperation. (**Authors' abstract**)

Keywords: *Pneumatic retinopexy, Retinal detachment, Proliferative vitreoretinopathy, Medicine*

Philippine Journal of Ophthalmology, Volume No. 29 Issue No. 3, 1-5
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Challenges in the Management of Concomitant TB Arthritis and AVN in a Lupus Patient with Adverse Drug Reaction to Anti-Koch's Medications

Magbitang, Angeline-Therese D. , Tee, Michael L. , Tee, Kenn

Non traumatic osteonecrosis also known as avascular necrosis (AVN), and tuberculous arthritis (TB arthritis) most commonly present as chronic monoarticular conditions. Corticosteroid intake is known to predispose individuals to the development of these two conditions. In AVN, corticosteroid remains to be the most common cause that leads to a final common pathway of disrupting blood supply to segments of bone causing cell death. In TB arthritis, corticosteroid renders a patient relatively immunocompromised predisposing to this extrapulmonary infection. The incidence of tubercular osteonecrosis in a patient with systemic lupus erythematosus is rare. A review of literature only showed one case report of tubercular osteonecrosis diagnosed by aspiration cytology. Since tuberculosis (TB) is a destructive but curable disease, early diagnosis and treatment are essential. The study was conducted to present a case of tubercular osteonecrosis in a patient with systemic lupus erythematosus treated with anti-Koch's regimen and iloprost infusion. A 27-year old Filipino female who was diagnosed with lupus nephritis and underwent three days methylprednisolone pulse therapy. Lupus nephritis improved and was clinically inactive for two years. She developed insidious onset of intermittent pain on her left knee, associated with swelling for four months with subsequent right hip pain of one week duration. MRI of the left knee showed osteonecrosis and arthritis. Radiograph of the right hip showed osteonecrosis. She underwent arthrocentesis of the left knee and the synovial fluid tested positive for tuberculosis by PCR. We started the patient on quadruple anti-Koch's regimen together with iloprost infusion which

afforded clinical improvement. To our knowledge, this is the first reported case of a lupus patient with concomitant polyarticular osteonecrosis complicated by monoarticular tuberculous arthritis. Medical treatment, while it may be complicated by adverse drug events, is effective in symptomatic treatment, but a multidisciplinary approach is suggested for optimal outcome. (**Authors' abstract**)

Keywords: *Avascular necrosis, tuberculosis of the joint, systemic lupus erythematosus, iloprost, corticosteroids, septic arthritis, Medicine*

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NP

0217

Change in HbA1c Among Filipino Diabetic Patients who Shifted from Multiple Daily Injection to Continuous Subcutaneous Insulin Infusion: A Retrospective Cohort Study

Villa, Michael , Chua, Anne

Insulin delivered by multiple daily injection (MDI), for a time, has been considered to be the most physiologic among the different insulin regimen. Among patients on MDI, there is still a significant proportion who remains uncontrolled. Continuous subcutaneous insulin infusion (CSII) or insulin pump has been shown to benefit some patients who are still uncontrolled despite intensive insulin therapy with MDI. Currently, there is little information on the use of insulin pump in the Philippines. The researchers aimed to determine the change in HbA1c and the proportion of patients with HbA1c of The study was a retrospective cohort analytical study of 33 adult patients with type 1 or type 2 diabetes mellitus (DM), switched from MDI to insulin pump. Chart review was done to obtain data on age, gender, type of bolus, baseline HbA1c and HbA1c six to twelve months after switching insulin pump initiation. The change in HbA1c was correlated with baseline HbA1c and age. Mean change in HbA1c was also compared between gender, type of bolus and type of diabetes. Mean HbA1c prior to switching to insulin pump was 10 ± 1.7 . The HbA1c reduction was 1.86 ± 1.6 (p There was significant reduction in HbA1c among this cohort of Filipino diabetic patients after switching from MDI to CSII. While majority of patients had >1% reduction, achieving an ideal goal of **Authors' abstract**)

Keywords: *hb1ac, multiple daily injection, continuous subcutaneous insulin infusion, insulin pump, diabetes mellitus, Medicine*

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0218

Chopstick splinter: A rare cause of bilateral frozen orbits

Gurdeep Singh M , Balaravi P. , Liza-Sharmini AT , Selva Raja V. , Min Tet C. , Lee Ong C. , Lieh Lich

The study reported an unusual case of frozen orbit caused by an unsuspected intraorbital foreign body. This is a case report of a 31-year-old Chinese man presented with a 6-month history of painless progressive right caruncular growth with mucoid discharge. He also had bilateral progressive reduction in ocular movements. His best-corrected vision was 6/9 bilaterally. A conjunctival granuloma arising from the right caruncle and extending to the cornea and

associated with ophthalmoplegia was also present. Orbital computed tomography showed a dense rod-like structure traversing the nasal area, extending from the superomedial wall of the right orbit to the apex of the left orbit with surrounding inflammatory reaction but sparing the optic nerve. The intraorbital foreign body, a 6 cm chopstick splinter, was successfully removed via right lateral rhinotomy. Intraorbital foreign bodies are not uncommonly seen and, generally, the diagnosis is straightforward. Nevertheless, diagnosis could be missed if it is not suspected. (**Authors' abstract**)

Keywords: *Chopstick splinter, bilateral frozen orbits, Medicine*

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(Filipiniana Analytics)
NP

0219

Chronic Tophaceous Gout in a Patient with Cyanotic Congenital Heart Disease

Urbano, Annalyn Q., Garcia, Givenchy Maree D., Manapat-Reyes, Bernadette Heiz

Gout is a clinical syndrome resulting from deposition of urate crystals in joints causing inflammation, intense pain and even disability. In 2003 National Nutrition and Health Survey (NNHeS), the overall prevalence of gout was 1.6% and the prevalence of hyperuricemia was 28.4% of the 4498 adults >20 years old. Gout complicating cyanotic congenital heart disease (CCHD) was infrequently recognized in early reports with Somerville referring only nine patients over a period of five years in the registry of two hospitals. Recent studies have shown increased recognition, with Yamamura identifying 16% of the 92 patients with CCHD to have gouty arthritis. There is no local data on the frequency of gout among patients with CCHD. A 26-year-old male previously diagnosed with Transposition of Great Arteries presented with a mass on the 5th digit of left hand with pathologic bone destruction on radiograph underwent disarticulation of the same finger. Intraoperative findings revealed chalky substances that led to the referral to rheumatology section. A diagnosis of chronic tophaceous gout was considered after review of history. He had a three year history of intermittent polyarticular arthritis involving the elbows, knees and ankle joints and later developed tophi in the helices of the ears and the DIP joint of the fifth digit of the left hand. There was increasing level of hyperuricemia as the severity of arthritis progressed. He had a polyarticular gout flare post operatively. The gout attack resolved after treatment with colchicine. Allopurinol was initiated after control of gout flare with resulting decrease in uric acid level. This case described a young male patient with transposition of great vessels with acute intermittent polyarthritis and tophi formation. The occurrence of gout and the complexity of the congenital heart disease had caused a considerable financial, functional and emotional instability on the patient, his parents and extended family. In patients with cyanotic congenital heart disease, the prevalence of hyperuricemia ranges from 16 to 43%. Several factors identified to be associated with hyperuricemia in CCHD in our case which include hypoxemia, polycythemia and impaired renal function. Nonetheless, management of gout in patient with CCHD is similar to the primary and secondary gout. Gouty arthritis should be a differential in a patient with a cyanotic congenital heart disease complaining of joint swelling and tenderness. Early and prompt diagnosis will relieve symptoms and prevent complications that may lead to physical inactivity of patients. (**Authors' abstract**)

Keywords: *gout, congenital heart disease, arthritis, case report, Medicine*

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NP

Ciliary Sulcus Diameter Measurements in Normal Adult Filipino Eyes Using Ultrasound Biomicroscopy

Sibayan, Santiago A. B. , Lopez, Victor B. , Concepcion, Maria Elizabeth T. , Masna-Hidalgo, Barba

Objective: To measure the ciliary sulcus diameters (CSD) in phakic eyes of adult Filipinos using ultrasound biomicroscopy (UBM).

Methods: This was an observational, cross-sectional study involving Filipino patients recruited from the Outpatient Department of Makati Medical Center, Philippines from September 2006 to December 2006. Vertical and horizontal CSDs in phakic eyes were measured using a UBM Scan 1000 (Ophthalmic Technologies Inc., Toronto, Ontario, Canada). Three repeated measurements of each meridian were taken and averaged. The average CSD for each eye was computed as the average of the horizontal and vertical CSDs. Student's t-test was used to analyze data.

Results: Seventy-one (71) patients (142 eyes) were included in the study. Mean CSD measurements were as follows: horizontal CSD = 9.76 ± 0.42 mm; vertical CSD = 10.00 ± 0.48 mm; average CSD = 9.88 ± 0.47 mm. There was a significant difference between the means of the vertical and horizontal CSD measurements ($P < 0.01$). There was no significant difference in the mean CSD measurements of the right and left eyes ($P = 0.50$).

Conclusions: In this cohort of adult Filipino patients, the UBM-measured vertical CSD is significantly greater than the horizontal CSD. Establishment of CSD measurements of adult Filipino eyes may be helpful in selecting appropriately-sized intraocular lenses for ciliary sulcus implantation. (**Authors' abstract**)

Keywords: *ciliary sulcus diameter, ultrasound biomicroscopy, Medicine*

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NP

Clinical and Laboratory Profile of Patients with Thrombotic Thrombocytopenic Purpura Seen at the University of Sto. Tomas Hospital: A Single Center Experience

Castillo, Ma. Rosario Irene D. , Mancio, Pamela R

Thrombotic thrombocytopenic purpura (TTP) is considered a rare disease. In the Philippines, there are currently no local registry for such rare disease, thus clinical features that may be unique to the country is difficult to characterize. The study was conducted to characterize the TTP patients seen in the institution based on the demographic, clinical and laboratory profile of these patients. A total of eight patients were described in this report. Median age was 38 years (range, 20- 63) with a female predominance. All patients had neurologic symptoms and microangiopathic hemolytic anemia. Minor neurologic symptoms (confusion, headache and dizziness) were more frequently observed. Renal dysfunction (serum creatinine >1.4 mg/dL), fever ($>38.0^{\circ}\text{C}$), and thrombocytopenia were observed in four patients (50%), seven patients (87.5%), and six patients (75%), respectively. Patients underwent median of three sessions of Plasma Exchange (range, two to 38). Of the six patients who received therapeutic plasma exchange, five were discharged alive. Fifty percent of the patients in this report presented with the classic pentad. This feature should

be kept in mind as TTP is a true hematologic emergency. A high index of suspicion, prompt evaluation and treatment of patients are necessary because multi-organ thrombosis may not be reversible, if treatment is not urgently administered. Therapeutic Plasma Exchange is the management of choice and should be done immediately once TTP is recognized. (**Authors' abstract**)

Keywords: *Thrombotic Thrombocytopenic Purpura, Therapeutic Plasma Exchange, Medicine*

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(Filipiniana Analytics)
NP

0222

Clinical Comparison of Visual and Refractive Outcomes of Two Models of Accommodative Intraocular Lenses

Dela Cruz, Jr., Albert G. , Zayco, Camille Constancia C. , Cruz, Emerson M. , Ang, Robert Edw

Objective: To evaluate the visual and refractive outcomes of eyes implanted with the Crystalens HD and the Crystalens AO intraocular lens.

Methods: We retrospectively reviewed the records of 159 eyes of 100 patients implanted with the Crystalens HD IOL and 108 eyes of 66 patients implanted with the Crystalens AO IOL. Visual and refractive outcomes preoperatively and postoperatively were assessed and compared between the lenses.

Results: At 1 year, uncorrected distance VA was 20/30 in 78% of eyes in the HD and 76% of eyes in the AO groups. Uncorrected intermediate VA was 20/30 in 90% of eyes in both groups. Uncorrected near VA was J3 in 92% in the HD and 90% in the AO groups. Comparing the two groups, the difference in uncorrected distance ($p=0.60$), intermediate ($p=0.77$), and near ($p=0.64$) vision was not statistically significant. Spherical equivalent was $-0.42D \pm 0.51D$ in the HD and $-0.6 \pm 0.48D$ in the AO groups ($p=0.10$).

Conclusion: Refractive outcomes were similar between the Crystalens HD and AO groups. Mild myopic refractive outcomes were targeted and achieved in both lens groups. These refractive outcomes provided good uncorrected distance, intermediate, and near vision postoperatively. (**Authors' abstract**)

Keywords: *Accommodating IOL, Crystalens, Capsular fibrosis, Z syndrome, Posterior capsular opacification, Medicine*

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2012 January to June,
(Filipiniana Analytics)
NP

0223

Clinical epidemiology of retinoblastoma at the Philippine General Hospital: 1998-2008

Noguera, Sharlene I., Mercado, Gary John V., Santiago, Darby

Objective

This study determined the clinical characteristics of retinoblastoma (RB) from 1998 to 2008 and compared the epidemiological and clinical patterns with those of the period from 1967 to 2001.

Methods

We reviewed the clinical records of 152 patients with RB from 1998 to 2008 in terms of demographic and ophthalmological data and clinical staging or classification.

Results

Sixty-three percent of cases were unilateral and 37% were bilateral. Three (3%) of 95 unilateral cases and 7 (12%) of 57 bilateral cases had family history of RB ($p = 0.038$). The mean age at onset was 17.8 months for unilateral and 7.4 months for bilateral cases, while the mean age at diagnosis was 26.4 months and 13.7 months respectively. The delay from onset to diagnosis was 69% in unilateral and 56% in bilateral RB groups. Financial cost (71.4%) was the leading reason for delay, followed by misdiagnosis (24.5%), and inaccessibility of medical facility (2.0%). The most common manifestations were leukocoria (77%), extraocular findings of orbital mass (9%), and proptosis (6%). Advanced intraocular stage was seen in 63 – 71.6% among those with unilateral and 56 – 60% in those with bilateral tumor.

Conclusions

The onset of disease had not changed over the years, but patients in general were brought earlier for consultation. Most cases presented in the advanced stage. Decreasing the occurrence of extraocular RB through early consultation and treatment can improve patient survival. (Authors' abstract)

Keywords: *Retinoblastoma, Intraocular tumor, Epidemiology, Medicine*

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NP

0224

Clinical Experience with BIAsp 30: Results from the Philippine Cohort of the Global A1chieve Study

Sobrepena, Leorino M., Yu-Gan, Susan, Jain, Anand B., Lim-Abrahan, Mary Anne, Racho, Veronica A

The study was conducted to evaluate the safety, effectiveness and health-related quality of life (HRQoL) parameters of A1chieve study participants in the Philippine cohort, who were treated with BIAsp 30. A1chieve is a non-interventional, sixmonth, observational study of 66,726 people with type 2 diabetes mellitus (T2DM), including both insulin users and non-insulin users, started on insulin detemir, insulin aspart, or BIAsp 30 in 28 countries across four continents. The present study evaluates the safety, effectiveness and HRQoL in 1,252 subjects from the Philippine cohort of the A1chieve study who were treated with BIAsp 30. At baseline, the mean age, duration of diabetes and mean BMI were found to be 55.5 ± 11.7 years, 7.2 ± 5.6 years and 25.4 ± 5.3 kg/m², respectively. Seventy-eight percent

(78%) of subjects were insulin naïve and 22% were prior insulin users. At baseline, glycemic control was poor ($HbA_{1c} = 9.9\%$) in the entire cohort. Overall there was a 2.7% reduction in mean HbA_{1c} and 44.2% subjects achieved the HbA_{1c} target of $<7.0\%$, after 24 weeks of therapy with BIAsp 30. There were significant reductions in total cholesterol, LDL-cholesterol, triglycerides and systolic blood pressure after 24 weeks of therapy with BIAsp 30. There was no increase in the incidence of hypoglycemia among insulin-naïve subjects, while there was a marked reduction in hypoglycemia (4.93 to 2.53 events/ person-year) among prior insulin users at 24 weeks. In conclusion, BIAsp 30 is safe and efficacious for initiating and intensifying insulin therapy for Filipino T2DM patients. (**Authors' abstract**)

Keywords: *Alchieve, HbA1c, glucose control, type 2 diabetes mellitus, BIAsp 30, Philippines, Medicine*

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0225

Clinical Outcomes After Intravitreal Bevacizumab Injection for Diabetic Macular Edema

Castro, Karen Joyce G., Loy, Marie Joan

Objective: 1) To describe the effects of intravitreal bevacizumab (IVB) injection for diabetic macular edema (DME) on best-corrected visual acuity (BCVA) and central foveal thickness (CFT) of Filipino patients; 2) To determine correlations between (a) CFT and BCVA, (b) CFT and optical coherence tomography (OCT) patterns of DME, (c) number of injections with BCVA and CFT, (d) number of injections with OCT pattern of DME and the presence of epiretinal membrane (ERM), (e) control and type of diabetes mellitus (DM) with BCVA and CFT; 3) To describe ocular and systemic side effects of IVB injections.

Methods: This was a retrospective non-comparative case series of patients who underwent IVB injection for DME from January 2012 to June 2013. Data gathered included: (1) BCVA, (2) CFT, (3) OCT pattern of DME, (4) presence of ERM on OCT, (5) total number of IVB injections in 12 months, (6) type and control of DM, (7) ocular and systemic side effects of IVB. All analyses were made at the first, third, sixth, and 12th month post-IVB injection.

Results: Sixty-eight eyes received IVB injection, 27 eyes had incomplete data and were excluded, and only 41 eyes were analyzed. There was a consistent improvement in the mean BCVA and decrease in mean CFT from baseline up to the 12th month. There was a steady increase in the mean change in BCVA and a consistent decrease in the percent change in mean CFT until the 12th month. The change in mean BCVA and CFT appeared to have an inverse relationship. Patients who received four or more injections were also those with worse mean BCVA and greater CFT. There was no correlation between the number of injections and the OCT pattern of DME, nor the presence of ERM. The mean BCVA appeared to improve among patients with controlled DM and mean CFT was larger among patients with uncontrolled DM. There were no severe ocular or systemic adverse effects reported.

Conclusion: IVB injection resulted in an improvement in the BCVA and a decrease in CFT in patients with DME. No systemic or severe ocular adverse effects were observed. (**Authors' abstract**)

Keywords: *Bevacizumab, Diabetic macular edema, Visual acuity, Central foveal thickness, Intravitreal injection, Anti-VEGF, Medicine*

Clinical Presentation and Outcomes of Intentional Paraquat Ingestion in a Hospital at Northern Philippines from 2011 to 2013

Pua, Paul Francis , Valencia, Jose Ca

Acute paraquat (PQ) poisoning is associated with high case fatality rate. Following a report of 108 cases of poisoning from 2011 to 2013, the distribution, sale, and use of PQ was recently prohibited in the Philippines. However, there still is a need to gather additional information on the manifestations of PQ poisoning in the Philippines. Hence, this study aimed to identify the clinical presentation and outcomes of cases of PQ poisoning seen in a hospital at northern Philippines. Nine cases of oral PQ poisoning from 2011 to 2013 were included in this series. All cases were intentional. Majority (88%) of the patients were females. Seven of the nine (77%) cases were from Baggao, Cagayan, a nearby agricultural town. Mean age was 30 (range 21-47). Initial presenting symptoms were vomiting, difficulty in swallowing, abdominal pain and gastrointestinal bleeding. Of the nine cases, four died (44%) in the hospital. Three (33%) survived without complications. Long-term outcomes of the remaining two cases (22%) were unknown. All patients who eventually died developed dyspnea during their hospital stay, and subsequently went into acute respiratory failure. Azotemia and leukocytosis were also recorded among those who died. High mortality rate among PQ poisoning patients can be attributed to the absence of antidote and the unsatisfactory outcomes of post-exposure management. Mortality rate for this series was 44%, and all died of progressive respiratory failure. Gastrointestinal toxicity was universal in the nine reported cases. Azotemia and leukocytosis were the other significant findings observed among the cases of fatal poisoning. **(Authors' abstract)**

Keywords: *paraquat, herbicide, ingestion, poisoning, case report, Medicine*

Clinical Profile and Demographics of Glaucoma Patients Managed in a Philippine Tertiary Hospital

Hosaka, Mark Angelo B. , Martinez, Jo

Objective: To determine the demographic and clinical profile of glaucoma patients seen in a Philippine tertiary hospital from 2011 to 2014.

Method: Medical records of glaucoma patients managed at the outpatient ophthalmology clinic from October 2010 to August 2014 were reviewed. Diagnosis of glaucoma was based on the International Society of Geographic and Epidemiological Ophthalmology (ISGEO) guidelines. The demographics, clinical profile, functional severity scoring, and initial management of patients were described.

Result: Majority of the 570 patients were females (60.17%), with a mean age of 56.23 years. Eighty-five percent claimed to have no family history of glaucoma. The mean best-corrected visual acuity (BCVA) was 0.40, the mean intraocular pressure (IOP) was 23.56 mmHg, and the mean cup-to-disc (CD) ratio was 0.69. There were more primary type of glaucoma (55.48%) than secondary glaucoma. Mixed pattern was the most common type of visual field pattern at initial presentation. Majority of the defects were under GSS 2 stage 2 of mean deviation (MD) and loss variance (LV). Medical treatment was the most common initial management given to glaucoma patients.

Conclusion: The primary glaucomas were more common than the secondary glaucomas seen in a private tertiary hospital. Most had moderate visual field damage (mixed type pattern) and the most common initial management given was medical treatment. (**Authors' abstract**)

Keywords: *Glaucoma, Epidemiology, Primary open angle glaucoma, Primary angle closure glaucoma, Secondary glaucoma, Normal tension glaucoma, ISGEO guidelines, Medicine*

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0228

Clinical Profile and Outcome of Infections Among Adult Leukemia Patients with Febrile Neutropenia Admitted at the University of Santo Tomas Hospital

Bautista, Maria Diana Aileen C., Delgado, John S., Bergantin, Maria Rhona G., Mancio, Pamela Rose L., Caguioa, Priscilla

Febrile neutropenia is considered a medical emergency and remains a major cause of morbidity and mortality among cancer patients. In this population, infections are often characterized by the lack of significant clinical findings during physical examination and a clear focus of infection, perhaps because of the inability to mount an adequate inflammatory response. It has long been recognized that any delay in treatment may result in a higher risk of mortality especially when caused by highly virulent pathogens such as *Pseudomonas aeruginosa*. The study was conducted to determine the clinical profile and disease outcome of the various infections on adult patients with leukemia who developed febrile neutropenia admitted at the University of Santo Tomas Hospital from January 1, 2010 to July 31, 2013. This is a three and a half year retrospective descriptive study. Medical records of all patients >18 years old with leukemia, who were admitted and assessed to have infection which developed at the time of neutropenia were included. A total of 44 cases of leukemia with febrile neutropenia were reviewed. There was equal distribution between genders. Mean age was 39.64 years. Majority of patients had acute myelogenous leukemia (AML) [72.7%, (32/44)]. All patients had sepsis, where two, (4.5%) manifested with shock. Co-morbidities included hyperthyroidism (9.15%), diabetes mellitus (DM) (6.8%), and hypertension (6.8%). Cefepime [40.9%, (18/44)] and meropenem [31.8%, (14/44)] were the most common antimicrobial agents used to treat neutropenic patients.

All of the patients had blood cultures, however, only 12, (27.3%) yielded positive results. Among those with negative culture results, 18.8% received antibiotics prior to collection of blood. Other specimens tested included sputum and urine. Among those with positive results, the most common organisms isolated were *E. coli* [33.3%, (4/12)] followed by *Enterobacter cloacae* [16.7%, (2/12)]. Other organisms isolated include *Aeromonas hydrophilia*, *Pseudomonas aeruginosa*, *Stenotrophomonas maltophilia*, coagulase-negative staphylococci (CoNS), and viridans streptococci. Nineteen (43.2%) patients had pneumonia, while five (11.4%) patients had urinary tract infection. Seventeen (38.6%) patients had no known focus of infection despite aggressive search. Culture positivity was observed more frequently

among those with profound neutropenia [91.7% (11/12)] and those with Multinational Association for Supportive Care in Cancer (MASCC) score of less than 21 [100% (12/12)]. Thirty seven (84%) of patients were discharged improved, six (14%) died due to infection and one patient was discharged against medical advice. Mortality was high among those with profound neutropenia, (6/6, 100%) and those with MASCC score of less than 21 [100%, (6/6)]. Acute myelogenous leukemia cases comprised majority of febrile neutropenic patients. All patients had sepsis commonly involving the lungs. Co-morbidities included hyperthyroidism, DM and hypertension and few patients had prior use of antibiotics. Blood culture was positive in more than one fourth of the population. The most common organisms isolated were *E. coli* followed by *Enterobacter cloacae*. Mortality was high among patients with profound neutropenia and MASCC score of less than 21. (**Authors' abstract**)

Keywords: febrile neutropenia, leukemia, acute myelogenous leukemia, Medicine

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0229

Clinical Profile and Outcome of *Stenotrophomonas maltophilia* Infections Among Adult Patients Admitted at the University of Santo Tomas Hospital: A Seven-Year Retrospective Study

Bergantin, Maria Rhona G. , Delgado, John S. , De Lunas, Karen Estel

Stenotrophomonas maltophilia is an aerobic gram-negative rod of low virulence. However, it is becoming an important cause of nosocomial infections usually among susceptible patients. More data in the local setting is needed to help clinicians recognize this emerging cause of infection. The study was conducted to determine the clinical profile and outcome of *S. maltophilia* infections among adult patients admitted at the University of Santo Tomas Hospital over a period of seven years. This is a retrospective descriptive study. Medical records of all patients >18 years old admitted and assessed to have *S. maltophilia* infection from January 1, 2006 to December 31, 2012 were available for review. Medical charts of 66 patients with *S. maltophilia* infection were reviewed. Seventy-two percent of these were hospital-acquired, whereas 28% were from the community. Most patients were male (57.6%), with a mean age of 68.97 ± 15.5 years. The lungs were the most common foci of infection (75.6%). Most common co-morbid illnesses were hypertension (54.5%) and diabetes mellitus (39.4%). Forty eight percent were on mechanical ventilatory support. Ninety five percent had invasive devices most notably indwelling urinary catheter (43%) and internal jugular catheter (13.6%). Fifty six percent (56.1%) received antibiotics prior to onset of *S. maltophilia* infection. Thirty six percent (36%) had polymicrobial infections associated with *S. maltophilia*. The organisms most frequently isolated were *Klebsiella pneumonia* (29.2%), *Pseudomonas aeruginosa* (25%), and *Staphylococcus aureus* (16.7%). Sixty percent of the isolates were fully susceptible to the recommended antibiotics. Only 1.5% were found to be multi-drug resistant. Majority (57.6%) of the patients were discharged improved, while 4.5% died due to *S. maltophilia* infection and 25.8% died from other causes mostly myocardial infarction. *Stenotrophomonas maltophilia* infections were mostly hospital acquired. Most of the organisms were isolated from the respiratory tract. Most commonly associated co-morbid illnesses included hypertension and diabetes mellitus. Other associated factors included mechanical ventilatory support, prior antibiotics use, and presence of indwelling catheters. Most of the isolates remained susceptible to the recommended antibiotics, however, a fraction were resistant, most notably to Cotrimoxazole. Majority of the patients were discharged improved. Mortality attributable to *S. maltophilia* was only 4.5%. (**Authors' abstract**)

Keywords: *stenotrophomonas* infection, hospital acquired infection, pneumonia, bacteremia, Medicine

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Clinical Profile and Survival of Filipino Myelofibrosis Patients Seen In a Tertiary Hospital *Zapata-Mesina, Flordeluna, Castillo, Ma Rosario Irene D*

Myelofibrosis (MF) is a disease characterized by panmyelosis with intact maturation, progressive bone marrow fibrosis, and splenomegaly with extramedullary hematopoiesis. It is the most heterogeneous disease in the group of myeloproliferative neoplasms in terms of patient characteristics and natural history of the illness. This study aimed to describe the clinical, laboratory profile and survival of myelofibrosis patients seen in our institution and also to descriptively compare these characteristics of Filipino MF patients to Chinese and White MF patients. An analysis of patients' data retrospectively collected through review of clinical records from 1994 to 2012 was done. All patients diagnosed with primary myelofibrosis (PMF) or post-polycythemia (post-PV) myelofibrosis or post-essential thrombocytosis (post-ET) myelofibrosis were included in this study. Survival was measured from first day of diagnosis to death from any cause or last known follow-up or direct communication to patient/relatives. Survival data were estimated using the Kaplan-Meier method. We compared the clinical characteristics and laboratory profile at diagnosis of these Filipino myelofibrosis patients to the Chinese as reported by Xu *et al.*, and White MF patients as reported by Cervantes *et al.* In the patients' data set, they seem to be younger with a median age of 57, less likely having constitutional symptoms but they have higher frequency of anemia, splenomegaly and leukocytosis. The heterogeneity of myelofibrosis' clinical and laboratory features were seen in this epidemiologic study on Filipino myelofibrosis patients in comparison with Chinese and White MF patients. The clinical course is a slowly progressive chronic disease with a median survival probability of 180 months. (**Authors' abstract**)

Keywords: *Myelofibrosis, Filipino, myeloproliferative neoplasms, Medicine*

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Clinical Profile of Filipino Female Patients with Gout Seen in Adult Rheumatology Clinics in the National Capital Region, Philippines *Hernandez, Ana Teresa , Tee, Kenneth , Salido, Evelyn*

Gouty arthritis is one of the most common arthritis in adults in the Philippines. It is more common in men, although also seen in post-menopausal women. Its characterization in the Filipino population will help in earlier recognition of the disease and administration of appropriate management. The study was conducted to describe the clinical characteristics of Filipino female patients with gout. The researchers reviewed the charts of female patients who were diagnosed with gout using the American College of Rheumatology (ACR) criteria. We collected data on the demographic and disease characteristics of these patients. The result showed that in cohort of 768 patients with gout, 8.82% were females. The mean age of onset was 60.25 years old, and the mean age at the initial consult was 63.68 years old. Only a few patients had a family history of gout and of drinking alcohol. Hypertension was a comorbid condition in 58.21% and there was more than one coexistent illness in 20.89%. The majority presented with a monoarthritis (67.16%). The most commonly involved joints were the ankle (59.7%), knee (41.79%), and the first

metatarsophalangeal joint (MTP, 37.3%). On the first visit at the rheumatology clinic, most patients (47.76%) reported less than three attacks of arthritis per year, and 14.92% had tophi. The mean serum uric acid was 8.53 mg/dL, mean serum creatinine was 1.55mg/L, and the mean eGFR was 42.45 mL/min. In clinical practice, gouty arthritis in Filipino females should not be confused with other inflammatory arthritides because its presentation is classic in the majority of patients. On consult at the rheumatology clinic, at least 15% of the patients already had complicated disease. Awareness of Filipino physicians of gout in postmenopausal females must be enhanced for proper recognition and management of this disease. (**Authors' abstract**)

Keywords: *gout, females, Philippines, Medicine*

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0232

Clinical, Surgical, and Histopathologic Outcomes of Filipino Patients who Underwent Adrenalectomy in a Tertiary Hospital in Cebu, Philippines

Tan, Ceryl Cindy Y. , Bilocura, Imelda L. , Brobo, Jr., Sar

Hormone-producing adrenal tumors, adrenal carcinomas and other adrenal diseases can be potentially cured with adrenalectomy. In the local setting, studies are often limited by a small sample size and inadequate patient data. This study aimed to determine the clinical and histopathologic characteristics and perioperative outcomes of patients who underwent adrenalectomy. This is a retrospective chart review study from January 2007 to June 2017 in a tertiary hospital in Cebu City, Philippines. Clinical profiles, type of surgery, and operative outcomes were determined. Comparative analysis of clinical profile, histopathologic features, and surgical outcome was done. Descriptive as well as appropriate inferential statistical methods were used to analyze the data. A total of 31 patients who underwent adrenalectomy were included with the mean age of 45.7 [SD=17.1] years old and a 1:3 male to female distribution. The distribution of tumors was as follows: hormone-producing adrenal tumor (74.2%), malignant adrenal tumors (12.9%), and other benign lesions (12.9%). Among patients with hormone-producing tumors, 39.1% had catecholamine excess, 34.8% had aldosterone excess, and 26.1% had cortisol excess. Hormone-producing adrenal tumors were common at age 20 to 40 years old while malignant tumors were more common among those above 40 years old (p-value=0.023). Stage 3 hypertension (p-value=0.010) and improvement of hypertension postoperatively (p-value=0.046) were more common among hormone-producing tumors. On the other hand, large tumor size (>4cm) (p-value=0.011), blood loss needing blood transfusion (p-value=0.001), prolonged operation (p-value=0.046), and longer hospital stay (p-value=0.002) were common among those with malignant tumors. Open adrenalectomy was associated with significant blood loss needing transfusion (p-value=0.001) and prolonged hospital stay (p-value=0.024). Hormone-producing adrenal tumors with secondary hypertension are the most common pathology among patients who underwent adrenalectomy. They are usually seen among patients less than 40 years old, with smaller tumor size, and frequently present with higher blood pressures that improve following adrenalectomy. In contrast, adrenal carcinomas are more common among patients above 40 years old and have larger tumor size. More often they have prolonged operation time, greater blood loss, and longer hospital stay. Patients who underwent open adrenalectomy had more blood loss and had a longer hospital stay than those who underwent laparoscopic surgery. (**Authors' abstract**)

Keywords: *hormone-producing adrenal tumors, functioning adrenal tumors, adrenal carcinoma, adrenalectomy, adrenal-dependent secondary hypertension, Medicine*

Clinical trial of pirbuterol aerosol in bronchospastic disease: an open study
Agbayani, Benigno F.

Twenty subjects with bronchospastic disease (bronchial asthma) underwent a clinical trial using pirbuterol aerosol spray 1-2 oral inhalation (0.2 or 0.4mg) following an initial pulmonary function test: forced expiratory volume for 1 sec (FEV1), forced vital capacity (FVC) and maximal mid-expiratory flow rate (MMFR). These test were repeated on regular intervals up to 3 hours. The first 2 test - FEV1 and FVC showed statistically significant efficacy but not with MMFR. However overall, a significant number of the subjects demonstrated statistically significant improvement, i.e. efficacy. The outstanding finding is that there qwere no complaints of untoward reactions.

Keywords: *Bronchospastic disease, Bronchial asthma, Pirbuterol aerosol spray, Forced expiratory volume, Forced vital capacity, Medicine*

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A Clinical Trial on the Safety and Efficacy of Oil of Bergamot 30% and Sun Exposure combination versus Sun Exposure alone in the Management of Residual Hypomelanosis of Pityriasis Versicolor

Lopez-Villafuerte, Lillian , Salonga, Ma. Eleanor Cathryn DR., Abad-Venida, Ma. Lu

This study compared the safety and efficacy of Oil of Bergamot with sun exposure, and that of sun exposure alone in the management of the resulting hypomelanosis of Pityriasis versicolor. There was indeed a difference in the melanin and erythema indices between the two treatments with results favoring the former in terms of improvement of the condition of interest.

Introduction: Pityriasis versicolor is a skin problem in a tropical country like the Philippines. It is characterized by pinkish to hypopigmented patches usually affecting trunk and extremities. The residual hypomelanosis of this condition is a common concern for most patients. There is no known treatment for it except to wait for its spontaneous resolution for a period of six months or more, a solution which is unacceptable for many. Oil of Bergamot is an extract from the plant *Citrus bergamia* containing the active ingredients of 5-methoxypsoralen and 8-genoxypsoralen, members of psoralen compound which is currently being used along with UVA (PUVA) for several dermatologic conditions such as Vitiligo and Progressive Macular Hypomelanosis. It is a photosensitizing and phototoxic agent which aids in the turning back of melanocytes in conditions characterized by reduced pigment cells.

Methods: This was a single-blind study among patients aged 11 to 65 years old diagnosed with Pityriasis versicolor clinically and through a confirmatory KOH examination. There were 28 patients that were included in the study with no dropouts. Patients were instructed to split their backs into halves, right and left, one side subjected to application of oil followed by 30-minute sun exposure while the other was solely subjected to sun exposure, with the assignment of treatment sides decided by a third party. The duration of treatment was four weeks with weekly determination of melanin and erythema indices via a mexameter.

Results: ANOVA of repeated measures was used to determine if there was a difference between the two treatment groups for both the dependent variables melanin and erythema. With a p value of <0.0001, the melanin and erythema significantly improved after the treatment of oil of bergamot and sun exposure.

Conclusion: The combination of Oil of bergamot and 30-minute sun exposure significantly increased the melanin and erythema levels of the hypomelanotic lesions brought about by Pityriasis versicolor as compared to sun exposure alone. Adverse reactions were limited and were of mild intensity demonstrating that a short contact with the oil is sufficient enough to produce the needed erythema but inadequate in yielding strong hypersensitivity reactions.
(Authors' abstract)

Keywords: *Hypomelanosis, Pityriasis versicolor, Oil of bergamot, Mexameter, melanin index, erythema index, Medicine*

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0235

Clinico-pathologic Profile and Clinical Outcomes of Patients with Indolent Lymphoma at the Cancer Institute of the Philippine General Hospital: A Seven-year Experience *Ngelangel, Corazon A. , Uy, Charles Vincent O. , Tindoc, John Anthony D. , dela Rosa, Pa*

Indolent lymphoma (IL) is a slowly growing lymphoma, generally refractory to conventional chemotherapy. There are several types of IL, which includes follicular lymphoma (FL), marginal zone lymphoma (MZL), small lymphocytic lymphoma (SLL), mantle cell lymphoma (MCL), and waldenstrom macroglobulinemia/ lymphoplasmacytic lymphoma (WM/LPL). Presently, there are no known data in the Philippines on IL. This study was done to determine the clinico-pathologic profile and outcomes of Filipino patients with IL. The study is a retrospective chart review of outpatient department cases of IL seen at the Philippine General Hospital-Cancer Institute from January 2009 to January 2016. The following were documented: age; gender; primary location; presence or absence of B symptoms; type of IL; Ann-arbor stage; prognostic indices for FL and MCL; and staging with bone marrow aspiration and whole body CT scan. Treatment intervention and clinical outcomes were documented.

This study showed that SLL was the most common IL. Most were elderly (>40 years old); male; lacked B symptoms; limited disease; and primary location at or near the orbital area. MCL were seen in all risk groups. Follicular lymphoma (FL) were mostly low risk and had grade one histology. Majority had disease control regardless of treatment intervention. Most patients with recurrence/progression after initial treatment had limited disease but were understaged. Most of the patients were not staged with bone marrow aspiration or whole body computed tomography. The results of this study are mostly consistent with known literature on IL. Absence of B symptoms and limited disease may indicate a low-grade histology. Observation was the most common option for asymptomatic patients. **(Authors' abstract)**

**COLOSTRUM POWDER SUPPLEMENTATION IN THE TREATMENT OF ACUTE
WATERY, NON BLOODY DIARRHEA IN CHILDREN 6 MONTHS TO 36 MONTHS
OF AGE WITH SOME SIGNS OF DEHYDRATION: A RANDOMIZED DOUBLE
BLIND PLACEBO CONTROLLED CLINICAL TRIAL**

Resurreccion, Michael M. , Badenas, Ermie

OBJECTIVE: To determine the efficacy and safety of colostrum powder supplementation among pediatric patients 6 months to 36 months old with acute watery, non-bloody diarrhea in a Pediatric Ward of a Tertiary Government Hospital

STUDY DESIGN: Randomized, double-blinded, placebo controlled clinical trial

SETTING: Pediatric Ward of a Tertiary Government Hospital

PARTICIPANTS: Eighty subjects 6 months to 36 months old with acute non-bloody diarrhea of six days duration or less, with some signs of dehydration based on WHO-CDD protocol

INTERVENTION: Subjects were randomized to either colostrum powder (Group A) or placebo (Group B)

OUTCOME MEASURES: Efficacy of colostrum powder as treatment to acute watery diarrhea was measured in terms of stool characteristics, frequency and volume and duration of hospital stay.

RESULTS: A total of 80 diarrheal cases 6 months to 36 months of age were enrolled to the study. The two groups were essentially similar in terms of age (P value 0.345) and sex (P value 0.135). Mean age was 12.8 months for Group A and 14.5 months for Group B. The character of the stool was described as either watery, semi-formed and formed stool. The stools significantly differ in the two groups by day 3, 62% of subjects in Group A showed formed stools and 16% in Group B (P value – 0.00003). The volume of the stools was significantly higher in Group B than in Group A at all days of observation (P value 0.0001). Group A had lesser frequent stools on days 1-3. The cumulative rate of discharged was higher in Group A than in Group B starting day 3. On day 5, 92% of patient in Group A was discharged while 69% on Group B. The length of hospital stay was 2.21 days in Group A and 3.21 days in Group B (P value 0.0001).

CONCLUSION: Colostrum powder supplementation in the management of acute diarrhea enabled majority of the subjects in this study to have earlier formed stools and reduce volume of stool, re-duce frequency of stooling, earlier discharge and shorter hospital stay. There was no adverse effect reported. **(Authors' abstract)**

Keywords: *colostrum, acute watery, non-bloody diarrhea, children, randomized controlled study, Medicine*

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0237

Commercially Bottled Purified Water as an Alternative Instrument Feed Water in Automated Time-Resolved Fluorescent Immunoassay for TSH, 17-OHP and IRT in Neonatal Screening

Rivera, John Michael , Villanueva, III, Emilio, Bumalay, Martin R

Objective. The study was undertaken to determine if commercially bottled purified water can be used as substitute instrument feed water for three (3) newborn screening immunoassays.

Methodology. A total of 294 control samples and 300 patient samples were included in this study. Accuracy and precision studies using control samples, and parallel testing using patient samples, were done to compare the use of clinical laboratory reagent water (CLRW) and commercially bottled purified water (CBPW) in the performance of automated time-resolved fluorescent immunoassay of thyroid stimulating hormone (TSH), 17 α -OH-progesterone (17-OHP) and immunoreactive trypsinogen (IRT).

Results. The use of CBPW as instrument feed water for measurements of TSH, 17-OHP and IRT levels by automated time-resolved fluorescent immunoassay using AutoDELFIA (Perkin-Elmer) in NBS has an acceptable accuracy and precision compared to using CLRW. The parallel testing using patient samples showed that, overall, the performance of using CBPW in automated time-resolved fluorescent immunoassay for TSH, 17-OHP, and IRT is acceptable, compared with using CLRW as instrument feed water.

Conclusion. Commercially bottled purified water can be used as substitute when setting up a laboratory water purification system is too expensive for a laboratory, or as back up to clinical laboratory reagent water when there is breakdown of the installed water purification system to be used as instrument feed water in automated time-resolved fluorescent immunoassay of TSH, 17-OHP and IRT in NBS using AutoDELFIA (Perkin-Elmer). **(Authors' abstract)**

Keywords: *fluorescent antibody technique, immunoassay, neonatal screening, clinical laboratory reagent water, Medicine*

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Comparative Study Between Fibrin Glue Prepared from a Single Human Donor and Sutures for Sealing Induced Corneal Penetrating Wounds on Porcine Eyes

Cua, Irwin , Regalado, Raymond Nelson , Macasaet, Anne

Objective: To determine the efficacy of fibrin glue derived from a single human donor for sealing induced penetrating corneal wounds on cadaveric porcine eyes compared to conventional suturing.

Methods: Forty (40) porcine eyes were randomized into two groups. In the experimental group, the corneal incisions were sealed using fibrin glue prepared from a single human donor. Eyes in the control group were sealed using two interrupted nylon 10-0 sutures. Baseline intraocular pressures were obtained and an anterior chamber maintainer connected to the Centurion Vision System was inserted through a side port. A 3 mm metal keratome was used to create a uniform, central, full-thickness straight incision in all eyes. After making the incision, the presence or absence of leakage was determined using Seidel's test. The eyes were then sealed according to the group they were randomized in. The intraocular pressure (IOP) was gradually increased using the Centurion Vision System to determine the leakage pressure of all sealed eyes in both groups.

Results: The mean baseline IOP was comparable between the two groups (control group = 21.15 ± 1.66 mmHg; experimental group = 21.65 ± 1.81 , p value = 0.299). All eyes in the control group, showed no leakage immediately after sealing the corneal wounds with sutures. One out of twenty eyes in the experimental group was positive for leakage after application of the fibrin glue (p value = 0.5). The mean leakage pressure was significantly higher for the suture group at 90.25 ± 14.9 mmHg compared to the fibrin glue group at 32.30 ± 7.6 mmHg (p value = <0.001).

Conclusion: Fibrin glue prepared from a single donor is comparable to two nylon 10-0 sutures in sealing 3 mm corneal penetrating wounds at IOP of up to 32 mmHg. For higher IOP, nylon 10-0 suture is more effective than fibrin glue in sealing the corneal penetrating wounds in cadaveric porcine eyes. (**Authors' abstract**)

Keywords: *Corneal lacerations,, corneal penetrating injury, corneal perforations, autologous fibrin glue, fibrin glue, tissue adhesives, Medicine*

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A Comparative Study of the Effect of Vildagliptin and Glimepiride on Glucose Variability in Type 2 Diabetic Patients with Inadequate Glycemic Control on Metformin

Litonjua, Augusto D. , Tolentino-Wilson, Ode

Vildagliptin is believed to improve glucose variability by restoring the physiologic pattern of insulin secretion and improving beta and alpha cells' sensitivity to glucose but with less increase in insulin secretion compared to sulfonylureas resulting in similar glucose levels but with less risk of hypoglycemia. The study was conducted to compare the effect of vildagliptin and glimepiride on glucose variability among Type 2 diabetic patients not controlled on metformin alone. This investigation is a prospective, interventional, open-labeled, active control, parallel

assignment, efficacy study that included patients with inadequate glycemic control on monotherapy with metformin, randomly assigned either to vildagliptin or glimepiride. For one month, one group took vildagliptin 50 mg/tablet one tablet twice a day while the other group took glimepiride 1 mg/tablet one tablet once a day. Subjects were asked to monitor their capillary blood glucose at seven points throughout the day for 35 days. A total of 18 patients were recruited for the study and randomly assigned to either of the two treatment arms. However, only 16 patients completed the study. The vildagliptin and glimepiride groups had comparable blood sugars at baseline and at the end of the study although the glimepiride group showed a steeper decline in the blood sugar levels. Subjects in both groups showed a downward trend in the blood glucose values from day one to the 35th day with comparable mean glucose values between treatments and across combinations of day and treatment. Likewise, mean postprandial incremental area under the curve (AUC_{pp}) and mean amplitude of glycemic excursions (MAGE) were comparable across treatments and across combinations of day and treatment, although the Glimepiride group showed relatively higher MAGE values. Vildagliptin and glimepiride both improved glycemia of patients with uncontrolled blood sugar on monotherapy with metformin as both groups showed downward glucose trend, although vildagliptin showed relatively less abrupt glucose lowering effect suggesting lesser risk of hypoglycemia. Mean postprandial glucose excursions of the two groups were also comparable but the vildagliptin arm had lower MAGE and may suggest an improvement in both β - and α -cell function. (Authors' abstract)

Keywords: *vildagliptin, glimepiride, glucose variability, diabetes mellitus type 2, MAGE, postprandial glucose excursion, Medicine*

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0240

Comparing Femtosecond Lenticule Extraction (FLE_x) and Femtosecond Laser In-situ Keratomileusis (LASIK) for Myopia and Astigmatism

Lim Bon Siong, Ruben , Saban-Roa, Tina Marie, Cua, Ir

Objective: To compare the efficacy, safety, predictability, stability, contrast sensitivity, and higher-order aberration (HOA) of patients who had femtosecond lenticule extraction (FLE_x) and femtosecond laser in-situ keratomileusis (LASIK) for the correction of moderate myopia and astigmatism.

Method: A retrospective review of charts was conducted at the Vision Laser Center of the St. Luke's Medical Center-Global City. All patients that underwent FLE_x from November 2011 to June 2012, with adequate follow-up, were included in the study. Age-matched and refraction-matched patients, who underwent femtosecond LASIK in the same review period, were chosen as comparators. Uncorrected visual acuity (UCVA), best spectacle-corrected visual acuity (BCVA), attempted refraction versus achieved refraction, contrast sensitivity, HOA, and adverse events were compared preoperatively and one-day, one-week, one-month, and three-month postoperatively in both groups.

Results: Twenty-six eyes of 13 patients who underwent FLE_x and 22 eyes of 11 patients who underwent femtoLASIK were included in the study. The preoperative mean spherical equivalent were -4.61 ± 1.17 D (range -2.50 D to -6.75 D) and -5.30 ± 1.14 D (range -2.63 to -6.88) for the FLE_x and the femto-LASIK groups respectively. At 1-day postoperatively, 12% and 100% achieved UCVA of 20/30 or better in the FLE_x and femto-LASIK groups respectively. At 3 months follow-up, 96% achieved UCVA of 20/32 or better in the FLE_x group and 3% lost >2 lines and 23% lost 1 line of BCVA. None in the femto-LASIK group lost any line of BCVA. Mean spherical equivalent after 3 months was $+0.06 \pm 0.21$ D in the FLE_x and -0.44 ± 0.35 D in the femto-LASIK groups ($p < 0.001$). HOA, analyzed as root

mean square (RMS), were similar preoperatively and postoperatively in both groups. Contrast sensitivity increased postoperatively in the lower spatial frequencies for both groups but were similar in the higher spatial frequencies. No adverse events were noted in either group.

Conclusion: FLEx was comparable to femtosecond LASIK in terms of visual outcomes in the treatment of moderate myopia and astigmatism. The FLEx group showed better accuracy and stability within the three-month follow-up period. However, delayed visual improvement and loss of BCVA were noted. (**Authors' abstract**)

Keywords: *Femtosecond lenticule extraction, femtosecond LASIK, myopia, astigmatism, Medicine*

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0241

A Comparison Between Dialysis Versus Conservative Management as Modes of Treatment in the Management of Elderly Patients with End Stage Renal Disease: A Systematic Review

Vega-Alava, Kristine Mae , Luz, Vimar A.

The number of elderly patients reaching endstage renal disease is increasing over time. This subset of patients and their families, as well as nephrologists and other physicians, have to make a difficult decision whether or not to start dialysis. Hence, evidences are needed to guide them in their decision-making for or against dialysis, especially in those patients affected by multiple comorbidities for which dialysis may not increase survival or may not improve the quality of life. Medline, PubMed, EMBASE and Cochrane Library were searched for records in English from the year 2004 to 2014 using the following terms: End-stage Renal Disease, Dialysis, Conservative Management and Elderly. Bibliographies of included articles were also reviewed. All studies identified during the database search were assessed for relevance to the review based on the information provided in the title and abstract. Full copies of the articles were retrieved for all the studies that met the inclusion criteria. Data from all the chosen articles were then carefully appraised to come up with a descriptive analysis. Seven studies were included in this systematic review. In studies on survival rates, it was found that dialysis prolongs survival in the elderly more than that of the conservative management with a median survival of 39.5 months versus 18.9 months, respectively. However, it was observed that there is no significant difference in the survival rates between the two treatment modalities in patients who have multiple comorbid conditions. In terms of quality of life, there is no statistically significant difference between the two groups. However, patients who chose dialysis have lower satisfaction with life scale score and patients who opted for conservative management scored higher in terms of mental health and social functioning as compared to those who chose dialysis. Moreover, patients managed with conservative management have less hospitalization rates and they most likely die at home or in a hospice. Thus, while patients may live longer with dialysis, they can expect to spend a significant proportion of that time in a medical setting. Patients and their families differ at how they prioritize between prolonging life versus maximizing time at home and these preferences are important to elicit when discussing dialysis initiation. In conclusion, in patients 70 years and above with endstage renal disease, dialysis offers a higher survival rate over conservative management. However, the survival advantage of dialysis is substantially reduced by the number of comorbid conditions most especially ischemic heart disease. Furthermore, in this subset of patients, those who chose to maximize conservative management maintained quality of life comparable with those patients on long-term dialysis but with more hospital-free days and higher life satisfaction. These findings show that conservative management is a valid treatment option for selected patients. (**Authors' abstract**)

Keywords: *dialysis, conservative management, elderly, end-stage renal disease, Medicine*

Comparison Between the Wong Incision and Stromal Hydration of Corneal Incisions in Phacoemulsification

Lim Bon Siong, Ruben , Verzosa, Lee , Vicencio, Jay Marianito , Regalado, Raymond

Objective: To determine the efficacy of the Wong incision in providing wound seal compared to stromal wall hydration in clear cornea phacoemulsification in cadaveric porcine eyes.

Method: This was an in vitro comparative experimental study using ten porcine eyes. All eyes were randomly assigned to the stromal wall hydration (control) or the Wong incision group (experimental). A side port was made and the anterior chamber formed with viscoelastic device. The main incision was made 180 degrees away. In the experimental group, a Wong incision was made first anterior to the main incision. Phacoemulsification surgery with IOL insertion was simulated. The main incision was sealed by hydration. The anterior chamber (AC) was infused with balanced salt solution (BSS) through an AC maintainer and leakage of fluid from the main incision was assessed. Samples from the AC were taken before and after trypan blue drip and were sent for analysis by UV spectrophotometry. Trypan blue was dripped over the main incision and the whole eyeball was sent for histopathology.

Results: There was a significant increase in density from the pre-dye to the post-dye AC samples of the control (0.0052 to 0.0074, $p=0.01$) and the experimental groups (0.0076 to 0.0094, $p=0.02$), although the final samples showed an optical density comparable to pure BSS, indicating that there was no significant amount of trypan blue detected in both groups. On histology, trypan blue staining was not seen in the incision tracts of both groups. After infusing the AC with BSS, there was outward wound leakage in all eyes of the control group and none in the experimental group.

Conclusion: The Wong incision was as effective as the lateral stromal wall hydration in preventing fluid influx. Furthermore, the Wong incision showed a more stable wound seal against outward wound leakage in an in-vitro porcine model of clear corneal phacoemulsification. (**Authors' abstract**)

Keywords: *Wong incision, supraincisional hydration pocket, stromal hydration, clear corneal incision, phacoemulsification, wound leak, Medicine*

Comparison in the quality of vision and spherical aberration between spherical and aspheric intraocular lenses

Reyes, Karen B. , Caguioa, Jesse B. , Martinez, Gladness A. , Ang, Rob

Objective

This study compared the quality of vision and spherical aberration (SA) in eyes implanted with spherical and aspherical intraocular lenses (IOL).

Methods

Twenty-two patients (44 eyes) with bilateral cataracts were included in a prospective, comparative, randomized clinical study to receive either Alcon IQ aspheric or Natural IOL in either eye. Three-month postoperative evaluation included uncorrected (UCVA) and best-corrected visual acuity (BCVA), and contrast sensitivity under photopic and mesopic conditions.

Results

In the IQ group, UCVA was at least 20/20 in 45% and 20/40 in 85% of the eyes. High-contrast BCVA was at least 20/16 in 36%, 20/20 in 95%, and 20/40 in 100% of eyes. In the Natural group, UCVA was at least 20/20 in 35% and 20/40 in 95% of eyes. High-contrast BCVA was 20/16 in 40%, at least 20/20 in 95% and 20/25 in 100% of eyes. Mean spherical equivalent was $-0.15 \pm 0.6D$ in the IQ and $-0.25 \pm 0.6D$ in the Natural. The mean SA in the IQ was significantly lower than in the Natural ($0.15 \mu m$ vs. $0.49 \mu m$; $p < 0.001$). Mean total higher-order aberration was significantly lower in the IQ vs. the Natural ($0.58 \mu m$ vs. $0.75 \mu m$; $p = 0.03$). Contrast sensitivity under photopic and mesopic conditions did not show a significant difference between the groups.

Conclusion

UCVA, high-contrast BCVA, and contrast sensitivity at 3 months were comparable between eyes implanted with IQ and Natural IOL. Mean spherical and total higher-order aberrations were significantly lower in the IQ group. (Authors' abstract)

Keywords: *Intraocular lens, Cataract, Phacoemulsification, Spherical aberration, Higher-order aberration, Medicine*

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0244

Comparison of 20% autologous-serum eye drops with unpreserved hypromellose in the treatment of aqueous-teardeficient dry-eye disease

Lim-Bon-Siong, Ruben , Lo, Kristine T. , Hocson, III, Simpli

This study evaluated the effectiveness of 20% autologous-serum eye drops versus unpreserved hypromellose in the treatment of patients with aqueoustear-deficient dry-eye disease. Patients fulfilling entry criteria were randomized to either 8 weeks of 20% autologous serum eye drops or 8 weeks of unpreserved hypromellose eyedrops. Changes from baseline at 1, 2, 4, and 8-week values of corneal and conjunctival staining with fluorescein and lissamine green, tear-

break-up time (TBUT), Schirmer test (with anesthesia), and ocular-surface-disease index (OSDI) were measured. Statistical analyses were carried out using analysis of variance (ANOVA) and the Bonferroni-Holm adjustment. Thirty eyes (15 patients) in the autologous-serum group and 26 eyes (13 patients) in the unpreserved-hypromellose group completed the study. Corneal staining with lissamine green ($p=0.05$) and conjunctival staining with fluorescein ($p=0.04$) showed significant improvement in scores in the autologous-serum group compared to that of the unpreserved hypromellose group at 2 weeks. After 8 weeks of treatment, however, differences in staining scores, Schirmer test, and TBUT were not significant. The OSDI ($p=0.002$) showed significantly greater improvement in the autologous-serum group than in the unpreserved hypromellose group. **(Authors' abstract)**

Keywords: *Autologous-serum eye s, Unpreserved hypromellose, Aqueous-deficiency dry-eye disease, Ocular-surface staining, Ocular-surface-disease index, Medicine*

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0245

A Comparison of Distance Visual Acuity Testing using a Standard ETDRS Chart and a Tablet Device

Manzano, Almira A., Lagamayo, Michael Angelo N

Objective: To determine if the portable iPad 3rd generation device with an anti-glare screen protector and installed with the 2020 Duo FLEX visual acuity can be used as an alternative method of distance acuity testing and to compare it with a standard ETDRS visual acuity chart.

Methods: Healthy volunteers with or without spectacle correction were selected and underwent visual acuity testing with an iPad 3 device and a standard ETDRS chart. The iPad 3 was fitted with an anti-glare matte screen protector and installed with the 2020 Duo FLEX visual acuity chart. The subjects read the optotypes in the standard ETDRS chart and the iPad 3 at distances of 4 and 2 meters. Visual acuity results were computed and recorded as logMAR units. Mean differences between the 2 devices were compared using paired t-test.

Results: A total of 46 healthy subjects (92 eyes), mean age of 24 years, had mean logMAR scores at 4 meters of 0.165 and 0.093 for the ETDRS chart and iPad 3 respectively ($p<0.001$). The mean logMAR scores at 2 meters were -0.049 and -0.089 respectively ($p=0.016$).

Conclusion: Distance visual acuity testing using the iPad 3 device with high resolution screen equipped with antiglare screen protector was significantly different from the standard ETDRS chart. Before tablet devices can be used to test visual acuity clinically, they should be standardized and tested. **(Authors' abstract)**

Keywords: *visual acuity test, ETDRS chart, tablet device, Medicine*

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Comparison of Flap Thickness, Visual Outcomes, and Higher Order Aberrations in Eyes that Underwent LASIK Flap Creation using a Femtosecond Laser Versus a Mechanical Microkeratome

Ang, Robert Edward T. , Dela Cruz, Jr., Albert G. , Cruz, Emerson M. , Perez, Rache

Objective: To compare the predictability of flap thickness, visual and refractive outcomes, and higher order aberrations in eyes that underwent myopic LASIK using either a Technolas femtosecond laser or a Zyoptix XP mechanical microkeratome for flap creation.

Methods: The study involved a total of 44 eyes of 22 patients who underwent LASIK. Flap creation was randomized to using the Technolas femtosecond laser in one eye and Zyoptix XP microkeratome in the contralateral eye. Flap thickness was measured intraoperatively using ultrasonic pachymetry and postoperatively using the Visante ASOCT. Refractive outcome, visual acuity (VA), higher order aberrations, and contrast sensitivity were compared between the two groups.

Results: Twenty-two patients had LASIK for myopia or myopic astigmatism. Using ultrasonic pachymetry intraoperatively, the mean flap thickness was 134 (± 10) μm and 124 (± 23) μm in the femtosecond (FS) and microkeratome (MK) groups respectively. Comparing the deviation of the actual from the intended flap thickness, the FS group had statistically lower standard deviation compared to the MK group ($p=0.04$). Using the AS-OCT, the mean flap thickness at 3 months postoperatively was 119 (± 10.82) μm and 123 (± 15.77) μm in the FS and MK groups respectively. The difference in standard deviation between the two groups did not reach statistical significance ($p=0.19$). The mean spherical equivalent at 3 months was -0.45D (± 0.42) and -0.13D (± 0.16) respectively. Eighty-nine percent (89%) of eyes had uncorrected VA of 20/20 or better in both groups. All eyes attained best corrected VA of 20/20 or better in both groups. Differences in total higher order aberrations ($p=0.09$) and contrast sensitivity scores ($p=0.47$) were not statistically different between the two groups.

Conclusion: Flap thickness predictability was better using the Technolas femtosecond laser compared to the XP microkeratome blade. Visual and refractive outcomes, higher order aberrations, and contrast sensitivity were comparable between the 2 groups. (**Authors' abstract**)

Keywords: *flap thickness, LASIK, femtosecond laser, microkeratome, excimer laser, Medicine*

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Comparison of Osteoporosis Risk Factors Among Patients with and without Diabetes Mellitus Admitted for Fragility Fractures at Makati Medical Center from 2015 to 2017

Cabral, Monica Therese , Narvacan-Montano, Carolyn , Payumo, Edeli

Diabetes mellitus (DM) has been associated with increase in incidence of fracture irrespective of bone mineral density (BMD). There is a paucity of local studies on the relationship of DM, osteoporosis, and fracture. This study aimed to compare the osteoporosis risk factors of patients with and without DM admitted for fragility fracture. The study was a retrospective cross-sectional analysis of patients 40 years and above admitted for fragility fracture in Makati Medical Center from January 1, 2015 to December 31, 2017. A total of 132 (32%) patients with DM and 285 patients without DM (non-DM) was reviewed. Mean BMI of DM patients was significantly higher (25.16 kg/m²) compared to non-DM patients (23.27 kg/m²) (P=0.0003). Likewise, presence of comorbidity, specifically hypertension, was significantly higher among DM patients (79.55%) as compared to only 61.75% among non-DM patients (P=0.0003). There was no significant difference found between the two groups in terms of age, gender, proportion of multiple fractures, smoking status, alcohol use, history of fracture and average BMD. Fracture sites were the same for the two groups except in fracture involving finger/toe which was significantly higher in DM patients (P=0.0113). Association between BMI and BMD among DM patients indicate a positive linear relationship (Pearson r of 0.4262) where a higher BMI will likely result to a higher BMD. (P=0.0237). The correlation of HbA1C of DM group patients was noted to have a negative linear relationship with BMD with Pearson r=0.4126 (P= 0.0451). Among patients admitted for fragility fracture in Makati Medical Center from 2015 to 2017, clinical profile were similar whether in the DM group or non-DM group except for an increase mean BMI and presence of comorbidity among the DM group. There is also a significant difference in the fracture site according to BMI among both groups. A higher BMI was associated with higher BMD only in patients with DM. Poor glycemic control was associated with lower BMD. (**Authors' abstract**)

Keywords: *diabetes mellitus, osteoporosis, Medicine*

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0248

Comparison of outcomes of trabeculectomies using 0.4 mg/ml versus 0.2 mg/ml concentrations of mitomycin-C

Aquino, Mario V., Lat-Luna, Ma. Margarita L., Flores, John Vincent Policarpio

This study compared the outcomes of trabeculectomies using 0.2 mg/ml and 0.4 mg/ml mitomycin-C (MMC) and determined the factors that can predict the postoperative intraocular pressure (IOP). A prospective, randomized, comparative study was performed involving patients undergoing trabeculectomy who were randomly assigned to either 0.2 mg/ml MMC for 4 minutes or 0.4 mg/ml for 2 minutes. The IOP, bleb characteristics, and occurrence of complications were compared. Age and gender of the patients, preoperative IOP, MMC concentration, bleb characteristics, angle status, and age of the surgery were analyzed to determine if they are predictive factors of the postoperative IOP using univariate and multivariate analyses. Seventy-four eyes of 68 patients underwent trabeculectomy: 36 eyes were treated with 0.2 mg/ml MMC for 4 minutes and 38 eyes with 0.4 mg/ml MMC for 2 minutes. There was no statistically significant difference in the mean preoperative IOP and postoperative IOP, as well as in the mean percent change in IOP ($p = 0.87$) between the 2 groups. Univariate and multivariate analyses showed the preoperative IOP ($p = 0.02$) and the type of filtering bleb (cystic $p < 0.001$; diffuse $p = 0.045$) as predictive factors of postoperative IOP. KaplanMeier survival curves showed no significant difference between the 2 groups at an average follow-up of 20 weeks. There was no significant difference in the outcomes of trabeculectomies using 0.2 mg/ml and 0.4 mg/ml MMC. Preoperative IOP and bleb characteristics are factors predictive of successful filtration surgery. (**Authors' abstract**)

Keywords: *Trabeculectomy, Mitomycin-C, Intraocular pressure, Filtering bleb, Medicine*

Comparison of preoperative anti-infective preparations for extracapsular lens extraction

Uy, Harvey S., Rodriguez, Roslyn D. , Dy-Liacco, Jacinto

The study investigated the effect of three preoperative anti-infective regimens on the sterility of anterior-chamber aspirates (ACA) in eyes undergoing extracapsular cataract extraction (ECCE). Ninety eyes scheduled to undergo ECCE were randomly assigned to receive one of the following preoperative anti-infective regimens: Group 1 (Control) – no additional preoperative preparation; Group 2 (Eye drop) – neomycin/polymixin B/gramicidin eye drops applied 3 times daily for 3 days prior to surgery; and Group 3 (Lid scrub) – neomycin/polymixin B/ bacitracin ointment lid scrub applied 3 times prior to surgery. ACAs were obtained from all eyes at the conclusion of surgery and cultured. The patients were followed up for 3 months after the surgery. Positive cultures developed from ACAs in 5 (16.6%) of 30 eyes from Group 1, in 0 of 30 from Group 2, and in 3 (10%) of 30 from Group 3. No eye developed endophthalmitis. Compared with the control group, preoperative neomycin/polymixin B/gramicidin eye drops significantly reduced the ACA contamination rate ($p = 0.03$). Preoperative neomycin/polymixin B/bacitracin eyedrops can improve the sterility of the anterior chamber during ECCE. (**Authors' abstract**)

Keywords: *Extracapsular lens extraction, Cataract, Endophthalmitis, Neomycin, Polymixin, Gramicidin, Bacitracin, Medicine*

Comparison of Retinal Nerve Fiber Layer Thickness in Elderly Diabetic Patients with and without Peripheral Neuropathy

BuÃ±o, II, Bonifacio, Santiago, Da

Objectives: The primary goal of this study was to determine the relationship between diabetic peripheral neuropathy and retinal nerve fiber layer (RNFL) thickness among elderly Filipinos with type 2 diabetes mellitus.

Methodology: This was a cross-sectional study involving 106 subjects aged 60 years or older with type 2 diabetes mellitus recruited from the General Medicine and Diabetes Clinics of a tertiary government hospital. The diagnosis of peripheral neuropathy was made by performing a 10-gram monofilament test. Peripapillary retinal nerve fiber layer thickness was measured using the optic disc cube 200 x 200 protocol of the Cirrus® HD-OCT. T-test was used to compare RNFL thickness in those with and without peripheral neuropathy. The effects of age, sex, duration of diabetes, presence or absence of peripheral neuropathy, and retinopathy status on global and quadrantal RNFL thickness was assessed using multivariate analysis.

Results: Compared to subjects without peripheral neuropathy, significant thinning of the superior ($P=0.011$), inferior ($P=0.004$), and global ($P=0.008$) RNFL thickness were observed in subjects with peripheral neuropathy. There were no significant differences in RNFL thickness in the temporal ($P=0.211$) and nasal ($P=0.263$) quadrants between the 2 groups. Multivariate regression analysis revealed that presence of peripheral neuropathy has a significant effect on their superior ($P=0.036$), inferior ($P=0.010$), and global ($P=0.024$) RNFL thickness. Other factors such as age, sex, duration of diabetes, and retinopathy had no effect on global and quadrantal RNFL thickness.

Conclusion: RNFL thinning in the superior, inferior, and global indices on optical coherence tomography has a significant correlation with diabetic peripheral neuropathy. (**Authors' abstract**)

Keywords: *Diabetic peripheral neuropathy, optical coherence tomography, retinal nerve fiber layer thinning, diabetes mellitus, retinopathy, Medicine*

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0251

Comparison of Small Incision Lenticule Extraction (SMILE) and Femtosecond Laser In-Situ Keratomileusis (F-LASIK) for the Correction of Myopia and Astigmatism: 1-Year Clinical Outcome

Villar, Winston , Cua, Irwin , Tuano, Bernardo Joaquin P. , Lim Bon Siong, Ruben , Roque, Ma

Objective: To compare the efficacy, refractive predictability, stability and safety of Small Incision Lenticule Extraction (SMILE) and Femtosecond Laser In-Situ Keratomileusis (F-LASIK) for the correction of myopia and astigmatism.

Method: This study was approved by the Institutional Review Committee of the St. Luke's Medical Center. A retrospective chart review was conducted at the Vision Laser Center of the St. Luke's Medical Center-Global City. All patients that underwent SMILE from January 2014 to July 2014, with adequate follow-up at 1 day, 1 week, 1 month, 3 months and 1 year, were included in the study. Age-matched and refraction-matched patients, who underwent F-LASIK from January 2012 to April 2014, were chosen as comparators. Uncorrected visual acuity (UCVA), best spectacle-corrected visual acuity (BSCVA), attempted refraction versus achieved refraction and adverse events at 1 day, 1 week, 1 month, 3 months and 1 year were compared postoperatively in both groups. Primary outcome measures were efficacy expressed as the percentage of eyes achieving UCVA of 20/25 or better during the postoperative follow-up, refractive predictability, safety and stability.

Results: Thirty-five eyes of 18 patients who underwent SMILE and 38 eyes of 19 patients who underwent FLASIK were included in the study. The mean preoperative spherical equivalent of both groups had no statistical difference, with -3.84 ± 1.31 D and -4.07 ± 1.39 D for SMILE and F-LASIK, respectively ($p=0.801$). At 1 week postoperatively, 51% and 97% achieved UCVA of 20/25 or better in the SMILE and F-LASIK groups. At 3 months, 97% had 20/25 vision or better for the SMILE group, while 100% had 20/25 vision or better for the F-LASIK group. At 1 year, both groups achieved 100% 20/25 or better vision. Three percent lost one line of BCVA in both groups at 1 year. Mean spherical equivalent (SE) between groups at 1 year showed no statistically significant difference ($p=0.21$), with 0.05 ± 0.18 D in the SMILE group and -0.1 ± 0.15 D in the F-LASIK group. No significant change in mean SE was observed

within groups from 1 day to 1 year post op, $p=0.166$ for SMILE and $p=0.226$ for F-LASIK. At 1 year, 100% of the SMILE and F-LASIK groups were within ± 0.5 D of target refraction. No adverse events were noted in either group.

Conclusion: SMILE was comparable to F-LASIK in terms of visual outcomes (efficacy, refractive predictability, stability) and safety for the treatment of myopia and astigmatism. However, a slight delay in visual improvement during the first week was observed in the SMILE group. **(Authors' abstract)**

Keywords: *small incision lenticule extraction, femtosecond LASIK, myopia, astigmatism, SMILE, ReLex, Medicine*

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0252

Comparison of Tensile Strength of Fibrin Glue, 2-Octyl Cyanoacrylate, Liquid Ocular Bandage, and Conventional Nylon 10-0 Sutures in Corneal Laceration Repair in an Animal Model

Abaño, Jessica Marie R. , Lerit, Sweet Jorl

Objective: To compare the tensile strength of fibrin glue, 2-octyl cyanoacrylate, and liquid ocular bandage to conventional nylon 10-0 sutures in sealing central linear corneal lacerations.

Methods: An experimental in-vitro study was performed on 74 porcine eyes. A 27-gauge needle connected to an infusion system with balanced salt solution was inserted into the anterior chamber and the bottle height was adjusted accordingly. Full-thickness central corneal lacerations were created using a 3.2 mm keratome knife for the initial incision and enlarged by a 5.2 mm knife. The wounds were sealed with fibrin glue (Tisseel®), 2-octyl cyanoacrylate (Dermabond®), liquid ocular bandage (OcuSeal™), and nylon 10-0 with 3 sutures. Tensile strength of the wounds was measured by recording the bottle height above the level of the porcine eyes before leakage was detected and this was converted to IOP values. One-way ANOVA and post hoc t-test were used to analyze the data.

Results: Mean maximum IOP where leakage was resisted for the nylon 10-0 suture group was 52.37 ± 7.16 mm Hg. The mean maximum resisted IOP for the fibrin glue, 2-octyl cyanoacrylate, and liquid ocular bandage was 46.34 ± 12.64 mm Hg, 55.13 ± 10.46 mm Hg, and 56.99 ± 8.27 mm Hg respectively. There was no significant difference between the sutures and all of the adhesives groups ($p=0.08$, $p=0.34$, and $p=0.08$) and between 2-octyl cyanoacrylate and liquid ocular bandage ($p=0.57$). 2-Octyl cyanoacrylate and liquid ocular bandage demonstrated higher mean IOP as compared to the fibrin group ($p = 0.024$ and $p = 0.007$).

Conclusion: Fibrin glue, 2-octyl cyanoacrylate, and liquid ocular bandage were shown to be effective in sealing 5.2 mm linear corneal lacerations, with 2-octyl cyanoacrylate and liquid ocular bandage being superior to the fibrin glue. **(Authors abstract)**

Keywords: *corneal laceration, tissue adhesives, tensile strength, 2-octyl cyanoacrylate, fibrin glue, liquid ocular bandage, Medicine*

A Comparison of the Causes of Eligible Legal Blindness in a Tertiary Government Hospital among Working Age Adults (15-64 years old) in 2008 and 2014

Mangondato-Aquino, Jubaida, Pacquing, Leo F

Objective: To report the causes of legal blindness in the Department of Health (DOH) Eye Center among working age group patients (16-64 years old) in 2014 and compare these figures to data from 2008.

Methods: Data were collected from the DOH Eye Center records section. The charts of new patients seen at the general ophthalmology clinic in the years 2008 and 2014 were reviewed individually. Patients between 15 and 64 years old with best-corrected visual acuity (BCVA) of 20/200 (6/60) or less in the better-seeing eye were included as subjects in the study. Patients who improved to better than 20/200 (6/60) with BCVA and any medical or surgical means were excluded from the study. Patients whose visual acuity could not be assessed for any reason or with reversible causes of blindness were also excluded from the study.

Results: The DOH Eye Center general ophthalmology clinic had a total of 8,941 registered patients aged 15 to 64 years old during the period January 1 to December 31, 2014. Diabetic retinopathy/maculopathy together with pathologic myopia formed the largest category of irreversible legal blindness (BCVA of 20/200 or less on the better seeing eye) with a total of 26 (18%) patients for each. Retinitis pigmentosa and macular dystrophy under the hereditary retinal disorders formed the second largest cause of legal blindness with 17 (12%) followed by glaucomatous optic neuropathy from all kinds with 15 (10%). Together, these four entities comprised more than 58% of all causes of blindness in the working age group. Optic atrophy, comprised mostly of ethambutol toxic optic neuropathies (ETON), was responsible for 14 (10%) followed by congenital disorders and corneal disorders of the eye with 7 (5%) for each. Other conditions comprised of disorders of the neural cortex; this formed 6 (4%) eligible causes of legal blindness. Uveitic causes and retinal detachment also contributed 6 (4%) each to the pool of eligible cases of legal blindness. Other conditions were endophthalmitis, central retinal artery occlusion and clinically significant macular edema which collectively contributed 6% to the pool. In comparison, the main causes of eligible legal blindness in the DOH Eye Center in 2008 were glaucoma, which accounted for 21% and was the single leading cause of blindness, followed by diabetic retinopathy (16%), retinal detachment 11%), pathologic myopia and optic atrophy (10%).

Conclusion: The leading causes of legal blindness in 2014 were shared between diabetic retinopathy/maculopathy and pathologic myopia. In 2008, the single leading cause of legal blindness was glaucoma from all kinds, but after 6 years, it was overtaken by diabetic retinopathy and maculopathy. The decrease in blindness caused by glaucoma may be related to increased promotion of awareness of blindness due to glaucoma. (**Authors' abstract**)

Keywords: *legal blindness, severe visual impairment, visual disability, disability claim, irreversible blindness, Medicine*

Comparison of the Different Pain Assessment Scales Used in Adult Patients Seen at the Philippine General Hospital Rheumatology OutPatient Clinic

Salido, Evelyn O. , Tee, Kenneth , Hernandez, Ana , Corpuz, Allan , Limgenco-Hipe, Juneth Ria R., Magbitang, Angeli

Valid and reliable assessment of pain is essential in the management of rheumatologic conditions. Standardized pain assessment scales have been developed and used in clinical trials, but remain underutilized in clinical practice. The study was done to evaluate the use of the different pain assessment scales: Numeric Rating Scale (NRS), Verbal Descriptive Scale (VDS), Visual Analog Scale (VAS) and Wong Baker Face Scale (FACES) among adult patients with musculoskeletal pain seen in the Rheumatology Out-Patient Clinic in a tertiary government hospital in Manila, Philippines. This is a cross sectional study of adult patients with symptoms of musculoskeletal pain seen in a rheumatology out-patient clinic. The patients answered the different pain assessment scales and ranked them according to ease of use and preference. The researchers checked for correlation of results of the different pain assessment scales using Spearman correlation. Ninety-four patients are included in this study. Eighty-one percent are females, with mean age of 52 (\pm SD 14.12) years old. Majority (73%) have low level of education. Forty-one percent have rheumatoid arthritis, 21% have osteoarthritis and 12% have gout. NRS is preferred and ranked easiest to use by 41.5% of patients. FACES is a close second; preferred by 39.4% and considered easy to use by 36.2% VAS ranks last on over-all preference and ease of use. On subgroup analysis, VDS was preferred by male patients while FACES was preferred by those with low educational status. The pain score obtained using NRS was significantly correlated with VDS, VAS, and FACES ($p < 0.005$). The NRS is a validated tool that is easy to use and preferred by patients. The FACES is a good alternative if the patient has difficulty with the NRS. The researchers recommended the use of these pain scales in clinical practice in the Philippines to standardize the assessment and monitoring of pain among patients with rheumatic conditions. (**Authors' abstract**)

Keywords: *pain assessment, rheumatology, scale, Medicine*

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Comparison of the In-Vitro Effects of Bevacizumab, Mitomycin-C, 5-Fluorouracil, and Triamcinolone Acetonide on the Viability of Cultured Human Tenon's Fibroblasts

Chao-Po, Polly , Martin, Andrei , Lat-Luna, Ma. Margarita , Tumbocon, Joseph Anthony , Ocampo, Pius

Objective: To evaluate and compare the effects of bevacizumab, mitomycin-C (MMC), 5-fluorouracil (5-FU), and triamcinolone acetonide (TA) on the viability of cultured human Tenon's capsule fibroblasts (cHTF) in vitro.

Methods: Human Tenon's fibroblasts (HTF) were harvested and cultured in a Roswell-Park-Memorial-Institute (RPMI) media. MMC, 5-FU, bevacizumab, and TA were administered to the cHTF at 3-fold decreasing concentrations starting from 20 ug, 5 mg, 25 mg, and 4 mg respectively. A negative control/untreated group containing RPMI media only was included in the study. Fibroblast cell viability was assessed using resazurin fluorimetric assay. Halfmaximal

inhibitory concentration (IC₅₀) was computed for agents which showed significant decrease in cHTF viability compared to the untreated group.

Results: There was no significant difference in cHTF viability between the untreated control group compared to 5-FU (p=0.97), bevacizumab (p=0.10), and TA (p=0.06) groups. Mitomycin-C showed a significant decrease in cHTF viability (p<0.001) which was dose dependent. The IC₅₀ of MMC was computed at 12.16 ug using the prism software.

Conclusion: Mitomycin-C demonstrated dose-dependent decrease in viability of cultured human Tenon's fibroblasts. 5-FU, bevacizumab, and triamcinolone did not show this effect. (**Authors' abstract**)

Keywords: *Mitomycin-C, 5-fluorouracil, Bevacizumab, Triamcinolone acetate, Fibroblast, Trabeculectomy, Medicine*

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0256

Comparison of the Rotational Stability of Different Toric Intraocular Lens Implants

Remo, Jocelyn Therese M. , Martinez, Gladness Henna A. , Ang, Robert Edward T. , Torio, K

Objective: To compare the rotational stability and cylinder reduction of different toric intraocular lenses (IOLs).

Method: This was a prospective, cross-sectional study of 68 eyes that had at least 0.75 diopters (D) of corneal astigmatism prior to cataract surgery and were at least 3 months post-toric IOL implantation (Envista, AcrySof, FineVision). Patients recruited underwent visual acuity testing, manifest refraction, pupil dilation, and toric IOL axis determination. Actual axis position was obtained and compared to the intended axis calculated from the toric IOL calculator. Any difference between the two was considered an axis deviation. Main outcome measures were postoperative deviation of the IOL axis from the intended axis, uncorrected distance visual acuity (UDVA), best corrected distance visual acuity (BCDVA), manifest refraction, and cylinder reduction.

Results: There was no significant difference in the rotational stability of the three different types of toric IOLs (p=0.95). Mean axis deviation for AcrySof, Envista, and FineVision were 2.43, 2.66, and 2.75 degrees, respectively. There was a significant decrease in the cylinder from preoperative to postoperative levels for all groups (p=0.00 for Envista, p=0.03 for AcrySof, and p=0.00 for FineVision). There were significant improvements in the mean UCVA and BCDVA after cataract surgery and implantation of toric IOLs for all three groups.

Conclusion: The three IOL platforms (AcrySof, Envista, and FineVision) showed good rotational stability and significant cylinder reduction. Visual and refractive outcomes improved after surgery. (**Authors' abstract**)

Keywords: *Astigmatism, Intraocular lens, Toric IOL, Refractive outcomes, Medicine*

Comparison of three-point and six-point diurnal intraocular-pressure curves

Lat-Luna, Ma. Margarita L., Guerrero, Paul I., Flores, John Vincent Policarpio

This study determined if three-point and six-point diurnal intraocular pressure (IOP) curves are comparable in terms of sensitivity, specificity, and accuracy in detecting swings in IOP measurements of 6 mm Hg or higher. This is a retrospective cross-sectional study of 214 glaucoma patients (428 eyes) who underwent six-point diurnal IOP testing. The investigators reviewed their records and generated two sets of data—one for six-point and another for three-point IOP measurements. Diurnal curves were constructed and compared for each set of measurements using univariate analysis of variance. There was no statistically significant difference ($p < .001$) between three-point and six-point IOP measurements in detecting IOP swings of 6 mmHg or higher. The three-point determination has a comparable sensitivity of 70.9%, specificity of 100%, and accuracy of 87.6%. However, there is a likelihood for the IOP change to be underestimated by 1.2 mm Hg in a three-point determination. The three-point determination (9 p.m., 1 p.m., and 5 p.m.) produces a diurnal curve similar to that of a six-point determination and can be used as a tool in detecting IOP swings in glaucoma patients. (**Authors' abstract**)

Keywords: *Intraocular pressure, Diurnal curve, Six-point determination, three-point determination, IOP swing, Medicine*

Comparison of Trabeculectomy with Mitomycin-C and Glaucoma Drainage Device Implantation in Glaucoma Management after Penetrating Keratoplasty

Agulto, Manuel B., Covar, Rainier, Agulto, Meliza Katr

Objective: To compare the intraocular pressure control of trabeculectomy with mitomycin-C (Trab MMC) versus glaucoma drainage device (GDD) implantation in glaucoma management after penetrating keratoplasty (PKP).

Methods: A review of medical records of patients who developed glaucoma after penetrating keratoplasty and underwent either trabeculectomy with mitomycin-C augmentation or glaucoma drainage device implantation between October 2006 to June 2012 at a tertiary referral eye center was done. The following information were obtained for each patient: age, gender, corneal diagnosis before keratoplasty, details of keratoplasty in terms of graft versus donor size, other simultaneous operations, visual acuity (VA), intraocular pressure (IOP), number of glaucoma medications before and after PKP, graft status before glaucoma treatment and at the final visit, type of glaucoma before treatment, and the glaucoma procedure performed and its complications if any. Three primary outcomes were evaluated: graft status, postoperative IOP, and VA. Controlled IOP with or without medications was defined as IOP greater than 6 but less than 20. Paired t-test determined the significant decrease in the mean IOP control and the number of medications

before and after keratoplasty. Single-factor analysis of variance (ANOVA) determined if there were significant differences in the mean between the two surgeries. Kaplan-Meier survival analysis compared the surgeries in their effects on graft clarity.

Results: Out of the 222 medical records reviewed, 23 patients met the inclusion criteria. Twelve (52.2%) eyes had clear grafts after glaucoma surgery; 8 (72.7%) in the Trab MMC and 4 (33.3%) in the GDD groups. Twenty-one (91.3%) eyes had controlled IOP; 9 (81.8%) had Trab MMC, 12 had GDD surgeries. There was no difference ($p = 0.07$) in percentage of patients with controlled IOP between the 2 groups. Mean IOP in the Trab MMC (32.6 ± 4.3 to 15.1 ± 4.0 , $p = 0.004$) and GDD (23.6 ± 4.6 to 12.5 ± 0.8 , $p = 0.04$) groups significantly decreased after the procedures. The decrease in mean IOP was not different ($p = 0.55$) between the 2 groups. The number of patients with controlled IOP increased significantly ($p = 0.02$) in the Trab MMC group. There were no differences in the mean number of glaucoma medications between both groups before ($p = 0.92$) and after ($p = 0.18$) glaucoma surgery. There was no difference ($p = 0.17$) in the survival distribution of controlled IOP between the 2 surgeries.

Conclusion: Trabeculectomy with mitomycin-C augmentation and glaucoma drainage device implantation are effective methods of controlling IOP post penetrating keratoplasty. There was no difference between the two groups in controlling the IOP and in reducing the number of glaucoma medication postoperatively. (**Authors' abstract**)

Keywords: *Glaucoma, Trabeculectomy, Glaucoma drainage device, Penetrating keratoplasty, Medicine*

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0259

Compliance with Guideline-Based Empiric Antimicrobial Therapy for Febrile Neutropenia in Adult Filipino Cancer Patients and their Effect on Outcomes

Umali, Jeanette J. , Mallen, Andrew I. , Ting, Frederic Ivan L., Santos, Faith

Febrile neutropenia (FN) is a common complication of immunocompromised patients – whether due to infection, cancer, drug-induced, or other bone marrow failure states. With the incidence of patients with immunocompromised states on the rise, this life threatening complication is also increasing. The importance of initiating the appropriate empiric antibiotic therapy can prove to be lifesaving, thus we examined how the initial choice of antibiotics influenced patient outcomes. This study aimed to determine the effect of adherence to guideline-based antimicrobial therapy for adult febrile neutropenia patients in terms of patient outcomes. This was a 10-year cross-sectional analytical study which was conducted at the Dr. Pablo O. Torre Memorial Hospital (DPOTMH) by doing a retrospective chart review involving adult patients with FN from 2007 to 2016. The researchers determined use of guideline-based antibiotics, examined the factors that influenced adherence, and investigated the effect of initial treatment on patient outcome. Among the 257 adult patients with FN included in the study, Infectious Diseases Society of America (IDSA) guideline-based antibiotics were administered to 65%. On multivariate analysis, the most powerful predictor of adherence to guideline-based antibiotics was the type of risk ($p=0.000$), with high risk patients thrice more likely to be given guideline-based antibiotics. Other predictors were physician specialty ($p=0.036$) and hematologic malignancy ($p=0.045$). This study showed that among low risk patients with FN, a trend towards patient discharge was observed (OR 1.18, CI=0.16–8.63). However overall, adherence to guideline-based empiric antibiotic in treating adult FN patients did not correlate to patient discharge ($p=0.134$, OR 0.557, 95% CI=0.260-1.205). The data suggested that adherence to guideline-based antibiotics in managing adult Filipino patients with febrile neutropenia does not correlate

to better outcomes such as patient discharge. Significant factors associated with adherence to guideline-based antibiotics were physician specialty, hematologic malignancy, and type of risk. (**Authors' abstract**)

Keywords: *guideline, antibiotic, febrile neutropenia, Filipino, cancer, patients, outcomes, Medicine*

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0260

Complications of Ultrasound-Guided Percutaneous Renal Biopsy at the National Kidney and Transplant Institute: A Radiologic Perspective

Morabe-Dy, Ma. Regina S. , Morabe, Ferdinand L. , Limchui, Jr., Luis V.

The study aimed to determine the incidence of complications associated with ultrasound-guided percutaneous native renal biopsies. It also aimed to determine the association between the occurrence of complications and the following factors, if present: age, sex, serum creatinine, platelet count, hemoglobin, hematocrit, prothrombin time, partial thromboplastin time, international normalized ratio (INR), history of hypertension or diabetes, pre-biopsy blood pressure, renal length, biopsy laterality, and number of needle passes. This was a retrospective multivariate analysis research done in a tertiary medical specialty center involving all patients aged 19 years and older who underwent ultrasound-guided percutaneous native kidney biopsy from July 2012 to June 2015. Data were gathered through a review of charts and electronic radiology and laboratory databases. Results showed that a total of 984 patients were included. Overall incidence of complications detected by routine post-biopsy ultrasound was 51.7%, with only 1.0% classified as major. Factors shown to have statistically significant association with the development of complications were female sex, higher systolic and diastolic blood pressure, longer partial thromboplastin time, and shorter renal length by ultrasound. Although there are no absolute contraindications to performing the procedure, and the decision to perform it rests on the clinician's judgment of whether the risks outweigh the benefits and on the patient's consent, following a nationwide protocol would help the clinician comprehensively assess whether the patient is a good candidate for the procedure, educate him or her on the potential complications, and address modifiable risk factors. (**Authors' abstract**)

Keywords: *ultrasound, renal biopsy, NKTI, percutaneous, Medicine*

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0261

Congenital Coronary Artery Anomaly in an Adult: Double Barrel Left Coronary System and Coronary Artery Fistula Connecting a Giant Left Circumflex Artery to the Coronary Sinus

Lee, Eduardo I. , Lasco, II, Jun Maximo F. , Peñaranda, Mary Miche

Coronary anomalies are rare congenital anatomic patterns affecting approximately one percent of the general population. Most of the cases may be asymptomatic and are never detected. Rarely, they result in severe life threatening consequences, thus, the diagnostic challenge is recognizing the abnormality early. Cardiac imaging modalities such as echocardiography, coronary computed tomography angiography (CTA), and coronary angiography can help us in the diagnosis. A 49-year-old female who initially presented with dyspnea and managed as rheumatic heart disease and hypertension. An echocardiogram finding prompted further investigation with coronary CTA and coronary angiography which identified the coronary artery anomalies. She was advised surgery but was unable to comply. Accordingly, medical management of her heart failure symptoms was pursued. She eventually succumbed to multiorgan failure as the complications of the fistula set in, three years after she had her initial presentation. The normal coronary anatomy consists of the the right and left coronary arteries that originate from the aorta. Patient has two coronary artery anomalies: one is the double barrel left coronary system - her left anterior descending artery and left circumflex artery (LCX) originate directly from the aorta instead of from the left coronary artery. Second, is the coronary artery fistula (CAF), with her LCX draining into the right atrium through the coronary sinus. CAFs tend to grow with age, and if untreated, can cause clinical symptoms in older patients. The consequences of the patient's abnormal connection may have caused volume overload to the right sided chambers resulting to heart failure. In adults with a congenital heart disease such as the CAF, it is recommended that if a continuous murmur is present, it should be defined either by echocardiography, magnetic resonance imaging, CTA, or cardiac catheterization. A high level of suspicion for a CAF as a cause of an adult patient's progressive heart failure can lead to timely diagnosis and optimal interventions. (**Authors' abstract**)

Keywords: *case report, coronary artery fistula, heart failure, echocardiography, coronary angiography, coronary computed tomography angiography, Medicine*

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0262

Congenitally Absent Right Coronary Artery with a Coronary Artery Fistula From the Left Anterior Descending Artery to the Main Pulmonary Artery: A Case Report

Hay, Eduardo Tin , Cuenza, Lu

Single coronary artery and coronary artery fistulas are unusual findings either alone or in combination. They may be incidental findings or can present with myocardial ischemia. A 46-year-old male had chest pain accompanied by heart failure symptoms. He sought consult in our institution where further workups revealed that he suffered an acute coronary syndrome. He underwent diagnostic coronary angiogram which showed significant coronary artery disease. There was also a single coronary artery with a coronary artery fistula. Patient was appraised regarding surgical revascularization and repair but did not consent. He was stabilized and improved on optimal anti ischemic therapy. Electrocardiogram revealed ST elevation myocardial infarction of the anterior wall. Two dimensional echocardiogram showed depressed systolic function with an ejection fraction of 48% and multisegmental wall motion abnormalities. Coronary angiogram revealed a 70-80% stenosis of the mid portion of the left anterior descending artery. There is a fistulous vessel draining to the main pulmonary artery. The left circumflex is super dominant with an 80-90% stenosis at its termination and supplying the right coronary circulation. The right coronary artery was absent. Coronary artery fistula in combination with a congenitally absent coronary artery is extremely rare. The presence of these abnormalities alone or in combination can exacerbate ischemia, complicate pre existing coronary artery disease and may cause ischemic cardiomyopathy. This case emphasizes the importance of integration of clinical as well as imaging modalities to diagnose this uncommon abnormality and in guiding clinicians for definitive management. (**Authors' abstract**)

Keywords: *congenitally absent right coronary artery, single coronary artery, coronary artery fistula, case report, Medicine*

The CONNECT Study: A Prospective Cohort on the Risks Associated with Early Contrast-Induced Nephropathy in Patients Undergoing Non-Coronary Contrast-Enhanced Computed Tomography

Marcia, Jose Protacio D. , Alag, Mark Louie C. , Roxas, Michael

Contrast-induced nephropathy (CIN) is the third most frequent source of hospital-acquired renal insufficiency. The investigation of factors and risks for CIN among patients who undergo noncoronary contrast procedures are less compared to coronary angiographic interventions. The aim of this study was to determine the rate and factors associated with the development of early CIN in patients who will undergo Contrast Enhanced Computed Tomography (CECT) for noncoronary procedures. This is a prospective cohort study that included all patients admitted at UST Hospital for CECT of organs including coronary angiography from October 1, 2012 to October 31, 2015 (three-year study). All subjects received standard prophylaxis as recommended. CIN is present if there is elevation in the serum creatinine ≥ 0.5 mg/dL (44 μ mol/L) or a 25% rise above baseline creatinine level that is present from 24 to 48 hours after the study. The cumulative incidence of CIN was at 2.0%, lower than other reported data. The diastolic blood pressure of the subjects who did not develop CIN were significantly higher than those who developed CIN (76.32 + 8.18 versus 67.50 + 5.00, mean difference = 8.82 + 4.15 mmHg, $p = 0.038$), such that a diastolic blood pressure of > 70 mmHg is associated with absence of CIN ($p = 0.049$). The development of CIN was not influenced by the procedure undertaken to study a particular organ nor the volume of contrast being used for the study. As expected, subjects with an estimated GFR of > 15 mL/min/1.73 m² did not develop CIN ($p=0.012$). The risk associated with early CIN in noncoronary CT scan procedures was minimal compared to interventions involving the coronaries. There was a significant association of diastolic blood pressure of > 70 mmHg and eGFR of ≥ 15 mL/min/1.73 m² with non-development of CIN. (**Authors' abstract**)

Keywords: *contrast-induced nephropathy, non-coronary contrast-enhanced CT scan, Medicine*

Contrast-Enhanced Spectral Mammography: A Radiologic-Pathologic Perspective of a Novel Functional Imaging Modality for Breast Cancer

Buenaflor, Ma. Theresa, Moria, Fran

Contrast-enhanced Spectral Mammography (CESM) is an emerging and promising functional imaging modality that tries to address the paucity of physiologic-based tumor imaging for the detection of breast cancer.

This article describes two cases of women with non-dense and dense breasts presenting with clinically palpable breast masses and the depiction of breast cancer utilizing Contrast-enhanced Spectral Mammography. (**Authors' abstract**)

Keywords: *Contrast-Enhanced Spectral Mammography (CESM), Digital Breast Tomosynthesis, Magnetic Resonance Imaging, Low energy, Subtracted Image, Full-Field Digital Mammography (FFDM), Medicine*

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0265

The Con-Triad Response in the Promotion of Healthcare from a Social Networking Site

Morales, Apple Grace O. , Rivero, Jenica Ana A. , Jayme, Jerolly L. , Hilo, Lady Valerie Mae V. , Galang, John Bervin S. , Ferrer, Kathreen Alexis C. , Ibarreta, Isabel Pa

The present study, which is anchored in the interesting but less investigated field of virtual health promotion, examined the concept of interactivity relative to two (2) intersecting actors and their corresponding activities at health promotion in a social networking site, namely (1) promoters or wall posts and (2) consumers or thread comments. This research made use of bibliometric analysis involving validation through covert nonparticipative observation of five thousand and twenty-five (5,025) thread comments from twenty-three (23) health-related SNS pages. Researchers performed and exhibited a resilient and adaptive procedure to assess the importance of SNS interaction. Results of the analysis aspired to supplement the previous gaps in the literature by advancing three (3) themes eidetic of the thread comments and interactions between the SNS site and the virtual participants, namely: (1) concern, (2) conflict and (3) concept, which was further referred to as the Con Triad Response in Healthcare Promotion. Like implied, the study communicates the need to understand SNS consumers' motivation for engaging in and adopting new communication technologies and the unseen potential of SNS in furthering public health awareness and related teaching. (**Author's abstract**)

Keywords: *Facebook, health promotion, social media, social networking sites, Medicine*

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0266

Coronary Embolism Causing ST Elevation Myocardial Infarction Complicated by Ventricular Septal Rupture

Apostol-Alday, Angela S. , Ganzon, Marie Simonette

Atherosclerosis is the most common etiology of myocardial infarction (MI), yet rarely, MI may be caused by an embolus to one of the epicardial arteries. A 66-year old female, with very few risk factors for coronary artery disease, presented clinically at Emergency Department with vomiting and ventricular fibrillation on cardiac monitor. After successful resuscitation, she was noted to have ST-elevation in the anterior and inferior walls of the heart. Cardiac catheterization showed total occlusion of the mid-left anterior descending artery with the rest of the coronary tree normal. Percutaneous coronary intervention was done however patient had no-reflow phenomenon, indicating that

perfusion to the affected myocardium was still compromised . Follow-up examination upon admission at the coronary care unit showed new onset grade 3/6 holosystolic murmur at the left sternal border. Her 2D echo showed abnormal color flow across the muscular ventricular septum, indicative of ventricular septal rupture. There was also note of calcifications in the aortic valve and calcified plaques along the walls of the aortic root, which were possibly the source of the coronary embolus. Serial monitoring of the ST elevation was then done and these showed resolution of the ST changes. Patient was also hemodynamically stable despite not undergoing intervention for the ventricular septal rupture because of financial constraints. She remained stable for the rest of her hospital stay and was eventually discharged and advised to consult with a cardiologist upon her return to her home country for definitive repair of ventricular septal rupture. Coronary artery embolism should always be a consideration for patients who developed myocardial infarction in the setting of an angiographically normal coronary arteries. (**Authors' abstract**)

Keywords: *coronary embolism, myocardial infarction, ventricular septal rupture, Medicine*

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0267

Correlating central corneal thickness and intraocular pressure in ocular hypertension and glaucoma

Lat-Luna, Ma. Margarita L. , Khu, Patricia M. , Soriano, Jonat

This study determined the relationship between central corneal thickness (CCT) and intraocular pressure (IOP) among patients with ocular hypertension (OHT) and glaucoma. Patients diagnosed with OHT and primary glaucoma were recruited from the Glaucoma Clinic of the University of the Philippines–Philippine General Hospital. All underwent a comprehensive eye exam including determination of CCT by ultrasonic pachymetry, measurement of IOP by Goldmann applanation tonometry, axial-length determination and anterior-chamberdepth measurement by biometry. Statistical analyses included chi square, Kruskal Wallis analysis of variance, Pearson correlation, and linear regression. A conversion factor for the corrected IOP was subsequently obtained. Eighty-three eyes of 47 patients were included. CCT was thickest among patients with OHT (588 μm), followed by primary open-angle glaucoma (538 μm), angle-closure glaucoma (531 μm), and normal-tension glaucoma (526 μm). A moderate positive correlation between CCT and IOP was seen among patients with OHT ($r = 0.55$, $p = 0.04$). An increase of 5.3 mm Hg per 100 μm increase in CCT was noted. Central corneal thickness among Filipino patients with OHT was thicker than those with glaucoma. A direct correlation was seen between CCT and IOP of these patients. (**Authors' abstract**)

Keywords: *Central corneal thickness (CCT), Glaucoma, Pachymetry, Goldmann applanation tonometry (GAT), Medicine*

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0268

Correlation Between Average Retinal Nerve Fiber Layer Thickness and Rim Area of the Spectral-Domain OCT with the Humphrey Visual Field Index in Eyes with Glaucoma

Atienza, Noel , Tumbocon, Joseph Anthony , Martin, And

Objective: To determine the correlation between the average retinal nerve fiber layer (RNFL) thickness and optic nerve head rim area (RA) measured with a spectral-domain optical coherence tomography (OCT) with the visual field index (VFI) using the Humphrey Visual Field Analyzer in glaucoma patients.

Methods: Eighty-five consecutive patients diagnosed with glaucoma underwent spectral-domain OCT of the optic disc and Humphrey perimetry. A glaucoma specialist confirmed the presence of glaucomatous optic neuropathy based on findings in the optic nerve head photographs, OCT measurements of the RNFL and optic disc, and standard automated perimetry. The correlation of the average RNFL thickness and rim area with the VFI was determined using the Spearman's correlation coefficient analysis.

Results: A total of 121 glaucomatous eyes of 85 patients were included in the study. There were 47 males and 38 females, ages ranging from 12 to 94 years. The average RNFL thickness, RA, and VFI were $67.9 \pm 12.3 \mu\text{m}$, $0.65 \pm 0.3 \text{ mm}^2$, and $56 \pm 32\%$, respectively. The average RNFL thickness ($r = 0.35$) showed a stronger positive correlation with VFI than RA ($r = 0.15$), but the difference was not statistically significant.

Conclusion: The average RNFL thickness and rim area of the spectral-domain OCT demonstrated a positive correlation with the VFI of the Humphrey Visual Field Analyzer. The OCT parameters, exemplified by average RNFL and RA, were not good indicators for VFI. (**Authors' abstract**)

Keywords: *Optical coherence tomography, Spectral-domain OCT, Cirrus OCT, Average peripapillary RNFL thickness, Rim area, Glaucoma, Visual field index, Medicine*

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NP

0269

Correlation Between Disease Activity, Functional Capacity, and Health-Related Quality of Life of Filipinos with Ankylosing Spondylitis

Penserga, Ester G. , Mangubat, Jill Henriett T. , Yu, Marc Greg

The study aimed to evaluate the relationships between disease activity, functional capacity, and health-related quality of life (HRQoL) in Filipino patients with Ankylosing Spondylitis (AS). Filipino AS patients gathered from the Rheumatology Clinic of the Philippine General Hospital (PGH) and from selected tertiary hospitals in Metro Manila who have been diagnosed via the Revised New York Criteria were included. Disease activity was measured using the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), while functional capacity and HRQoL were measured using the Bath Ankylosing Spondylitis Functional Index (BASFI) and Short Form (SF)-36, respectively. Pearson's correlation was used to analyze the relationship between BASDAI and BASFI, and between BASDAI and SF-36. Twenty-four patients entered the study. Mean age was 38.75 ± 12.7 years and mean age at diagnosis was 31 ± 12.29 years. Symptoms occurred for a mean of 9.0 ± 6.97 years with mean duration of symptom onset to diagnosis of 3.38 ± 5.14 years. Study subjects had mild to moderate disease activity. Functional capacity was most impaired in performing a full day's activities at home or at work. HRQoL was highest in vitality and lowest in emotional role,

with mental health components generally showing higher scores than physical health components. Pearson's correlation showed moderate positive correlation between BASDAI and BASFI ($r=0.6016$, $p=0.0012$) and moderate negative correlation between BASDAI and the physical health domain ($r=-0.6916$, $p=0.0001$) and mental health domain ($r=-0.3575$, $p=0.0863$) of SF-36. However, only the first two correlations were statistically significant. Filipino AS patients with higher disease activity have more functional disability and poorer physical HRQoL. (Authors' abstract)

Keywords: *ankylosing spondylitis, disease activity, functional capacity, quality of life, Medicine*

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0270

Correlation of Average RNFL Thickness Using the STRATUS OCT with the Perimetric Staging of Glaucoma

Tumbocon, Joseph Anthony , de Jesus Atienza, Noel , Martinez, Jose Ma. , Kaw, Sharah

Objective: To determine the correlation between average peripapillary retinal nerve fiber layer (RNFL) thickness measured with time domain optical coherence tomography (TD-OCT) in normal and glaucoma eyes.

Methods: This was a cross-sectional study of 281 eyes randomly selected from a previous study. Assessment of glaucomatous damage was done by glaucoma specialists who based their diagnosis on the visual field tests and optic disc photos, independent of OCT results. Eyes were classified into the following groups: normal, mild, moderate, or severe glaucoma. Severity of glaucoma was based on visual field abnormalities following a modified HodappAnderson-Parish criteria for staging. Average RNFL thickness of normal and glaucoma subgroups, as measured with STRATUS-OCT, were analyzed using single ANOVA test. Association between average RNFL thickness and severity of glaucomatous visual field loss was evaluated using the Pearson's correlation coefficient analysis.

Results: 183 eyes had no glaucoma; 27 had mild, 32 had moderate, and 39 had severe glaucoma. Mean average peripapillary RNFL thickness (μm) in the normal, mild, moderate, and severe glaucoma groups were $98.05(\pm 13.46)$, $76.27(\pm 11.79)$, $76.42(\pm 16.01)$, and $56.17(\pm 14.92)$ respectively. Significant differences were seen in the average RNFL thickness among the groups ($P<0.05$), except in eyes with mild to moderate glaucoma. A moderately strong correlation of -0.57 ($P<0.05$) was observed between average RNFL thickness and the stage of glaucoma.

Conclusion: TD-OCT showed moderately strong correlation between the average RNFL thickness and perimetric stages of glaucoma. Average RNFL thickness is a good parameter to discriminate normal from glaucoma eyes. (Authors' abstract)

Keywords: *Optical coherence tomography, Time-Domain OCT, Average peripapillary RNFL thickness, Glaucoma, Perimetry, Medicine*

The Correlation of Body Mass Index With Fasting C-peptide Levels of Newly Diagnosed Type 2 Diabetes Mellitus Filipino Patients

Quimpo, Joselynn A. , Dampil, Oliver Allan C. , Siy, Patr

Type 2 diabetes mellitus (DM) is one of the leading non-communicable causes of death in the Philippines with a prevalence of 5.4% and its pathogenesis includes insulin resistance correlated with excess weight and BMI. Asian-based studies have shown that serum C-peptide is strongly associated with newly diagnosed diabetes and has a linear increasing trend with BMI, hence, this study aimed to determine the correlation of body mass index (BMI) with fasting C-peptide levels in Filipino patients with newly diagnosed type 2 DM. Also, to determine the correlation of fasting C-peptide, markers of insulin secretion and sensitivity (Homeostasis Model Assessment of beta cell function and insulin resistance: HOMA-IR, HOMA-B) with other metabolic parameters in newly diagnosed diabetics: waist circumference, HbA1C, fasting blood sugar (FBS), lipid profile. This cross-sectional study included 35 treatment naïve, newly diagnosed type 2 DM Filipino patients evaluated with anthropometric measurements, fasting C-peptide, and other metabolic parameters. The correlations among fasting C-peptide, BMI, waist circumference, FBS, HbA1c, lipid profile, HOMA-IR, and HOMA-B were determined using Pearson correlation.

A significant positive relationship were observed between BMI and HOMA-IR($r=0.335$); C-peptide and waist circumference ($r=0.363$); C-peptide and HOMA-B($r=0.357$); HOMA-IR and C-peptide ($r=0.892$); HOMA-IR and waist circumference ($r=0.438$); HOMA-IR and triglycerides ($r=0.543$). HOMA-B was negatively correlated with FBS and HbA1C ($r=-0.771$, and $r=-0.641$, respectively). No correlation was seen between BMI and C-peptide ($p=0.61$). Body mass index (BMI) is not correlated with fasting C-peptide levels in newly diagnosed type 2 DM Filipino patients. The positive relationship between C-peptide, waist circumference, and HOMA-IR merits further evaluation with larger studies. (**Authors' abstract**)

Keywords: *c-peptide, type 2 diabetes mellitus, body mass index, insulin resistance, Medicine*

Correlation of central corneal thickness and Goldmann applanation tonometry among Filipinos

Flores, John Vincent Policarpio D. , Guerrero, Paul I. , Lat-Luna, Ma. Margar

The study was done to determine the distribution of central corneal thickness (CCT) among Filipinos and to correlate CCT with intraocular pressure (IOP). A prospective cross-sectional study was performed among Filipino patients consulting at the General Ophthalmology Clinic of the Philippine General Hospital. They underwent a comprehensive eye examination. CCT obtained by ultrasonic pachymetry and IOP by Goldmann applanation tonometry were

correlated using linear regression analysis. Factors affecting CCT measurements were analyzed by ANOVA. Two hundred twenty two eyes of 112 patients were included in the study. CCT ranged from 451.0 μm to 653.6 μm with a mean of 531.5 $\mu\text{m} \pm 33.8 \mu\text{m}$. There was a significant linear correlation between CCT and IOP ($r = 0.63$). The IOP was noted to rise by 4.3 mm Hg/100 μm CCT. The CCT among Filipinos is normally distributed and is comparable to the distribution obtained by metaanalysis of worldwide data. The study also found a direct correlation between CCT and IOP among Filipinos. (**Authors' abstract**)

Keywords: *Applanation tonometry, Central corneal thickness, Glaucoma, Intraocular pressure, Medicine*

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0273

Correlation of ocular ultrasonography with histopathologic findings in intraocular retinoblastoma

Ronquillo, Yasmyne C. , Mercado, Gary V. , de Jesus, Arnel A. , Valera, Eric G. , Espiritu, Ro

This study correlated the patterns of ocular B- and A-scans of intraocular retinoblastoma (RB) with corresponding histopathology sections. It aimed to establish a more objective basis for determining intraocular retinoblastoma by ultrasonography (UTZ) and to determine the degree of malignancy and viability of the tumor cells. New cases of retinoblastoma seen at the University of the Philippines– Philippine General Hospital (UP–PGH) from January 1994 to December 2003 were reviewed. Included were patients who underwent enucleation and whose eyeballs were processed at the UP Institute of Ophthalmology. Those with good quality ocular ultrasonographs (UTZ) and clear matching histopathologic sections were finally selected. Findings were correlated and analyzed. Retinoblastoma (RB) showed multiplicity of lesions on UTZ corresponding to multiple lesions on histopathology. The following characteristic patterns were seen: *Very malignant RB or pseudorosettes*: fine, grainy densities on B-scan with short to medium broad spikes on A-scan (“V-W” pattern). *Moderate differentiation with moderate necrosis and early calcific plaques*: fine, dense grainy opacities on B-scan with multiple thin, high spikes admixed with tall, broad spikes of calcium deposits on A-scan. *Well-differentiated RB with compact viable cells and no necrosis*: large, white densities on B-scan with an initial high spike and high internal reflectivity, sometimes “plateauing,” on A-scan with no calcific deposits. *Complete tumor necrosis with calcific plaques*: echolucent space with dense, white, plaque-like opacities on B-scan; flat or low spikes mixed with tall, broad spikes corresponding to calcium plaques on A-scan. (**Authors' abstract**)

Keywords: *Retinoblastoma, Histopathology, Ocular ultrasonography, Medicine*

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0274

Correlation of Percent Body Fat by Bioelectrical Impedance Analysis with Anthropometric and Metabolic Variables Among Adult Filipinos

Santos, Kevin Carl , Mirasol, Roberto C. , Ket

Bioelectrical impedance analysis (BIA) is a non-invasive method to assess percent body fat (PBF). PBF is the percentage of total body weight that is fat. In the Philippines, there are currently no local data for PBF measurement by BIA and their correlation with anthropometric and metabolic variables. The study was conducted to determine the correlation of PBF with other anthropometric (Body mass index (BMI), waist circumference (WC), waist-hip ratio (WHR) and metabolic variables (fasting blood sugar (FBS), total cholesterol, high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), triglycerides, systolic blood pressure (SBP), diastolic blood pressure (DBP)) among adult Filipinos. This is an analytical cross sectional study, which utilized records review of patients seen at weight management center, St.Luke's Medical Center–Quezon City from January 2013 to March 2014. The researchers included adult Filipino patients age 18-70 year old with BMI 16-34 kg/m² in this study. Subjects taking anti-hypertensive, oral hypoglycemic agents, insulin, or lipid-lowering medications were excluded. Pearson correlation coefficients were computed to determine the correlation of PBF with anthropometric and metabolic variables. 138 patients were included in the analysis. Only 98 patients had FBS and blood lipid examination. The mean PBF for women was 38.15±6.28% and men with 26.93±4.89%. PBF was significantly correlated with BMI,WC,and WHR for both sexes,with BMI having the strongest correlation ($r=0.902$ for men; $r=0.933$ for women). Among Filipino men, PBF had significant correlation only with SBP ($r=0.288$; $p=0.045$) and DBP ($r=0.511$; $p=0.000$). Among Filipino women, PBF had significant inverse correlation to HDL-C ($r=-0.321$; $p=0.013$) and positive correlation to SBP ($r=0.269$; $p=0.011$) and DBP ($r=0.275$; $p=0.009$). Using the multiple regression analysis, PBF had no significant contribution in explaining metabolic variables. PBF measured by BIA has a strong and significant correlation with BMI and WC. However, PBF has no significance in predicting the level of FBS, serum lipids, and BP. Other anthropometric measurements (BMI,WC,WHR) were more likely to be useful for predicting metabolic variables than PBF measurements by BIA among adult Filipino. (**Authors' abstract**)

Keywords: *Bioelectrical Impedance Analysis, Percent Body Fat, Metabolic variables, Medicine*

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 NP

0275

Correlation of Postprandial Lipemia with Postprandial Hyperglycemia and Poor Glycemic Control Among Patients with Type 2 Diabetes Mellitus

Mercado-Asis, Leilani B. , Mendoza, Erick S. , Castro-Caringal, Jean Abiga

Postprandial lipemia characterized by a rise in triglyceride-rich lipoproteins after eating, is associated with increased risk of cardiovascular disease. Among diabetic patients, postprandial lipemia is often overlooked once fasting lipid parameters are within target. The aim of the study was to determine the correlation of glycemic control and postprandial hyperglycemia with postprandial lipemia among patients with type 2 diabetes mellitus (DM). The result of the study may have important implications on how dyslipidemia should be completely addressed. A clinic-based retrospective chart review of 102 patients with recorded fasting and postprandial blood measurements was performed. Subjects included adult patients with type 2 DM whose fasting lipid parameters were controlled with diet and/or medications. Plasma glucose and glycosylated hemoglobin (HbA1C) were independent variables while triglyceride, total cholesterol, low density lipoprotein (LDL) and high density lipoprotein (HDL) were dependent variables. Pearson correlation was used to determine the strength of relationships among the variables mentioned. A p-value <0.05 was considered significant. Of the 102 patients, 52.9% and 47.1% were achieving their target HbA1C and two-hour postprandial plasma glucose, respectively. The postprandial level of plasma glucose, mean triglyceride, total cholesterol, LDL and HDL were 196.39 mg/dL, 189.06 mg/dL, 177.07 mg/dL, 122.40 mg/dL and 34.83 mg/dL, respectively. HbA1C has strong positive correlation with postprandial lipemia (Pearson's $r=0.40$) while the two-hour plasma glucose has moderate positive correlation (Pearson's $r=0.34$) with postprandial lipemia. Both relationships

were considered significant (p-value <0.05). A significant correlation of glycemic control and postprandial hyperglycemia with postprandial lipemia was observed. The data suggested that despite achievement of optimal fasting lipid parameters, poor control of diabetes is positively correlated with abnormal elevation of postprandial triglyceride. Addressing both postprandial hyperglycemia and lipemia may improve cardiovascular outcome. **(Authors' abstract)**

Keywords: *Postprandial lipemia , postprandial hyperglycemia, diabetes mellitus, Medicine*

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(Filipiniana Analytics)
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0276

Correlation of Serum Calcium and Phosphorus with the Degree of Coronary Artery Complexity in Patients with Chronic Kidney Disease

Acosta, Vida Rose Danie

Cardiovascular disease is the leading cause of mortality and morbidity among patients with chronic kidney disease. This is attributed not only to traditional, but also non-traditional risk factors, of which the altered calcium-phosphorus homeostasis is of interest in this study. A recently studied tool in evaluating the degree of coronary artery complexity in patients who have undergone coronary angiography is the Synergy Between PCI With Taxus and Cardiac Surgery (SYNTAX) score. This study aimed to determine if the serum calcium and phosphorus are correlated with the SYNTAX score in patients with CKD stages III, IV and V. This is a retrospective correlation study, which included 79 patients with CKD stages III, IV, V not on dialysis and on dialysis, who have undergone invasive coronary angiography at the National Kidney and Transplant Institute (NKTi) Catheterization Laboratory. The SYNTAX score was computed via an interactive web program with the help of an interventional cardiologist. This score was then correlated with serum calcium and phosphorus using Pearson's Correlation Test. Among the 79 subjects included in the study, 7.6% are at Stage III, 11.4% at Stage IV, 5.1% at Stage V but not yet on dialysis, and 75.9% are on dialysis. A statistically significant inverse correlation was noted between SYNTAX score and total EGFR (R coefficient -0.230, p-value 0.04). But when analyzed per stage of CKD, there was no statistically significant correlation. There were positive but weak correlations between the SYNTAX score and the serum calcium (R coefficient 0.135, p-value 0.231) and phosphorus values (R coefficient 0.044, p-value 0.696) but these were not statistically significant. Among CKD Stages III, IV, V and dialysis patients, there was a positive but weak and insignificant correlation between the SYNTAX score and the levels of calcium, and phosphorus. A robust and equal number of cases among the different stages of CKD have to be analyzed in order to generate statistically significant data with regards the correlation of declining kidney function and the SYNTAX score. **(Authors' abstract)**

Keywords: *SYNTAX score, Coronary artery complexity, Coronary angiography, Chronic kidney disease, EGFR, Medicine*

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(Filipiniana Analytics)
NP

0277

Correlation of structure and function in glaucoma

Luna, Ma. Margarita L. , Khu, Patricia M. , Rodriguez-Chan, Maria Joanna, Agulto, Manuel

Objective

This study assessed the relationship of two structural tests, optic-disc photography and optical coherence tomography (OCT), and a functional test, standard achromatic perimetry (SAP), in the diagnosis of glaucoma.

Methods

A retrospective review of charts from the database of a private glaucoma specialist and the glaucoma clinic of a tertiary hospital was done. The participants were longitudinally evaluated and had comprehensive eye examination, imaging, and functional testing. Optic-disc photographs, OCTs, and SAPs were interpreted and evaluated separately, and then correlated with each other by two glaucoma experts working individually. Sensitivities, specificities, and predictive values were obtained for each diagnostic test and in combination. Kappa statistics were used for interobserver agreement.

Results

Three hundred sixty-seven eyes of 188 patients were included in the study. Fifty-eight patients were diagnosed as normal, 130 had glaucoma. OCT had the highest sensitivity and specificity at 70.7% and 76.6%, followed by SAP at 72.4% and 53.5% respectively. Optic-disc photos had the lowest sensitivity and specificity at 55.8% and 54.4% respectively, and the lowest interobserver agreement ($\kappa = 0.50-0.61$). The predictive values of the 3 tests increased to 82% with good interobserver agreement ($\kappa = 0.68-0.78$) when correlated with each other.

Conclusion

The correlation of structural and functional tests increased the accuracy of diagnosing glaucoma. These examinations offered complementary information and, when used in conjunction with comprehensive clinical evaluation, guided the clinician in the proper management of patients with glaucoma. (**Authors' abstract**)

Keywords: *Glaucoma, Optic-nerve head, Glaucomatous optic neuropathy, Optic-disc photography, Optical coherence tomography, Standard achromatic perimetry, Visual field, Medicine*

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(Filipiniana Analytics)
NP

0278

Correlation of the in-training examination in ophthalmology with the written certifying examination of the Philippine Board of Ophthalmology

Castillo, Teresita R., Valbuena, Marissa

Objective

This study determined the correlation between the performance in the Philippine Board of Ophthalmology (PBO) written qualifying examinations and the Ophthalmology In-Training Proficiency Examinations (OPEX).

Methods

PBO written certifying examinations and the OPEX scores of residency graduates covering the years 2005 to 2010 and 2004 to 2009 respectively were retrieved for this study. ANOVA statistical test compared OPEX scores through residency (Y1, Y2, Y3, and Y4) and determined if the number of times the OPEX was taken reflected significant differences in the PBO scores of the different groups. Pearson's test determined the correlation between OPEX and PBO written examination scores.

Results

Of the 165 subjects included in the study, 5 took the OPEX four times during their residency, 87 thrice, 39 twice, and 34 once. Mean OPEX scores for the different levels of residency training was observed to be statistically different from each other ($p < 0.001$). Mean PBO scores improved with increase in the number of times that OPEX was taken during residency ($p < 0.001$). Significant positive correlation was observed between the PBO scores and OPEX scores for all year levels of residency, average OPEX scores and terminal OPEX scores ($r = 0.57$ to 0.73 , $p < 0.0001$) with the highest correlation noted between terminal OPEX and PBO scores. Based on the number of OPEX taken, significant correlation was strongest for the group with three OPEX taken ($r = 0.73$, $p < 0.001$).

Conclusions

There is a positive correlation between residents' performance in the OPEX to their future performance in the written certifying examinations of the PBO. (Authors' abstract)

Keywords: *In-training examination, Ophthalmology, Correlation, Written certifying examination, Education, Medicine*

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NP

0279

Cross-Cultural Adaptation and Reliability of a Filipino Dry Eye Screening Questionnaire *Roa-Lingad, Frances Marie DC., Lim Bon Siong, Ru*

Objective: The objectives of this study were to develop a cross-culturally adapted, Filipino version of the Ocular Surface Disease Index (OSDI) questionnaire and to assess its reliability.

Methods: A Filipino-adapted version of the OSDI was developed following guidelines for language-specific questionnaires: forward translation into Filipino by 2 independent bilingual translators, back-translation into English by a language institution, and a final forward translation to Filipino resolved by a review committee. To check for equivalence, the English and Filipino versions of the OSDI were pretested on 16 patients in a dry eye clinic. The Filipino version was then administered to 36 participants, and a Cronbach alpha coefficient for reliability of the overall instrument and the alpha that would result if each item were removed were computed. Finally, the questionnaire was then retested on 11 dry eye patients to see if the coefficient would increase.

Results: All reported no difficulty with the Filipino questionnaire, with 81.3% expressing preference in answering it. Most (81.3%) chose the same answer in at least half of the items in both languages, though the range of similar responses varied from 41.7% to 91.7%. Reliability testing of the Filipino questionnaire showed this to have fair internal consistency ($\alpha=0.5958$). The value increased to moderate internal consistency (0.7576) when 3 items were removed.

Conclusion: A culturally-adapted OSDI in Filipino was successfully produced and was the preferred tool by most patient participants. (**Authors' abstract**)

Keywords: *dry eye, dry eye syndrome, dry eye screening, Ocular Surface Disease Index, OSDI, Filipino questionnaire, Medicine*

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NP

0280

A Cross-Sectional Study on the Association of TSH Levels and Bone Mineral Densitometry of Postmenopausal Women at Makati Medical Center

de Guzman, Milldeanna, Cating-Cabral, Monica Therese, Ebison, Jr., Andres, Isip, Joie DJ

Thyroid stimulating hormone (TSH) acts on the thyroid gland to induce thyroid hormone synthesis and maintain trophic thyroid cell integrity. Earlier studies determined the role of thyroid hormones on bone metabolism, skeletal development and establishment of peak bone mass, but had conflicting results. This study aims to determine the association of TSH levels with bone mineral density (BMD) scores on healthy postmenopausal women. The researchers employed a cross-sectional study involving healthy postmenopausal women seen at the Makati Medical Center (MMC). Linear correlation of TSH and BMD scores was determined by Pearson correlation analysis. Odds ratio (OR) for osteoporosis and/or osteopenia in range-based categories of TSH was computed using binary logistic regression. TSH levels were found to have weak inverse correlation with lowest BMD scores, spine and femur (p-value 0.959, 0.491 and 0.715 respectively). OR for osteoporosis has no statistical significance for each rangebased categories of TSH. Women with TSH levels of 2.50-3.49 mU/l has lower OR (p value 0.032, OR 0.23, 95% CI) of having osteoporosis or osteopenia than in women in the reference category but was not significant after adjustment with other variables (p- value 0.107). There is no significant association between TSH levels and BMD scores amongst healthy postmenopausal woman. Odds of having osteoporosis and/or osteopenia have no statistical significant correlation with any given range of TSH levels. Age, amongst other variables, remained a significant factor in having osteoporosis and/or osteopenia. (**Authors' abstract**)

Keywords: *TSH, BMD, Postmenopausal women, osteoporosis, Medicine*

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0281

A Cross-Sectional Study on the Impact of Acne Vulgaris on the Quality of Life among High School Students in Pasig City, Philippines

Bernal, Vanessa Anne C., Sanchez, Elizabeth

Background: Acne vulgaris affects approximately 85% of people between 12 to 24 years of age. Although neither debilitating nor life threatening, it has a significant impact on the social, psychological, and emotional functioning of affected individuals.

Objective: To determine the association of age, gender and acne severity to health-related quality of life (QOL) among Filipino high school students

Methods: A cross sectional study was conducted among students in two high schools, one public and one private. Six regions in the face and trunk were assessed with Global Acne Grading Scale (GAGS) for acne severity. A validated Filipino version of Cardiff Acne Disability Index (CADI) questionnaire was self-administered by students to measure QOL. Logistic regression analysis was performed to determine predictors for QOL impairment. All data were processed using STATA 12.0.

Results: The 216 participants were 14 years old on average, with the two sexes being almost equal in proportions. Median GAGS score was 8 (range, 0-36), while median CADI score was 3 (range, 0-13). Increased age (OR, 1.438; $P = .033$) and grade level (OR, 1.652; $P = .017$) were associated with a more severe acne and greater impairment of QOL.

Conclusions: Among the factors investigated, only age was found to correlate significantly with QOL impairment. GAGS score and gender were not significant predictors. QOL evaluations in the clinics are necessary to better manage acne vulgaris in adolescents. **(Authors' abstract)**

Keywords: *acne vulgaris, quality of life, adolescence, Global Acne Grading Scale, Cardiff Acne Disability, Medicine*

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0282

Dedifferentiated Chordoma in a 53-year-old Female

Manasan, Criston Van, Carnate, Jr., J

Dedifferentiated Chordomas are rare variants of a malignant bone tumor arising from remnants of the embryonal notochord. Most cases are reported from chordomas that have recurred after surgical resection and/or radiation. Dedifferentiated Chordomas have an overall poorer prognosis compared with conventional chordomas due to their highly aggressive behavior and high metastatic potential. We report a case of a Dedifferentiated Chordoma from the sacrum in a 53-year-old female with no known prior surgery or radiation treatment. The associated clinical and radiologic features are discussed along with a review of the reported cases in the English literature. The diagnostic pitfalls and approach for Chordomas as well as the current and developing treatment modalities are also reviewed. **(Author's abstract)**

Keywords: *chordoma, dedifferentiated chordoma, bone tumor, bone malignancy, Medicine*

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2018 April,
(Filipiniana Analytics)
NP

0283

Dedifferentiated Liposarcoma Masquerading as Tuberculosis in a 25-year-old Female Patient

Montejo, Yvonne Bettina E. , Abasolo, Herlyn C.

A case of a 25-year-old female, who initially presented with right massive pleural effusion, treated as tuberculosis and who eventually with recurrence of pleural effusion and ascites, biopsy of the peritoneum was done revealing an undifferentiated malignant neoplasm of unknown origin, most likely liposarcoma. Patient initially presented with chronic cough and gradual onset of dyspnea. A chest radiographic finding of massive right pleural effusion led to her first admission. Succeeding admissions were due to abdominal distention, evident right breast mass and recurrence of pleural effusion. Patient was asthenic with decreased breath sounds on right lung field; firm and fixed mass on right breast; distended abdomen with ascites. Pleural and peritoneal AFB smear, culture and sensitivity; XPERT MTB/ RIF; Cytology, cell block and pleural biopsy; CT scan of the chest and whole abdomen; biopsy of right breast mass; biopsy of thickened peritoneum were done. The patient was diagnosed with multiple organ failure secondary to disseminated tuberculosis with secondary bacterial intraabdominal infection s/p CTT, paracentesis, incision biopsy of right breast mass and exploratory laparotomy, enterolysis and omental biopsy (pending result). From the initial presentation of pleural effusion, patient eventually succumbed to death after five months due to multi-organ failure. This is a clinically relevant disease since liposarcoma usually occurs in male adults with a median age of 50 years old and with the dedifferentiated type becoming extremely aggressive in the post-metastasis course as patient usually dies of systemic tumor dissemination at a median of five months after developing the first metastasis. Management of these tumors requires a multidisciplinary team approach. Early identification of such sarcoma will lead to timely and cost-effective management. Further studies and identification of other similar cases should be done to determine or support the use of radiation and chemotherapy. (**Authors' abstract**)

Keywords: *liposarcoma, tuberculosis, malignant neoplasm of unknown origin, Medicine*

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0284

Dehydrated human-amnioticmembrane allograft versus conjunctival autograft after pterygium excision

Lim-Bon-Siong, Ruben , Lo, Krist

The study compared the efficacy of dehydrated human-amniotic-membrane allograft with conjunctival autograft attached with fibrin glue following pterygium excision. Forty-two patients undergoing excision of primary pterygium were enrolled in this prospective, randomized, interventional, controlled trial. After excision of pterygium, a superior

bulbar conjunctival autograft was harvested and transferred onto bare sclera in 21 eyes, and dehydrated human-amnioticmembrane allograft (AmbioDry) in 21 eyes. Fibrin glue (Beriplast P) was used to attach the grafts in both groups. The patients were followed up for 3 months. All grafts in both groups were successfully attached. One patient in the conjunctival autograft group experienced graft dehiscence. Mean surgery time, postoperative pain, foreign-body sensation, and discomfort were not statistically different ($p=0.16$, $p=0.07$, $p=0.82$, and $p=0.31$ respectively). No recurrence was noted within the observation period. At day 1 postoperatively, mean tearingseverity scores of patients that received dehydrated amniotic-membrane allograft were statistically lower than those that received conjunctival autograft ($p = 0.024$). Cosmetic-grading results were statistically higher in the conjunctival autograft group at 3 months postoperatively ($p=0.003$). Dehydrated human-amniotic-membrane allograft attached with fibrin glue and anchored with nylon sutures is a safe and effective adjunct after excision of primary pterygium. It is comparable to conjunctival autograft in preventing early recurrence and can be considered as a primary grafting method after primary pterygium excision. However, conjunctival autograft has better cosmetic results than amniotic-membrane allograft. (**Authors' abstract**)

Keywords: *Pterygium, Conjunctival autograft, Amniotic-membrane transplantation, Fibrin glue, Medicine*

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2005 October to December,
(Filipiniana Analytics)
NP

0285

Delayed Emergence After Hepatic Cyst Aspiration and Sclerosis Under Intravenous Sedation

Alba, Willy S. , Lim, Lucille L. , Siao, Stephanie O., Wong, Step

Prolonged recovery from anesthesia is a cause of concern among anesthesiologists. Time to emerge from anesthesia is multifactorial and associated with patient factors, anesthetic ad-ministered and the type and duration of procedure or surgery. In this case, dexmedetomidine drip with local infiltration of lidocaine was used to afford a cooperative sedation for hepatic cyst aspiration and sclerosis with ethanol. On handover to the post anesthesia care unit, the patient was found to be asleep and barely responsive to any stimulus. Analysis of factors that could have caused delayed emergence in this case pointed to ethanol intoxication as the most probable cause. Continuous attention in monitoring and support of the airway, breath-ing and circulation until the cause is ascertained remains the primary management. The im-portance of vigilance and continuous monitoring is highlighted. (**Author's abstract**)

Keywords: *delayed emergence, aspiration and sclerosis of hepatic cyst, dexmedetomidine, ethanol, Medicine*

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NP

0286

Demodex sp. infestation in anterior blepharitis, meibomian-gland dysfunction, and mixed blepharitis

de Venecia, III, Angelito Braulio, Lim Bon Siong, Ru

Objective

This study determined the incidence and density of *Demodex* species on the eyelashes of subjects with normal eyelids, anterior blepharitis (AB), meibomian-gland dysfunction (MGD), and mixed blepharitis (MB).

Methods

Consecutive patients diagnosed with AB, MGD, and MB were recruited, along with 50 normal individuals who served as controls. All underwent a standard eye exam. Data on demographics and ocular symptomatology were gathered. Digital photographs of the lid margins were taken. Lash sampling was done using the modified Coston procedure for epilating lashes. The collected lashes were checked for *Demodex* based on morphology and motility, and the total number of *Demodex* identified were tabulated for each eye. Patients with AB and MB had eyelid bacterial culture. Data were subjected to statistical analyses.

Results

A total of 167 patients with mean age of 53.7 years were included: 40% with MGD, 12% with AB, 19% with MB, and 30% normal. The overall incidence of *Demodex* infestation was 73%; 85% for MGD, 95% for AB, 97% for MB, and 34% for control group. The mean density count (MDC) was 13.63 for MB, 8.95 for AB, 4.08 for MGD, and 0.98 for the normal group. The incidence and density of *Demodex* infestation increased with age. Symptoms of irritation correlated with high MDC (>9 mites) ($p < 0.04$). Asymptomatic patients had low MDC (0 to 2 mites) ($p < 0.01$). Sixty-eight percent of patients with cylindrical dandruff ($p < 0.001$) and 36.1% with plugged meibomian glands ($p < 0.001$) had high MDC, while 82.7% with no eyelash findings had low MDC ($p < 0.001$).

Conclusion The incidence and density of *Demodex* infestation was highest among patients with AB and MGD. Lid irritation and presence of cylindrical dandruff were indicative of high density count. These should alert the clinician to treat concomitant *Demodex* infestation of the eyelashes. (**Authors' abstract**)

Keywords: *Demodex, Meibomian-gland dysfunction, Anterior blepharitis, Mixed blepharitis, Medicine*

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2011 January to June,
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NP

0287

Demographic and Clinical Profile of Patients who Underwent Refractive Surgery Screening

Canilao, Lilette Marie B. , Rivera, Mark Christian R. , Vizconde, Dennis C. , Camus, Erwin E. , Ang, Robert Edward T., Valencia, Niccolo Zandro

Objective: To describe the demographic and clinical profile of patients who underwent refractive surgery screening.

Method: Medical records of patients who sought consult for refractive surgery from January 2010 to December 2014 at a refractive center were reviewed and analyzed. The preoperative clinical conditions, optical characteristics of myopes and hyperopes, refractive screening tests, and causes for disqualification were determined.

Results: A total of 1215 patients who sought consult for refractive surgery had a mean age of 36.45 ± 11.60 years. Seven hundred ten (58.44%) were females and 860 (70.78%) were Filipinos. Nine hundred eighty eight (81%) were myopes. The mean manifest refractive spherical equivalent (MRSE) for myopic patients was $-4.41D \pm 2.98$ with mean uncorrected distance vision (UCDVA) of 20/400 (logMAR 1.26) and mean best-corrected distance vision (BCDVA) of 20/20 (logMAR 0.02). For hyperopic patients, the mean MRSE was $+1.33D \pm 3.76$ with mean UCDVA of 20/40 (logMAR 0.33) and mean BCDVA of 20/20 (logMAR 0.001). Reasons for disqualification from undergoing a refractive procedure included thin cornea (5.27%), irregular corneal topography (2.39%), steep cornea (0.78%), high refractive errors (0.41%), optic nerve (0.41%), and retina (0.25%) pathologies.

Conclusion: Patients who underwent screening for refractive surgery were young, mostly female, with myopic refractive errors. LASIK remained the most popular refractive surgery procedure. (**Authors' abstract**)

Keywords: *Refractive surgery, Screening, LASIK, Photorefractive keratectomy, Supracor, Phakic IOL, Medicine*

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NP

0288

Dengue Hemorrhagic Fever/Dengue Shock Syndrome in Hereditary Spherocytosis

Mancio, Pamela Rose L. , Bergantin, Maria Rhona G. , Delgado, John S. , Bautista, Maria Diana Aileen C., Caguioa, Priscilla

Dengue Hemorrhagic Fever/Dengue Shock Syndrome (DHF/DSS) occurs only in a small number of dengue fever (DF). This condition, when coupled with a form of congenital hemolytic anemia called Hereditary Spherocytosis (HS), will turn a relatively manageable case of DF into a complicated condition with very poor prognosis. Here the researchers reported a case of a 19-year-old male student from Manila who came in with fever, jaundice, and dengue warning signs. He was also diagnosed with HS. This compounding infection initiated a hemolytic crisis of his HS, causing severe bleeding and multiple organ failure on top of DHF/DSS. The progression of the disease started with bleeding, and later on with altered sensorium (encephalopathy), respiratory failure, and ultimately, demise. DHF/DSS together with HS may cause a hemolytic crisis. High RBC turnover and heightened erythroid marrow activity in HS makes a patient vulnerable to develop aplastic crisis due to dengue virus infection. Erythroid marrow failure may result in profound anemia, heart failure, hypoxia, cardiovascular collapse, and death. (**Authors' abstract**)

Keywords: *Dengue Hemorrhagic Fever/Dengue Shock Syndrome,, Hereditary Spherocytosis, Medicine*

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NP

0289

Depression and Anxiety in Adults with Congenital Heart Disease Using the Validated Filipino Version of the Hospital Anxiety and Depression Score (HADS-P)

Train, Christine Q. , Jara, Raul D. , Racaza, Geraldine Z. , Abrahan, IV, Lauro L. , Aherrera, Jaime Alfo

Congenital heart diseases (CHD) pose a major global concern due to its increasing survival trend in the adult stage; but data in the country is lacking. Despite improvement in management, formal assessment for anxiety and depression in patients with adult CHD is not routinely done. The Hospital Anxiety and Depression Scale (HADS) is a popular and simple self-administered instrument highly reliable for detecting states of anxiety and depression for use in medical practice. Identifying the prevalence of anxiety and depression through a simple screening tool that may lead to a proper psychiatric referral may help health-care providers consider the contribution of these components of the disease and identify additional points of holistic care for patients. The researcher aimed to determine the prevalence of anxiety and depression in adult CHD Filipino patients using the HADS-P questionnaire (validated Tagalog version of the HADS). They also aimed to determine association between depression & anxiety and disease characteristics. This is a cross-sectional study using nonprobability sampling of adult Filipinos with CHD in the Philippine General Hospital (UP-PGH). The HADS-P is a 14-item, self-administered rating scale with independent subscales for anxiety and depression (seven items each) was administered to both the study and control groups after securing consent. A cut-off score of > 8.0 points on either of the depression and anxiety subscale of the HADS was used to determine their respective prevalence. Logistic regression analysis was used to determine the association of clinical variables with anxiety or depression.

A total of 92 patients with CHD with a mean age of 33 years old were recruited. The prevalence of anxiety and depression was higher among those with CHD compared to local literature (61% and 34% respectively). Majority had an atrial septal defect, ventricular septal defect, and patent ductus arteriosus. On the basis of a HADS-P score of >8.0 per category, 56 patients had anxiety and 31 patients had depression. Simple logistic regression identified employment status, a higher NYFC, low distance six-minute walk test, uncorrected defects, and heart failure as predictors of anxiety; whereas lower educational achievement, higher functional class, right-to-left shunt or Eisenmenger physiology, low distance six-minute walk test, and heart failure were predictors of depression. Multiple logistic regression identified only employment status (ie. being unemployed) as a significant predictor of anxiety [OR 4.54, 95% CI 1.38 – 14.28, p 0.012]; while having a right-to-left shunt or Eisenmenger physiology was a significant predictor of depression [OR 6.44, 95% CI 1.82-22.76, p 0.004]. This cohort of adult Filipinos with CHD has higher HADS-P scores, suggestive of a higher prevalence of anxiety and depression compared to available data. Factors associated with anxiety and/or depression were related to their underlying CHD and sociodemographic profile. Screening for emotional disorders is of paramount importance to provide holistic care for this vulnerable population. Health care professionals should be alert for the possible need for psychological intervention for adult survivors of CHD, even among those that are seemingly emotionally well-adjusted. (**Authors' abstract**)

Keywords: *Congenital heart disease, HADS, depression, anxiety, Medicine*

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0290

Dermatitis Herpetiformis in a Young Filipino Male: A Case Report

Guevara, Jocelyn K. , Castañeda, Karla Phoebe B. , Dillera, Karl Paolo O., Orcasitas, Jessie F. , Guevara, Bryan Edgar K

Dermatitis herpetiformis (DH) is a rare autoimmune blistering disease characterized by pruritic papulovesicular eruptions. It can be differentiated from other vesiculobullous skin diseases by skin biopsy with direct immunofluorescence. DH is most often associated with gluten enteropathy (celiac disease) also an uncommon disease. The researchers reported a case of a 20-year-old male with a five-week history of multiple vesicles and bullae associated with fever and body malaise. Lesions were symmetrically found on the entire face, axillae, trunk, buttocks and lower extremities. Hematology revealed leukocytosis with neutrophilic predominance. Skin punch biopsy revealed subepidermal blister with neutrophilic predominance. A direct immunofluorescence (DIF) of the perilesional skin showed granular IgA staining at the tips of the dermal papillae, consistent of DH. The patient was started with cloxacillin and mupirocin ointment for the infected skin lesions. Dapsone 100 mg daily was started with significant improvement of lesions after seven days. Endoscopy was suggested to investigate for gluten enteropathy, however patient did not consent. The patient was advised on gluten-free diet (GFD). Complete resolution of lesions with post-inflammatory hypo- and hyperpigmented scarring were noted after nine weeks of dapsone therapy. Bullous skin lesions present as a great challenge to non-dermatologists, hence a thorough investigation was clearly of utmost importance in arriving at a diagnosis of DH in this case. Internists must be aware that skin lesions could provide clues of other internal diseases, such as in DH and gluten enteropathy. Treatment of DH can be as simple as diet modification and avoidance of gluten-containing food. (**Authors' abstract**)

Keywords: *Dermatitis Herpetiformis, Dermatology, Celiac Disease, Gluten Enteropathy, Dapsone, Medicine*

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NP

0291

A Descriptive Study on the Initial Management of Patients with Acute Coronary Syndrome in Emergency Rooms of Philippine Hospitals

Lelis, Marievi A. , Barrameda, Maria Celeste C. , Dorado, Egbert D. , Sinon, Joh

Morbidity and mortality from acute coronary syndrome (ACS) primarily depends on prompt evaluation and management of patients. Despite available recommendations on ACS management, there is limited data regarding Filipino physicians' knowledge and adherence with these guidelines in the emergency room (ER). The study was done to describe the initial management of ACS patients by Filipino physicians at the ER and to document their adherence with the 2007 American College of Cardiology/American Heart Association (ACC/AHA) ACS guidelines for the management of patients with unstable angina (UA) /non-ST-segment elevation myocardial infarction (NSTEMI) and STsegment elevation myocardial infarction (STEMI). This was an open-label, descriptive, multicenter, non-interventional study that enrolled patients ≥ 18 years of age, seen at the ER and suspected to have UA or MI with or without STsegment elevation. Patient demographics, medical history, physical and laboratory examinations, medications or interventions done at the ER and the specialty of physicians who provided the initial management were recorded. Adherence with the 2007 ACC/AHA ACS guidelines was also assessed. Data were summarized using descriptive statistics. A total of 1,398 eligible patients (mean age 61.58 ± 12.03 years) were included in the study. At least one cardiac enzyme test was requested in up to 93% of patients, with troponin I being the most common (72.53%). Upon diagnosis, 95.78% of patients were given antiplatelet therapy (16.95% clopidogrel alone, 15.31% aspirin alone and 1.07% other antiplatelet drugs), the majority (62.45%) of whom received aspirin+clopidogrel combination therapy. Moreover, 86.27% were given anticoagulant therapy (75.75% enoxaparin, 5.94% fondaparinux and 3.79% IV UFH). Ninety-eight percent of patients were subsequently admitted in the hospital, and 26.68% of patients were considered to undergo percutaneous coronary intervention (PCI). Majority of these patients were initially managed by ER physicians (52.22%). In conclusion, Filipino physicians at the ER provide an appropriate management strategy to individual ACS patients because their management adheres to the 2007 and the current ACC/AHA ACS guidelines. The outcome and impact of these strategies should be assessed to encourage more physicians to conform with available

recommendations. Moreover, a review of adherence of physicians to other disease management guidelines should be conducted to further improve care and outcomes in the ER. (**Authors' abstract**)

Keywords: *acute coronary syndrome, unstable angina, non-ST-segment elevation myocardial infarction, STsegment elevation myocardial infarction, Filipino, Medicine*

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(Filipiniana Analytics)
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0292

Determination of Nonalcoholic Fatty Liver Disease in Patients with Pre-Impaired Glucose Tolerance

Milo, Mario T. , Milo, Abigail M., Sollano, Jose D., Barredo, Katherine Jane G., Lopez, Amy A., Mendoza, Erick S., Mercado-Asis, Leilani B., Valdez, Valerie

Pre-impaired glucose tolerance (pre-IGT) or compensated hyperinsulinemia, is defined as normal glucose, and elevated insulin two hours after a 75-gram oral glucose load. It is characteristic of the early stages of diabetes mellitus (DM), where beta cells compensate for insulin resistance by increasing insulin secretion to maintain normoglycemia. With continuing beta cell failure, insulin secretion eventually fails, leading to the progression to diabetes. Nonalcoholic fatty liver disease (NAFLD), a common feature of insulin resistance, is found in 50-75% and 42-55% of DM and pre-diabetes patients. The researchers determined if NAFLD was present in patients with pre-IGT. A study on the determination of NAFLD – diagnosed by liver ultrasound in pre-IGT patients at a university hospital was conducted using descriptive statistics, Chi square test of independence, 2x2 Fischer Exact test, Z test of difference in proportion for statistical analysis with a p-value set at 0.05 α . IBM SPSS ver 21 was used as software.

The mean age of 22 patients was 29.95 years, with average BMI of 25.73 kg/m²; 77.3% were female. Average lipid panels were within optimal limits; kidney and liver functions were normal. The mean insulin level was 58.36 uIU/mL. NAFLD was identified in eight of the subjects. Although pre-IGT is a subclinical phase in the diabetes spectrum, 36% already have NAFLD. This prevalence was lower compared to diabetics and prediabetics, but higher compared to the general population. There was a noticeable trend of increasing insulin levels with increasing severity of fatty liver. (**Author's abstract**)

Keywords: *pre-IGT, compensatory hyperinsulinism, NAFLD, Medicine*

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NP

0293

The Development and Acceptability of a Board Game to Supplement Standard Diabetes Education at the University of Santo Tomas Hospital

Gomez, Maria Honolina S. , Paraiso-Galang, Cecilia Ang

Introduction: The potential efficacy of a board game in health education has been demonstrated. This study aims to develop a simple and useful diabetes education board game for adult Filipinos with T2DM that can supplement diabetes education.

Methods: This study used a mixed methods design involving a multistep process to develop and evaluate the board game. The initial phase involved the generation of

comprehensible illustrations. Diabetes experts including three endocrinologists, one diabetes education nurse, and one dietician and 20 patients evaluated each illustration incorporated into the game board patterned after snakes and ladders. Twenty adult patients were then recruited to play the board game. Each patient subsequently completed a survey regarding perception of the game's acceptability in terms of usability, replay appeal, and ability to reinforce knowledge.

Results: The illustrations' comprehensibility or mean correct response of participants to the illustrations was 75%. At least 50% of patients correctly identified each of the illustrations. Eighteen (56.25%) out of the 32 illustrations had a mean correct response of 75% or higher. The illustrations were perceived to depict their intended meaning (translucency). All illustrations had a median translucency score of five and

above in a scale of one to seven. The game had a high median rating for acceptability of five on a scale of one to five. All the participants agreed that they liked playing the game and would recommend the game to other patients with diabetes.

Conclusion: The developed adult diabetes board game – “Winning at Diabetes”, is a simple, useful and acceptable supplement to standard diabetes education. (**Authors' abstract**)

Keywords: *diabetes education, adults, diabetes mellitus type 2, board game, Medicine*

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(Filipiniana Analytics)
NP

0294

Development and Pilot Implementation of a Ladderized Biosafety Training Program in a Specialty Infectious Disease Hospital and Research Institute

Lupisan, Socorro , Tandoc, III, Amado , Olpindo, Randy , Casagan, Michelle , Padua, Abigail , Medina, Pl

Biosafety is the application of laboratory practices, use of safety equipment and implementation of procedures in laboratory facilities when working with potentially infectious microorganisms to protect not only the laboratory worker, but also the general public and the environment. Biosafety training specifically structured based on risk is vital to establish a safe working environment to reduce the risks of unintentional exposure and/or intentional release of infectious microorganisms. In 2016, a ladderized 3-step biosafety training program was established by the Research Institute for Tropical Medicine, a specialty infectious disease hospital and National Reference Laboratory in the Philippines. The training program includes 1) Biosafety 101, offered to all new RITM employees; 2) Applied Biosafety training, especially designed for laboratory personnel; and 3) Advanced Biosafety training, focused on developing Biosafety Officers and infectious disease outbreak responders. A 30% increase in awareness on biosafety has been achieved among participants of the first two steps of the program, with the third module to be implemented in 2017. (**Author's abstract**)

Keywords: biosafety, biosafety training program, biosecurity, Medicine

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NP

0295

Development and Validation of the Filipino Version of the Coronary Artery Disease Education Questionnaire Version 2 (FILIPINO CADE-Q II)

Ebba, Edgardo , Quito, Benjamin Jose , Magbag, Raphael , Ramirez, Joseph Michael , Albano, Bernard Benjamin , Cuenza, Lucky R., Bongosia, Leand

There is currently a lack of validated tools that measure knowledge level as an outcome of the educational component of cardiac rehabilitation programs in our local setting. The researchers aimed to culturally adapt and validate a questionnaire that was designed to assess patients' knowledge about coronary artery disease and participation in cardiac rehabilitation programs, the second version of the Coronary Artery Disease Education Questionnaire (CADE-Q II). Qualified translators did two independent translations of the questionnaire. After back translation, the questions were reviewed and modified by a committee of experts. The final Filipino version was tested in a pilot study. For psychometric validation the tool was administered to 109 patients enrolled in a cardiac rehabilitation program. Criterion validity was assessed with regards to differences in educational attainment and patient characteristics. Spearman rank was used to correlate patient's level of knowledge with number of sessions attended. Internal consistency was assessed by use of cronbach's alpha. The final version of the questionnaire had 30 questions arranged in five domains consisting of medical condition, risk factors, exercise, nutrition, and psychosocial risk. Patients who were college graduates had significantly higher mean scores than non college graduates. The number of cardiac rehab sessions attended had a weak but statistically significant correlation with knowledge. (spearman rho 0.35, $p=0.007$). The overall internal consistency of the questionnaire was good ($\alpha=0.75$). The CADE-Q II questionnaire cross culturally adapted in Filipino is a valid and reliable tool which can be used to assess Filipino patients' knowledge about their disease when participating in cardiac rehabilitation programs. (**Authors' abstract**)

Keywords: coronary artery disease, patient education, health knowledge, cardiac rehabilitation, Medicine

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NP

0296

Development of Framework for Clinical Nursing Research Jonathan D. Cura, RN, PhD1 Fellowship in the Philippines

Cura, Jonat

Fellowship programs serve as alternative means to bridge the gap between undergraduate education and nursing practice. The purpose of the study was to develop a framework for a Clinical Nursing Research (CNR) Fellowship Program in the Philippines. A sequential non-dominant mixed method design was used. It

comprised the following: identifying the competencies needed by clinical nurses in research and EBP; the training needs of clinical nurses in research and EBP; the core competencies, functional competencies and tasks of CNR fellows; and describing potential fellows' reactions and preferred ways of learning. Categorical analyses were done to analyze qualitative data. Descriptive statistics was used to analyze training needs and consensus agreement of experts. There were nine core competencies and 70 tasks of a CNR fellow that were distributed to the Beginner, Intermediate and Advanced Levels. Potential fellows prefer learning that is active, reflective, sequential, cooperative, guided by experts, personalized and involves use of technology. After learning the basics, they would need to learn more intensively on competencies that would help them become more capable of contributing to clinical practice.

The CNR Fellowship Program framework seemed to contain contextually-relevant

core competencies in clinical nursing research that are needed to augment basic nursing research education and to benefit clinical nursing practice. (**Authors' abstract**)

Keywords: *Evidence-Based Practice, Training Needs, Sequential Mixed-Method, CNR Fellow, Clinical Nursing Research Fellowship Program, Medicine*

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NP

0297

The Diabetes Camp Experience of Adolescents with Type 1 Diabetes *Florendo, Josef*

Diabetes (DM) camps were established as an intervention for children with Type 1 diabetes to promote self-care and coping with the rigors of its management. Previous studies found camps to be significant to children with chronic illness but needs continued exploration. Using phenomenology, this study aimed to contribute to the effort of determining the impact of DM camps on adolescents with Type 1 diabetes. Data was gathered from 7 purposively selected participants and 1 FGD. Analysis was done to deduce essence of the experience and 9 themes emerged from the accounts of the participants. This includes: missing home, camp acclimation, discovering control of diabetes, life changing experience, acceptance of having diabetes, boosting self-efficacy, developing camaraderie. I am like any other kid and camp as refuge. The themes describe the camp experience of adolescents with type 1 diabetes, its impact and recommendations for possible enhancement of camp programs. Learning about diabetes and its management were among the experiences gained. As adolescents they went through the course of discovering themselves, building relationships and attaining some sense of independence. (**Author's abstract**)

Keywords: *Diabetes camp, adolescent, Type 1 diabetes, camp experience, phenomenology, Medicine*

Philippine Journal of Nursing, Volume No. 85 Issue No. 1, 1-13
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(Filipiniana Analytics)
NP

Diagnosis of Gestational Diabetes Mellitus Using the International Association of the Diabetes and Pregnancy Study Groups Criteria and Adverse Pregnancy Outcomes Among a Cohort of Filipino Women: An Association Analysis

Cunanan, Elaine C. , de Luna, Krist

Locally, there is no unified set of diagnostic criteria for gestational diabetes mellitus (GDM) and this can lead to potential confusion on the part of the physician and the patient as well. Moreover, whether the adoption of the International Association of the Diabetes and Pregnancy Study Groups (IADPSG) threshold values for GDM diagnosis among Filipino women is appropriate is still unclear. This study served to give a clinically important insight whether utilizing the abovementioned diagnostic criteria is appropriate in the local setting or not. The study aims to determine the association of the threshold values set up by the IADPSG to diagnose GDM with adverse pregnancy outcomes among a cohort of Filipino women. A retrospective analysis of medical files of the women diagnosed with GDM using the IADPSG criteria from January 2013 to March 2016 was done. The results of seventyfive gram oral glucose tolerance test (75-g OGTT) were recorded. The association between each IADPSG threshold values (fasting blood glucose of ≥ 92 mg/dL, one-hour post glucose load of ≥ 180 mg/dL, two-hour post glucose load of ≥ 153 mg/dL) used to define GDM and maternal and perinatal outcomes were determined.

One hundred twenty women with GDM were included in the analysis. Each of IADPSG-defined cut-off values was not significantly associated with increased likelihood of having adverse maternal outcomes namely: hypertensive disorders of pregnancy, miscarriage, primary cesarean section, operative vaginal delivery, and maternal death. Similarly, the likelihood of perinatal outcomes namely: macrosomia, perinatal death, prematurity, birth injuries, congenital anomalies, neonatal hypoglycemia, jaundice, low APGAR score, acute respiratory distress syndrome, and infection were not significantly higher even if these cut-off values were met. Of note, high odds ratio was noted for neonatal hypoglycemia at FBS >92 mg/dL and <92 mg/dL and the low Apgar Score in first minute at >153 mg/dL and <153 mg/dL even though they were statistically not significant. In conclusion, the researchers did not find a statistically significant positive association between IADPSG threshold values and specified adverse maternal and perinatal outcomes. (**Authors' abstract**)

Keywords: *gestational diabetes mellitus, IADPSG criteria, 75-gram oral glucose tolerance test, adverse pregnancy outcomes, Medicine*

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2017 October to December,
(Filipiniana Analytics)
NP

Diagnostic Accuracy of Mean Platelet Volume in the Diagnosis of Acute Coronary Syndromes among Patients with Acute Chest Pain at the Emergency Room of Philippine Heart Center

Pineda, Minnie Jane , Abubakar, Al-

Introduction. Mean platelet volume (MPV), an index for platelet size, is believed to be associated with acute coronary syndromes (ACS). This study aims to establish the association of MPV and ACS in the local setting and to further evaluate the diagnostic accuracy of MPV in the detection of ACS.

Methodology. Adult patients presenting with chest pain seen at the ER were submitted for complete blood count (CBC). Specimens were processed for MPV and platelet count using Beckman-Coulter ACT 5Diff hematology auto-analyzer. Patients were grouped into ACS and non-ACS. Independent t-test was used for analysis. Diagnostic cut-off point was determined using Receiver Operating Characteristic (ROC) Curve.

Results. A total of 150 adult patients was examined for MPV and platelet counts. There was a significant difference of MPV between the two groups (p value <0.0001). The MPV of patients with ACS was increased at 8.3 fL compared to 7.3 fL in patients not diagnosed with ACS. At cut-off point of 8.4 fL, the positive predictive value and specificity for ACS were 100%, sensitivity of 43.6 and a negative predictive value of 46.2. The number of platelets was increased in non-ACS group.

Conclusion. The MPV of acute chest patients diagnosed with ACS was significantly higher compared to patients not diagnosed with ACS. Increased MPV at 8.4 fL was highly specific and predictive of ACS. However, the sensitivity and negative predictive value were low. The platelet count of non-ACS group was increased. **(Authors' abstract)**

Keywords: *Mean platelet volume, Acute coronary syndromes, Acute Chest Pain, Beckman-Coulter ACT 5Diff hematology auto-analyzer, Medicine*

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NP

0300

Diagnostic Accuracy of the Optical Coherence Tomography in Assessing Glaucoma Among Filipinos. Part 1: Categorical Outcomes Based on a Normative Database

Tumbocon, Joseph Anthony, de Jesus Atienza

Objective: To determine the accuracy of the optic nerve head (ONH) and retinal nerve fiber layer (RNFL) parameters using the Stratus OCT in diagnosing glaucoma among Filipino patients and to determine the validity of the OCT measurements compared with a reference standard.

Methods: Glaucoma suspects were recruited consecutively from patients undergoing diagnostic tests. The results of the Stratus OCT fast RNFL protocol were analyzed against the independent assessment by glaucoma experts who were blinded. Outcomes included RNFL thickness values of ≤ 5 percentile and ≤ 1 percentile of the normative database for each RNFL sector, quadrant, and for the average RNFL thickness. Estimates of diagnostic accuracy with 95% confidence intervals were calculated.

Results: A total of 119 subjects assessed as glaucoma and 397 subjects assessed as normal were included in the analysis. Using the best categorical criterion for abnormality (average RNFL thickness of ≤ 1 percentile of the normative database), the OCT had a specificity of 98% (95% CI 96 - 99) and a sensitivity of 37% (95% CI 28 - 46). The criterion with the highest sensitivity was the presence of at least one sector with thickness at ≤ 5 percentile.

Conclusion: The Stratus OCT demonstrated a specificity of 98% and a sensitivity of 37% for the diagnosis of glaucoma using as a criterion an average RNFL thickness of ≤ 1 percentile of the normative database. It was a poor screening test for glaucoma suspects, although it showed some promise as a confirmatory test. (**Authors' abstract**)

Keywords: *Glaucoma, Glaucoma suspects, Optical coherence tomography, Glaucoma imaging, Medicine*

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2012 January to June,
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NP

0301

Diagnostic Accuracy of the Optical Coherence Tomography in Assessing Glaucoma Among Filipinos. Part 2: Optic Nerve Head and Retinal Nerve Fiber Layer Parameters *de Jesus Atienza, Noel, Tumbocon, Joseph Anth*

Objective: To determine the accuracy of the optic nerve head (ONH) and retinal nerve fiber layer (RNFL) parameters using the Stratus OCT in the diagnosis of glaucoma and to determine the validity of these measurements.

Methods: Glaucoma suspects undergoing glaucoma diagnostic tests were recruited consecutively. The numerical results of the Stratus OCT fast optic disc and fast RNFL protocols were analyzed against an independent assessment by glaucoma experts who were blinded as to the results of the OCT. An ROC curve analysis was applied to derive estimates of diagnostic accuracy and multi-level likelihood ratios.

Results: A total of 119 subjects assessed as glaucoma and 397 subjects assessed as normal were included. All ONH and RNFL OCT parameters showed statistically significant differences in mean values between the 2 groups. The ROC curve identified the vertical integrated rim area (AUC: 0.822), the cup-disc area ratio (AUC: 0.816), and the horizontal integrated rim width (AUC: 0.794) as the best optic disc parameters; and the RNFL average thickness (AUC: 0.827), the superior quadrant (AUC: 0.807), and the inferior quadrant (AUC: 0.804) as the best RNFL parameters. Multi-level likelihood ratios for ONH and RNFL parameters were calibrated using a projected posttest probability of 70% for a positive test result (therapeutic threshold) and a 10% posttest probability for a negative result (diagnostic threshold).

Conclusion: The results showed that statistically significant mean differences in ONH and RNFL parameters did not translate into a high predictive ability for each individual parameter. Single cut-off value for each OCT parameter based on the best sensitivity and specificity combination did not result in high predictive values for any single parameter. Multi-level likelihood ratios for the best ONH and RNFL parameters were derived to increase the diagnostic capability of the Stratus OCT. (**Authors' abstract**)

Keywords: *Optical coherence tomography, Standard automatic perimetry, Glaucoma, Optic nerve head, Retinal nerve fiber layer, Medicine*

Philippine Journal of Ophthalmology, Volume No. 37 Issue No. 1, 1-8
2012 January to June,
(Filipiniana Analytics)
NP

The diagnostic properties of a nerve-fiber analyzer in glaucoma

Agulto, Manuel B. , Cordero, Cynthia P. , Tinio, Lawrence , Dorotheo, Edgardo U. , Khu, Patri

The study was conducted to determine the diagnostic properties of the GDx 400 (Laser Diagnostic Technologies, San Diego, CA, USA) nerve-fiber analyzer in normal and in glaucoma patients compared with a battery of glaucoma tests used by glaucoma experts as gold standard. Patients with and without glaucoma underwent a complete eye evaluation, automated perimetry, scanning laser polarimetry with the GDx 400, and opticdisc photography. Two glaucoma experts graded each study eye. Two-by-two tables were constructed for 5 GDx parameters (average thickness, superior average, inferior average, ellipse average, and ellipse modulation) and the GDx number. Receiver operating characteristic (ROC) curves were generated. The study included 355 patients (171 normal, 184 glaucoma). The mean values of the 5 GDx parameters were lower for the glaucoma than for the normal group. The sensitivity and specificity of the GDx 400 were 45.4% and 91.9% if the cutoff level of the GDx number was 71. Ellipse modulation (EM) measures have the best ROC curve with area under the curve of 0.725. The GDx 400 nerve-fiber analyzer is primarily used as a screening tool to detect the presence or absence of glaucoma. Its accuracy can be improved with use of continuous corneal compensator. (**Authors' abstract**)

Keywords: *Glaucoma, Retinal nerve-fiber layer, Nerve-fiber analyzer,, Scanning laser polarimetry, Medicine*

Philippine Journal of Ophthalmology, Volume No. 29 Issue No. 2, 1-7
2004 April to June,
(Filipiniana Analytics)
NP

Diffuse Cutaneous Systemic Sclerosis: A Case Report

Guevara, Bryan Edgar K. , Guillano, Victoria P. , Fernandez, Sime Raymond B. , Ng, Janice Nata

Systemic sclerosis (SSc) is a rare, connective tissue disease with multisystem involvement. This is due to immunological processes, vascular endothelial cell injury and extensive activation of fibroblast that commonly affects the skin and other internal organs such as the esophagus, lungs, heart, and kidneys. SSc has one of the highest mortality among the autoimmune rheumatic diseases, hence the emphasis on the early recognition and management to prevent significant progression of the disease. A 22-year-old female presented with a one-year history of multiple hard and hypopigmented patches on the face, neck, trunk and upper extremities. Further examination revealed mask-like facies, microstomia, frenulum sclerosis, Raynaud's phenomenon, pitted scars on the digital pulp of hands and sclerodactyly. Baseline blood chemistry, chest radiograph and electrocardiography were all negative for systemic involvement. Autoantibodies were positive for dsDNA, SS-A/Ro and Scl-70. Skin biopsy revealed sclerosing dermatitis, which was consistent with SSc. The patient was initially started with oral prednisone 0.5 mg/kg/day and was increased to 0.75 mg/ kg/day for eight weeks. Prednisone was slowly tapered to 5.0 mg/day and methotrexate 15.0 mg/week was included in the management for eight weeks which resulted in decreased joint pains, halted the progression of skin induration, decreased in pruritus and palmar edema. The characteristic dermatological findings of SSc are not only important signs to dermatologists, but these serves as diagnostic clues for clinicians from other disciplines as well. In our case, the presence of the autoantibody Scl70 indicated the potential risk of pulmonary fibrosis and pulmonary arterial hypertension that accounts with high mortality. Hence, physicians should be aware of the possible risk of organ damage, even when asymptomatic because there is a high risk of disease progression. The importance of early recognition and a multidisciplinary approach lead to the good outcome in this case. (**Authors' abstract**)

Keywords: *scleroderma, systemic sclerosis, diffuse cutaneous systemic sclerosis, prednisone, methotrexate, Medicine*

Philippine Journal of Internal Medicine, Volume No. 55 Issue No. 2, 1-4
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(Filipiniana Analytics)
NP

0304

Digital Pathology: An Innovative Approach to Medical Education

Sagun, Leonisa, Arias, Rand

Pathology, a basic science course in medical schools is a highly visual subject that requires examination of tissues using a microscope. With progressive technological advancements, the use of time-tested optical microscopes in teaching is seemingly slowly replaced by virtual microscopy that many medical schools in developed countries proved its numerous advantages. In our setting, digital pathology is not yet fully integrated in medical school. Although a few medical institutions in the country may have started this technology, there are still a lot to explore with virtual microscopy that will unlock its full potential of revolutionizing medical education in the future. **(Author's abstract)**

Keywords: *digital pathology, virtual microscopy, medical education, pathology education, Medicine*

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NP

0305

Disease Characteristics of Behcet's Disease Among Filipino Patients Seen in Rheumatology Clinics

Penserga, Ester G. , Salido, Evelyn O. , Limgenco-Hipe, Juneth

Behcet's disease (BD) sometimes called behcet's syndrome or silk road disease is an immunemediated systemic vasculitis. This condition remains a clinical challenge for physicians. There are many reports, mostly case series and nationwide surveys, on clinical manifestations of BD from different parts of the world. In the Philippines where BD is rare and underreported, physicians might not be familiar with the clinical manifestations of this disease. The aim of this research was to describe the disease presentation of BD among Filipinos to increase awareness and avoid delay in diagnosis which might pose a threat for the development of irreversible, sometimes fatal complications. A manual search was done for medical records with diagnosis of BD in the clinics of rheumatology staff of PGH. The diagnosis of BD was based on the 2006 International Criteria for BD. The researchers noted the demographic data, clinical manifestations, results of ancillary procedures, treatment and outcomes. The study follows a descriptive design.

There were 31 patients with the diagnosis of BD found from the manual search. Most of them were female (77%). The mean age at diagnosis was 38.6 years \pm 10.4 (SD) and the mean time duration from onset of first symptom to diagnosis was 41 months (range three to 180 months). Three patients had a family member who also had BD (10%). The most common features of the disease were oral ulcers(94%), ocular manifestation (68%), and cutaneous disease (65%). The pathergy test was positive in 17%.The most common treatments prescribed were oral steroids (74%),

colchicine (58%), and NSAIDs (48%). There was symptom control or improvement in a third of patients but there were still symptom recurrence in some. Thirteen patients (42%) had recurrent oral ulcerations while 23% had recurrence of skin lesions. Two of the patients (six percent) developed blindness. There was no death recorded. In conclusion, there was an average delay of three years in the diagnosis of BD that hinders appropriate early treatment. Moreover, BD remains to be a clinical challenge for physicians. While a third of the cohort had good outcomes, half still had symptom recurrences and the occurrence of blindness in two patients underlines the potential of the disease to disable. The researchers recommended the expansion of the cohort to include the BD patients of other rheumatologists in the Philippines to have an idea on the actual prevalence and incidence of how this uncommon disease in our locality, and to have a better understanding of its clinical presentation and disease management in our country. (**Authors' abstract**)

Keywords: *bechet's disease, bechet's syndrome, Medicine*

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(Filipiniana Analytics)
NP

0306

Disease Characteristics of Filipino Ankylosing Spondylitis Patients in Metro Manila Rheumatology Clinics

Dianongco, Ma. Lucila , Yu, Marc Gregory , Penserga, Ester

Objectives: The study aims to describe the disease characteristics of Filipino patients diagnosed with ankylosing spondylitis (AS) in different rheumatology clinics in Metro Manila, Philippines.

Methods: The study retrospectively reviewed the records of all Filipino AS patients aged 18 years old and above, diagnosed by the Rome Criteria and seen from January 2000

to May 2012 at the rheumatology outpatient clinic of the Philippine General Hospital and in different rheumatology clinics in Metro Manila. Demographics, joint manifestations, radiographic findings, and medications were described and tabulated. Descriptive statistics included mean and standard deviation for quantitative variables and frequency and percentage for qualitative variables. .

Results: Forty-seven Filipino AS patients were included in the study. The male to female ratio was 46:1. The mean age at diagnosis was 33.2 +/- 10.93 years while the mean disease duration was 7.04 +/- 4.28 years. Seven (14.8%) patients had a family history of AS while twelve (70.6%) tested positive for HLA-B27. The lumbar spine was the most commonly affected site in the majority (80.9%) of subjects. A significant number of participants (70.2%) also had peripheral joint involvement, with the knee being the most common peripheral joint involved (72.7%). In terms of imaging, sacroiliitis was found

in the majority (87.5%) of patients. All patients received standard rehabilitation exercises and almost all (97.9%) were on NSAIDs. Nine (19.1%) patients each received opioids and DMARD therapy, while eight (17%) received anti-TNF therapy.

Conclusion: Filipino patients with AS are mostly young males presenting with chronic lumbar pain and HLA-B27 positivity. The data gathered in this study may help local physicians identify AS early in affected patients, giving them access to early intervention and thereby preventing progressive structural and functional deterioration. (**Authors' abstract**)

Keywords: *ankylosing spondylitis, rheumatology, Philippines, Medicine*

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Fil(S) R97.4 P45 55/1 2017

0307

Disease Characteristics of Takayasu's Arteritis Among Filipino Patients Seen at Rheumatology Clinics

Abrahan, IV, Lauro L. , Faustino, Collene Marizza G. , Reyes, Bernadette Heizel M. , Aherrera, Jaime M. , Hipe, Juneth Ria L. , Afos, Ivy Ell

Takayasu's arteritis (TA), a large vessel vasculitis has various initial presenting manifestations; making it difficult to diagnose. Hence, the number of those with the disease in the population is underestimated. The study intended to update local data and to describe different presentations of the disease to enhance awareness for TA. The study was a retrospective study done in a tertiary government hospital. Twenty-two out of twenty three charts of patients diagnosed with TA based on the 1990 ACR criteria were reviewed. Demographic profile, initial clinical manifestations, imaging, treatment and outcomes were collected. Descriptive statistics was applied. Institutional Review Board approval was obtained prior to study initiation. Majority (90.1%) were female; mean age at onset of symptoms and at diagnosis were 30.4 (+12.3)years and 33.2 (+12.0)years respectively. The common reasons for consult were hypertension (26.3%), claudication (21.1%) and abdominal pain (11%). Laboratories showed elevated erythrocyte sedimentation rate (87.5%), leukocytosis (43.8%), anemia (31%) and thrombocytosis (4.5%). Common imaging findings were cardiomegaly (27.3%), aortic regurgitation (27.3%) and carotid stenosis (18.2%). CT angiogram in 90% of cases demonstrated arterial wall narrowing. Other findings were aneurysm (31.8%), contour irregularities (13.6%) and femoral artery occlusion (4.5%). Treatment for active disease were glucocorticoids alone (44%) and combined glucocorticoids and other immunosuppressants (56%). Of the 22 records reviewed, six patients (27%) had stroke. Four (18.2 %) had different surgical procedures; ray amputation of toe for digital ischemia, embolectomy for digital gangrene, balloon angioplasty of the renal artery and renal angioplasty for stenosis. Two (9.1%) who had pregnancies after TA diagnosis had premature deliveries without neonatal complications. No mortality was recorded over the mean follow-up of 49.33 patient-years. Clinicians should be aware of the different initial presenting signs and symptoms of TA since development of collateral circulation may mask other symptoms. Thus, thorough history and physical assessment are essential tools in the diagnosis of TA. (**Authors' abstract**)

Keywords: *takayasu's arteritis,, rheumatology clinics , Medicine*

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NP

0308

Double-Blind Randomized Controlled Trial on the Efficacy and Safety of Metformin as an Adjunct to Doxycycline and Tretinoin 0.025% Cream in the Treatment of Moderate to Severe Acne Vulgaris

Quesada, Mary Natalie C., Letran, Eleanor L., Paliza, Arnelfa C.

Objectives: To evaluate the efficacy and safety of metformin as an adjunct to oral doxycycline and tretinoin 0.025% cream in the treatment of moderate to severe acne vulgaris.

Methods: This is a double randomized controlled trial with 17 patients per group, and a study period of 12 weeks. Both groups (Dt group and DtM group) received doxycycline for the first 6 weeks and tretinoin for 12 weeks, while only the DtM group received metformin 1500mg/day for the entire treatment period. Follow up visits were done every 2 weeks from baseline. Non-inflammatory and total acne lesion count, and the modified global severity, subjective patient assessment, and Dermatology Life Quality Index scores, scores of cutaneous adverse events, and incidence and frequency of systematic adverse events were the outcome measures.

Results: The DtM group showed significant statistical benefit for the treatment of noninflammatory lesions (comedones) in the 4th, 6th, 8th and 12th week. Outcome measures of global severity, subjective patient assessment, and DLQI scores, mean reduction rate of inflammatory and total lesion counts, and mean pain, erythema, dryness and scaling counts between groups were comparable. The incidence and frequency of reported systemic adverse events such as diarrhea, nausea and headache, were higher in the DtM group.

Conclusion: The addition of metformin to standard treatment is beneficial in reducing non inflammatory lesion counts. It offers comparable benefit for inflammatory and total lesion counts. Cutaneous and systemic adverse events in both groups were mild and self-limited, and did not warrant discontinuation of treatment. **(Authors' abstract)**

Keywords: *metformin, tretinoin, doxycycline, treatment, acne, Medicine*

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2016 - 2017,
(Filipiniana Analytics)
NP

0309

A Double-Blind, Randomized Controlled Trial on the Efficacy, Safety, and Tolerability of Argan Oil Cream in the Treatment of Mild to Moderate Acne Vulgaris

Lee-Olalia, Dana Margaux, King-Ismael, Da

Background: Acne vulgaris is one of the most common skin disorders for which patients seek consultation with a dermatologist. One of the pathogenetic mechanisms is sebaceous gland hyperplasia. Argan oil has been proposed to have anti-sebum effects as a topical 5 α -reductase inhibitor.

Objective: This study aimed to evaluate the efficacy and safety of argan oil cream in the treatment of mild to moderate acne vulgaris.

Method: 64 subjects, aged 13 to 39 years, were randomized into 4 groups (1%, 2%, 5% argan oil cream, and placebo group). They applied the test medications twice a day for 4 weeks. Every 2 weeks, six parameters were assessed: inflammatory lesion count (ILC), non-inflammatory lesion count (NILC) total lesion count (TLC), casual sebum levels (CSL), investigator global assessment (IGA) and participant global assessment (PGA). Adverse events were recorded.

Results: 2% and 5% argan oil cream were effective in lowering all lesion counts 2 weeks after treatment. Although there was no significant differences in CSL among the groups, CSL and TLC for the 2% and 5% group exhibited a statistically significant direct relationship suggesting that when argan oil lowers sebum levels, lesion counts also decrease, and vice versa. Majority of subjects reported a significant improvement in their skin after treatment, albeit not statistically significant. Adverse events, most commonly dryness of the skin, were generally mild and temporary.

Conclusion: Although all concentrations of argan oil cream were effective in reducing lesion counts, 2% argan oil cream showed the best profile – aside from decreasing all lesion counts, it also prevented the recurrence or appearance of new acne, had the highest self-perceived clear-ing at 2 weeks, and had the least number of side effects among the 3 concentrations studied. (**Authors' abstract**)

Keywords: *argan oil, acne vulgaris, sebum, Medicine*

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(Filipiniana Analytics)
NP

0310

Dysgenesis of the Corpus Callosum Presenting as First-onset Seizures in an Apparently Normal 32-year Old Female

Borbon, Alvin Christian C. , Chua, Mitzi Marie , Leonardo, Zerlyn

Dysgenesis of the corpus callosum is a brain abnormality involving the large nerve fibers connecting the two hemispheres of the brain. The corpus callosum connects the left and right cerebral hemispheres and facilitates interhemispheric communication. When it is malformed, these functions might be affected. This case report documented a patient with a malformed corpus callosum. The patient came in for first onset generalized tonic clonic seizures. As part of a routine workup for patients with first-onset seizures, a computed tomography (CT) scan of the brain was done. It revealed dysgenesis of the corpus callosum. She was started on valproic acid and was discharged improved. Callosal disorders usually present with some degree of neurologic impairment. The index case however has no detectable neurologic deficits and is apparently normal. The rarity of a dysgenetic corpus callosum mandates more epidemiological studies to further elucidate this disease. (**Authors' abstract**)

Keywords: *dysgenesis, corpus callosum, seizure, normal, Medicine*

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(Filipiniana Analytics)
Fil(S) R97.4 P45 54/4 2016

0311

Dyspnea Among Patients with Advanced Lung Cancer: A Concept Analysis

Roces, Barb

Dyspnea is a subjective, multidimensional experience of breathing discomfort, influenced by physiological, psychological, social, and environmental factors, which includes secondary psychological and behavioral responses and cannot be defined only by physical objective abnormalities. It has been found to create barriers in daily life among patients with advanced lung cancer which interferes with physical activities such as walking, work, and psychological activities such as disposition, taking pleasure in life, relationship with others, and sleep. This paper aims to identify current theoretical and operational definitions of dyspnea and to identify and describe defining attributes of dyspnea. The method of inquiry was guided by Walker and Avant's (2011) approach to concept analysis. From this analysis, a conceptual model of dyspnea experience within the core of patients with advanced lung cancer may include attributes of dyspnea occurrence and distress as not only the physiological, psychological, and environmental, but also the situational existential meaning or perception of individual suffering from dyspnea. Dyspnea is a symptom that is usually under-diagnosed and inadequately managed due to lack of recognition or availability of interventions. The impact of dyspnea management on the quality of life in advanced lung cancer patients requires more recognition and better quality of care. Despite the frequency and complexity of this symptom, little research has been conducted to specifically identify effective treatment in patients with advanced lung cancer. Further investigations are needed in this area to assert the total dyspnea experience that could be influential in regards to the impact of dyspnea management on the quality of life in patients with advanced lung cancer. (**Author's abstract**)

Keywords: *Dyspnea, multidimensional experience of breathing discomfort, psychological, behavioral, Medicine*

Philippine Journal of Nursing, Volume No. 87 Issue No. 1, 1-6
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(Filipiniana Analytics)
NP

0312

The Effect of a Single-Session Diabetes Education on the Knowledge, and Attitudes of Patients with Type 2 Diabetes Mellitus Seen at Out-patient Clinics in Chinese General Hospital: A Prospective Cohort Study

Tin Hay, Lora May T. , Cornel, Miche

With the increasing prevalence of diabetes mellitus (DM) in the Philippines, Diabetes Self-Management Education (DSME) remains to play a vital role in diabetes care. It is important in optimizing metabolic control, preventing and managing complications, and maximizing quality of life in a cost-effective manner. This study aimed to determine the effect of diabetes education on the knowledge and attitudes of type 2 DM patients. It also aimed to determine the topics that needed more emphasis during education. A prospective study, which included 75 patients: 38 patients in the education group and 37 patients in the noneducation group, was conducted. A single session diabetes education was given to the patients in the education group. Baseline and follow-up knowledge and attitude scores by using the modified, validated, Filipino versions of American Association of Clinical Endocrinologists (AACE) Knowledge Evaluation Form and Diabetes Attitude Scale-3 (DAS-3), respectively, were compared between the education and non-education groups. The changes in weight and body mass index (BMI) for both groups were also compared.

Results showed that on follow-up, there was a significant increase in the mean percentage scores for knowledge in the education group. There was no significant increase in mean frequency of correct answers for questions on precautions prior to exercise, monitoring, nutrition and medication adjustment during ill days. Questions on psychosocial impact,

and value of tight glucose control showed significant improvement in the education group, while one question on seriousness of diabetes did not improve significantly. Diabetes education generally improved the knowledge and attitudes of patients towards their disease. (**Authors' abstract**)

Keywords: *diabetes education, knowledge, attitude, type 2 diabetes mellitus, Medicine*

Philippine Journal of Internal Medicine, Volume No. 55 Issue No. 4, 1-17
2017 October to December,
(Filipiniana Analytics)
NP

0313

The effect of body massage lying face down on intraocular pressure in normal eyes

Leuenberger, Edgar U. , League, Jose E.E., Rivera, Jonathan A

Objective

This study determined changes in intraocular pressure (IOP) of normal eyes during face-down body massage.

Methods

Forty-six participants were recruited and underwent detailed ophthalmic examination including gonioscopy, corneal pachymetry, and visual-field examination. IOP was recorded using a pneumatometer before the massage, immediately after resuming the sitting position, and every 5 minutes thereafter until the IOP returned to baseline.

Results

A mean rise in IOP of 5.39 mm Hg was noted in 43 participants. There was a significant difference between baseline sitting IOP and immediately after the face-down massage ($p < 0.001$) and 5 minutes after the massage ($p = 0.001$), but not between IOP at baseline and 10 minutes after the massage ($p = 0.09$).

Conclusion

Change in body position, such as in face-down body massage, can lead to transient IOP rise with a mean of 5.39 mm Hg. (**Authors' abstract**)

Keywords: *Intraocular pressure, Glaucoma, Massage, Medicine*

Philippine Journal of Ophthalmology, Volume No. 33 Issue No. 1, 1-3
2008 January to June,
(Filipiniana Analytics)
NP

0314

Effect of brimonidine on anterior-chamber angle in patients with narrow angles

Lat-Luna, Ma. Margarita , Timoteo-Cervantes, Johanna, Tumbocon, Joseph Anth

Objective

This study investigated the effect of brimonidine on the anterior-chamber angle in eyes with narrow angles using noncontact three-dimensional anterior-segment analyzer Pentacam.

Methods

Nine eyes with narrow angles were distributed to one of three treatment groups—single topical dose of 0.15% brimonidine tartrate, 0.5% timolol maleate (positive control), or balanced salt solution (negative control)—in a prospective, single-masked, crossover, comparative trial. The primary outcome measure was anterior-chamber angle at baseline, and 2 and 4 hours after instillation of the treatment drug. Secondary outcome measures were pupil diameter, intraocular pressure (IOP), and anterior-chamber depth and volume. After a two-week washout period, eyes were crossed over to the other treatment modes. All baseline and posttreatment measurements were taken. Repeated analysis of variance (ANOVA) was used for statistical analysis.

Results

Anterior-chamber angle, depth, and volume did not differ significantly for all treatment groups. Brimonidine caused a significant decrease in pupil diameter, most notably 2 hours after instillation, from baseline of 2.36 ± 0.37 mm to 2.17 ± 0.35 mm. ($p = 0.03$). There was a significant decrease in IOP from baseline to hour 4 after treatment for both brimonidine (11.4 ± 2.2 to 9 ± 1.8 mm Hg, $p < 0.001$) and timolol (11.9 ± 2.3 to 9.4 ± 2.1 mm Hg, $p = 0.003$).

Conclusion

Brimonidine produced a miotic trend with no significant opening of the anterior-chamber angle in patients with narrow angles. (**Authors' abstract**)

Keywords: *Brimonidine, Narrow angles, Anterior-chamber angle, Miosis, Intraocular pressure, Medicine*

Philippine Journal of Ophthalmology, Volume No. 36 Issue No. 2, 1-4
2011 July to December,
(Filipiniana Analytics)
NP

0315

Effect of Duty Schedule on Emergency Medicine and Internal Medicine Residents in Training with Early, Intermediate and Late Chronotypes on Attention, Alertness and Reaction Time

Picar, Rosalina E. , Noble, Perry N. , Ramos, Ronald C. , Dasig, Darwin A. , Lim-Khoo, Winnie Sharon, Ledesma, Lourdes

Physicians have been practicing in a shift-work environment since the early days of medicine. What has changed is the recognition of how much shift work can affect the physical and mental performance of physicians. The recent mandatory reduction in the work hours in residency was a first attempt to mitigate the effects of shift work and sleep deprivation on residents' performance and education.

The objective of this study is to compare the changes in the level of attention, alertness, reaction time of Emergency and Internal Medicine undergoing 12 hours and 33 hours duty shift respectively in relation to their chronotype. This is a prospective-cross sectional study conducted in a private training hospital from July to September 2014 consisting of 58 residents in training under the Emergency Medicine and Internal Medicine departments. Their attention, alertness and reaction time were evaluated and compared using the following tests: Morningness- Eveningness Questionnaire; Stanford Sleepiness Scale; Stroop test or the Color and Word Test; Digit Span Performance; and Symbol Search Performance. Participants were tested at the start of their duty, in the middle and at the end of their duty period.

Results showed that chronotypes correlated with the degree of constraints on sleep experienced on the morning, or evening shifts. As a result of such constraints, late types showed significantly higher social jetlag than early types on the morning shift and vice versa. When tested across the duty period, chronotype did no longer associate with the degree of social jetlag, indicating that, overall, the different chronotypes experience the same degree of constraints as do rotating worker, meaning that lack of sleep, stress and hectic schedule would take a toll on the resident by midshift as shown by decreasing attention, alertness, reaction time by the different tests.

Augmentation of workforce is recommended at midshift to counteract the decreasing level of attention, alertness and reaction time experienced by the residents to minimize medical errors.

Lastly, for the ER group, it is recommended that those morning chronotypes would be assigned to an AM shift and those late chronotypes to the PM shift. Also workforce should be added during morning shift, since results showed a declining pattern of measures. **(Authors' abstract)**

Keywords: Alertness, attention, reaction time, work schedule, residency training, Medicine

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2015 - 2016,
(Filipiniana Analytics)
NP

0316

Effect of HMG-CoA Reductase Inhibitor Drugs (Statins) on Systemic Lupus Erythematosus Disease Activity: A Systematic Review and Meta-analysis *Garcia, Givenchy Maree D., Urbano, Annalyn Q. , Salido, Evelyn*

Statins have been shown to have antiinflammatory and immunomodulatory effects. *In vitro* studies show that these drugs inhibit inflammatory cells, decrease the expression of major histocompatibility complex (MHC), decrease adhesion molecules and inflammatory cytokines (IL6 and IL10), that are also implicated in SLE pathogenesis. In terms of immunomodulatory effects, animal studies demonstrate that statins exacerbate/trigger cellular apoptosis and induce a shift in the Th1/Th2 balance leading to B-cell reactivity and production of pathogenic autoantibodies. Whether statins have clinical effects in SLE have not been widely studied. In terms of disease activity, studies show contradicting results. The researchers aimed to determine the effect of statins on the disease activity of SLE based on the best available evidence. A systematic literature search of PubMed, Scopus, and Cochrane databases was done with no date and language restrictions. Included studies were on adult SLE patients and randomized controlled trials that used statins as intervention and reported SLE disease activity as an outcome measure. Two reviewers did quality appraisal, risk bias assessment, and data extraction. Three studies met the eligibility criteria and were included in this review. Quantitative synthesis was done. The pooled analysis of these studies suggests that atorvastatin has no

significant effect on disease activity using random effects model with an overall effect of 0.12 (P=0.90, 95% CI -1.65, 1.88). Atorvastatin neither increased nor decreased SLE disease activity. Therefore possibly it can be safely given to SLE patients without the risk of triggering or exacerbating a flare. (**Authors' abstract**)

Keywords: *systematic lupus erythematosus, statins, HMG-CoA reductase inhibitor, systematic review, Medicine*

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2018 January to March,
(Filipiniana Analytics)
NP

0317

The Effect of Number of Tests, Hemoglobin Level and Working Temperature on the Specific Gravity of 100 ml Copper Sulphate Solution in Hemoglobin Screening

Dematera, Francis, Tamesis, Li

Background. The copper sulphate method, being economical, was used for hemoglobin screening in blood donation. Various references cite different number of tests that can be performed in a 100 mL copper sulphate solution.

Objective. To determine the effect of the number of tests, hemoglobin level and working temperature on the specific gravity of 100ml copper sulfate solution.

Methodology. Three groups of samples of known hemoglobin levels (<12 g/dl, 12-14 g/dl, and >14 g/dl) were tested using a 100 ml copper sulphate solution with specific gravity 1.053 at room temperature and at temperature of 29-30°C. Specific gravity of the solution was measured after every 5 tests for a total of 50 tests per experiment.

Result. There was no change in the specific gravity of copper sulphate solution used in 50 tests. There was no difference in the measured specific gravity across all experiments.

Conclusion. A 100 mL copper sulphate solution can be used for 50 tests using samples of various hemoglobin levels, at room temperature and at a higher temperature. (**Authors' abstract**)

Keywords: *blood, hemoglobin, copper sulphate, Medicine*

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2017 November,
(Filipiniana Analytics)
NP

0318

The Effect of Psychoeducation for Depression: A Meta-Analysis 2010-2016

Moreno-Lacalle, Rain

Background/Objective: Depression is a global mental health problem. Therefore, mental health professionals need to develop interventions that are evidence-based and cost-effective. One of the psychosocial interventions is psychoeducation. However, a recent Google search on the effect of psychoeducation for depression suggests conflicting results calling for an analysis of studies to establish psychoeducation effectiveness. The goal of the meta-analysis is to examine randomized controlled trials (RCTs) overall effectiveness of psychoeducation for depression.

Methods: EBSCOhost, PsychINFO, and Science Direct databases were searched

using the keywords 'psychoeducation,' 'group psychoeducation,' 'mental health education,' 'depression,' 'depressive disorder,' and 'dysthymia' with year restriction of 2010-2016. In this meta-analysis, the effect size (using Hedges' g value), Q statistics, and I² were calculated under the random effects model aided by CMA v.3. To test for publication bias, trim-and-fill analysis, and fail-safe N were computed too.

Results: A total of 1,560 patients from 11 studies were included in this analysis.

Post-intervention results had Hedges' g-value of -0.293 (95% CI= -0.552—0.035) of psychoeducation for depression meaning low effect. Although notably, the overall effect size leans towards psychoeducation. The p-value is significant at .05 level, favoring psychoeducation (p=0.026). The studies were also found to be highly heterogeneous (Q = 55.467, p<.05, I² =81.971) under the random effects model, (10) suggesting high inconsistency on the studies included in this meta-analysis. In testing for publication bias, the imputed effect size using trim-and-fill approach was -0.38558 (95% CI= -0.64926- -0.12189) while the result of fail-safe N suggested that 48 nil or null results would be needed to increase the p-value associated with the average effect above an alpha level of 0.05.

Conclusions: This meta-analysis may suggest that psychoeducation has low effect on depression. Longer and more interactive approach can be done to ensure its long-term and maximal effectiveness. Publication bias is unlikely in this meta-analysis. The findings provide valuable information for future psychoeducation to improve content, design, quality, and process that will benefit patients with depression. (**Authors' abstract**)

Keywords: *Psychoeducation, Mental Health Promotion, Depression, Depressive disorders, Medicine*

Philippine Journal of Nursing, Volume No. 86 Issue No. 2, 1-8
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(Filipiniana Analytics)
NP

0319

Effect of Psychoeducation on Self-esteem and Self-efficacy among College Students
Tesoro, Christine Dianne P. , Romero, Diomari Kathleen R. , Piedad, Prima Angelica M. , Go, Monica S. , Orca, Janna Vernetta D. , Estoesta, Alexis Mae D. , Eligio, Jomelle G. , Cerezo, Iris Yvonne T. , Carvajal, Miguel Oriel A. , Cala, Anthony Von Leo M. , Calastro, Jr., Elmer Ivan M. , Ablog, Jay A., Tuguinay, Jenela May N

Authors suggest efforts are needed to further explore the usefulness and utilization of psychoeducation at the community and professional levels as applied to various settings and populations. In addition, if developed and implemented carefully, psychoeducational interventions have promising application on other life challenges across levels of the public health, social, and educational systems. This quasi-experimental three group pre-test post-test study aims to investigate the effect of psychoeducation on the self-esteem and self-efficacy of college students. A total of 105 college students (35 subjects per group) who were enrolled at Saint Louis University, Baguio City, Philippines were included as sample. Sampling technique was purposive. The Rosenberg's Self-esteem Scale and Schwarzer's General Selfefficacy Scale were used as data gathering tools. A self-made psychoeducational module that was validated by experts in mental health and psychiatric nursing was utilized as intervention. SPSS version 20 was used for the statistical analysis. The results on the post-test scores of both treatment arms (informational and comprehensive model) were significantly higher compared to control group after eight sessions of psychoeducation. The researchers therefore conclude that both psychoeducation models (informational and comprehensive) showed evidence of effectiveness in increasing the self-esteem and self-efficacy levels of college students. (**Author's abstract**)

Keywords: *Psychoeducation, self-esteem, self-efficacy, comprehensive model, informational model, Medicine*

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 (Filipiniana Analytics)
 NP

0320

Effect of sibutramine on intraocular pressure

Kilic, Adil , Yilmaz, Nevin , Guzey, Mustafa , Satici,

Objective

This study evaluated the effects of sibutramine on intraocular pressure (IOP) and body-mass index (BMI).

Methods

Thirty obese females (body-mass index >30 kg/m²) treated with sibutramine (10 mg/day) plus diet restriction for 3 months were included in the study. IOP, BMI, and blood biochemical parameters were measured at the beginning and end of the treatment. Results were evaluated statistically by paired t-test, analysis of variance, and least-significant difference test.

Results

A statistically significant decrease was observed in the mean body-mass index ($p < 0.001$) and serum triglyceride ($p < 0.001$), while a statistically insignificant increase was observed in IOP ($p = 0.54$).

Conclusion

While sibutramine provided an effective means for weight loss, it caused a slight increase in IOP, although this was not statistically significant. Nevertheless, it is prudent to monitor IOP in selected obese patients treated with sibutramine. (**Authors' abstract**)

Keywords: *Intraocular pressure, Obesity, Sibutramine, Medicine*

Philippine Journal of Ophthalmology, Volume No. 31 Issue No. 1, 1-3
2006 January to June,
(Filipiniana Analytics)
NP

0321

Effect of topical ketorolac tromethamine and topical nepafenac on maintaining pupillary dilation during phacoemulsification

Martinez, Jose Ma. , Vicencio, Jay , Tuaño, Prospero Ma. , Atanis, Richard, Verzosa,

Objective

This study compared the effectiveness of prophylactic administration of topical ketorolac tromethamine 0.5% and nepafenac 0.1% on maintaining mydriasis during phacomulsification.

Methods

This is a prospective, randomized, double-masked comparative study involving adult cataract patients given topical NSAIDs (ketorolac or nepafenac) or balanced salt solution (control) prior to phacoemulsification and capsular bag intraocular-lens (IOL) implantation at a tertiary hospital. Horizontal and vertical diameters of pupil were measured at different stages of cataract surgery and the mean values were compared across the three groups.

Results

A total of 47 eyes of 44 cataract surgery patients, 13 males and 34 females, with a mean age of 66.04 ± 8.87 years, were included in the study. The mean horizontal and vertical diameters of the three groups were similar at the start of surgery. Significant differences were seen after IOL implantation, with the nepafenac group having the largest mean diameters in both horizontal ($p = 0.012$) and vertical ($p = 0.012$) pupil measurements.

Conclusion

Topical nepafenac has been shown to be a more effective inhibitor of miosis during phacoemulsification and provides a more stable mydriatic effect throughout the surgical procedure compared to topical ketorolac and placebo. (**Authors' abstract**)

Keywords: *Cataract, Phacoemulsification, Mydriasis, Topical NSAIDs, Nepafenac, Ketorolac, Medicine*

Philippine Journal of Ophthalmology, Volume No. 36 Issue No. 1, 1-5
2011 January to June,
(Filipiniana Analytics)
NP

The Effect of Whey Protein Supplementation on Duration of Mechanical Ventilation: A Pilot Study

Vega-Alava, Kristine Mae, Sy, Rosa Allyn G

It is important to wean mechanically-ventilated patients as early as possible to avoid complications such as ventilator-associated pneumonia. Supplementing the diet with additional protein may help to stimulate muscle protein synthesis which may enhance respiratory muscle function and ventilator drive. This study aimed to determine the effect of whey protein supplementation on the duration of mechanical ventilation in intensive care unit patients of Ospital ng Makati. The researchers enrolled forty eligible patients in this openlabel randomized controlled trial and were assigned into two groups: Group A (N=20): patients were given enteral feeding using commercial formula with added whey protein, given as one serving every eight hours (equivalent to 18 g of additional protein per day) and Group B (N=20): patients were given enteral feeding using commercial formula alone. Weaning was started as soon as the patient fulfilled the criteria of spontaneous breathing trial and was considered successful if the patient maintained these criteria for 48 hours after extubation. The study's results showed that the mechanically intubated patients in Group A have lesser ventilator-dependent days with an average of 5.4 days as compared to those in Group B with an average of 7.45 days ($p=0.00$). Patients in Group A were also noted to have statistically significant higher increase in serum albumin, mid-arm circumference and triceps skin fold from baseline. Twenty-five percent of patients in Group B developed ventilator acquired pneumonia and none in Group A. No mortality was noted in both groups. Whey protein supplementation in mechanically ventilated patients can be recommended to facilitate early weaning because of its effect on early muscle protein synthesis leading to improvement of lung function and ventilator drive. It can also help in preventing malnutrition and nosocomial infections during critical illness. With all these benefits of whey protein, its use can potentially lead to shorter duration of mechanical ventilation and hospital stay which can also mean less cost of care delivery. (**Authors' abstract**)

Keywords: *whey protein, weaning, mechanical ventilation, intensive care unit, randomized controlled trial, Medicine*

Philippine Journal of Internal Medicine, Volume No. 56 Issue No. 2, 1-6
2018 April to June,
(Filipiniana Analytics)
NP

The Effectiveness and Safety of Midazolam and Diazepam via the Buccal and Rectal Route for the Emergency Treatment of Seizures among Children at the Philippine Children's Medical Center: A Randomized Controlled Trial

Sosa, Madeleine Grace M. , Rabanal, Teresita N. , Pasco, Paul Matthew D. , Panlilio, Josefa R. , Villaluz, Mel Michel G. , Antonio, Cherry Lou M., Ortiz, Marilyn

BACKGROUND: Prolonged seizures are one of the most distressing pediatric emergencies. Prompt management with anticonvulsants is necessary to prevent significant morbidity and mortality. However, the transport from the home to hospital has numerous factors that can be problematic, especially in remote regions, which could further delay treatment initiation. Alter-native modes of administration of benzodiazepines as first line anti-epileptic medications, would be lifesaving.

OBJECTIVES: General Objective: To compare the effectiveness & safety of buccal midazolam and buccal diazepam against rectal diazepam and rectal midazolam for the treatment of children 1 month to 18 years presenting with an acute seizure at Philippine Children's Medical Center. Specific Objectives: 1) To determine the time duration of seizure cessation among children 1 month to 18 years of age when midazolam or diazepam via the buccal route against the rectal route in PCMC; 2) To determine the side-effects of midazolam and diazepam when given via the buccal route against the rectal route when given for acute seizures among children 1 month to 18 years of age in PCMC.

METHODOLOGY: This is a randomized single-blinded open label controlled trial. Data collection was done from April to September 2013 at the PCMC. Eligible patients were aged 1 month to 18 years who were admitted in the emergency room, service wards or intensive care unit; and patients seen in the out-patient department and diagnostic center (under going EEG or pro-longed video EEG monitoring) with continuous, either afebrile or febrile, seizures and children with or without established intravenous access.

RESULTS: All the treatment groups were similar based on the age, weight, sex, seizure types and admission temperature. However, those patients on buccal midazolam group who were receiving anti-epileptic drugs prior to the occurrence of seizure showed significant difference among the treatment groups with p value of 0.039. The seizure cessation has a trend favoring buccal diazepam however difference among the groups were not statistically significant because of small sample size. No adverse effects were noted.

CONCLUSION: The study showed that there is no statistical difference among the four treatment groups as to their effectiveness and safety in the treatment of acute seizures. (**Authors' abstract**)

Keywords: Seizures, Epilepsy, Therapeutic Success, Status Epilepticus, Buccal, Rectal, Treatment failure, Medicine

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2015 - 2016,
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NP

0324

Effectiveness and Safety of Vildagliptin Monotherapy or in Combination with Other Antihyperglycemic Agents in Patients with T2DM: A Real-world Observational Study in the Philippines

Reynaldo Rosales, Cyril Joseph Tolosa,, Reynaldo Rosales, Cyril Joseph Tol

Introduction: There is an ever-increasing prevalence of type 2 diabetes mellitus (T2DM) in the Philippines. This observational study aimed to evaluate the effectiveness and safety of vildagliptin as monotherapy or combination therapy in patients with T2DM in a real-life setting from the Philippines.

Methods: This 24-week, non-interventional study enrolled adult T2DM patients, receiving vildagliptin either as monotherapy or dual/triple combination therapy. The

primary endpoint was change in HbA1c from baseline to week 24. The secondary endpoints included proportion of patients achieving the glycemic goals HbA1c $\leq 6.5\%$ and $\leq 7.0\%$, and safety assessment at week 24.

Results: Of the 385 patients enrolled, 267 (69.35%) completed the study. The mean±standard deviation age was 54.72±11.06 years, HbA1c, body mass index, and diabetes duration were 8.54±1.81%, 27.35±5.58 kg/m² and 3.04±4.88 years, respectively. Overall, treatment with vildagliptin resulted in HbA1c reduction of 2.02±1.68 (p<0.0001) from baseline to week 24. At week 24, 60.64% and 74.47% of the patients achieved the glycemic target of HbA1c ≤6.5% and ≤7.0% respectively. Seven serious adverse events (AEs) unrelated to the study drug were reported, most of which (24/28) were mild or moderate in severity; 85.71% of the AEs reported were not drug related. One hypoglycemic event (with vildagliptin/metformin single pill combination [SPC]) and one death (with vildagliptin/metformin free dose and SPC, due to severe pneumonia) were reported at week 12.

Discussion: This observational study showed that treatment with vildagliptin monotherapy or combination therapy for 24 weeks in patients with T2DM in the Philippines provided statistically significant reductions in HbA1c. Overall, vildagliptin (mono or dual/triple therapy) was well-tolerated and demonstrated a favorable safety profile with no new safety signal.

Conclusion: Treatment with vildagliptin as monotherapy or in combination with other antihyperglycemic agents resulted in good glycemic control and was well-tolerated in patients with T2DM in the Philippines, under real-world settings. (**Authors' abstract**)

Keywords: type 2 diabetes mellitus, observational study, monotherapy, combination therapy, Medicine

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(Filipiniana Analytics)
NP

0325

Effectiveness of the glass-bead sterilizer in ophthalmic instruments

Verzosa, Lee G., Ronque, Peter P

This study evaluated the effectiveness of the glass-bead sterilizer compared to the autoclave in inhibiting the growth of common ocular bacterial pathogens. This is an experimental study involving the use of ophthalmic instruments (toothless and toothed forceps, Vannas scissors, McPherson forceps) that were inoculated with the test bacteria (*Staphylococcus aureus*, *Staphylococcus epidermidis*, *Streptococcus pneumoniae*, and *Pseudomonas aeruginosa*). The instruments were assigned to group A (autoclave sterilization) and group B (glass-bead sterilization). Group A instruments were autoclaved for 30 minutes and then smeared directly into blood agar plates (positive control). Group B instruments underwent glass bead sterilization for 30 seconds, and a separate batch for 60 seconds. They were also smeared directly into blood agar plates. All blood agar plates were incubated for 48 hours and examined for bacterial growth. Chi-square test was used to analyze the data. No growth was observed for each type of bacteria after autoclave sterilization and glass-bead sterilization. Glass-bead sterilization is as effective as autoclave sterilization for use in ophthalmic instruments. (**Authors' abstract**)

Keywords: Glass-bead sterilizer, Autoclave sterilizer, Disinfection, Medicine

Philippine Journal of Ophthalmology, Volume No. 32 Issue No. 1, 1-3
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(Filipiniana Analytics)
NP

Effectiveness, Safety and Tolerability of Vildagliptin and Vildagliptin+Metformin in Real-world Setting in the Philippines—Results from the GUARD Study

Rosales, Reynaldo , Domingo, Francis , Javier, Joselito

GUARD (vildaGliptin clinical Use in reAl woRlD) was a multinational, prospective, observational study that assessed the effectiveness, safety and tolerability of vildagliptin and vildagliptin+metformin in patients with type 2 diabetes mellitus (T2DM) under real-world conditions across four geographical regions (Asia, the Middle East, Central America and Africa). The study discussed the results of patients with T2DM enrolled in the Philippines. Patients with T2DM who were prescribed vildagliptin or vildagliptin+metformin combination therapy were enrolled and followed as per routine clinical practice for 24 ± six weeks. Primary endpoint was the change in HbA1c from baseline to study end (week 24±6). Key secondary endpoints included proportion of patients reaching target HbA1c ≤7.0%, incidence of hypoglycemic events, adverse events (AEs) and serious AEs (SAEs). A total of 1,117 patients were included in the final analysis, 280 on vildagliptin (of these, eight patients received additional oral antidiabetes medications) and 837 on vildagliptin+metformin. At baseline, the mean (±SD) age of the enrolled population was 54.1±11.5 years, BMI 26.3±4.7 kg/m², HbA1c 8.0±1.2% and T2DM duration 2.3±4.0 years. At study end, significant mean (±SE) reductions in HbA1c of -1.2±0.1% (p<0.0001) and -1.5±0.1% (p<0.0001) from a baseline of 7.6±1.1% and 8.1±1.2% were observed for the vildagliptin and vildagliptin+metformin group, respectively. A similar proportion of patients achieved HbA1c ≤7.0% in the vildagliptin (66.1%) and vildagliptin+metformin group (62.7%). Changes in body weight and BMI from baseline to week 24±6 were statistically significant (p<0.0001) in both the vildagliptin (-1.5±0.3 kg; -0.6±0.1 kg/m²) and the vildagliptin+metformin group (-1.4±0.2 kg; -0.5±0.1 kg/m²). The incidence of hypoglycemia was low—six patients reported hypoglycemia in the vildagliptin+metformin group and none in the vildagliptin group. Incidence of adverse events was also low in both the groups (vildagliptin, 8.6% and vildagliptin+metformin, 5.3%). In conclusion, vildagliptin and vildagliptin+metformin significantly reduced HbA1c with good weight control and low incidence of hypoglycemia in patients with T2DM under real-world conditions in Philippines. (**Authors' abstract**)

Keywords: *real-world, vildagliptin, type 2 diabetes mellitus, Philippines, Medicine*

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2016 October to December,
(Filipiniana Analytics)
Fil(S) R97.4 P45 54/4 2016

The Effects of Malunggay (*Moringa oleifera*) Leaves Capsule Supplements on High Specificity C-Reactive Protein and Hemoglobin A1c Levels of Diabetic Patients in Ospital ng Maynila Medical Center: A Prospective Cohort Study

Caole-Ang, Imelda , Mozo, Ranie

Current evidence supports a central role of inflammation in the pathogenesis of atherosclerosis and diabetes. Diabetes Mellitus (DM) type 2 is an inflammatory atherothrombotic condition associated with high prevalence of thrombotic cardiovascular disease. In patients with DM, this inflammation is reflected by elevated plasma C-reactive protein (CRP) levels. High specificity (hsCRP) is considered as a strong predictive of cardiovascular risks and death. Some evidence showed that CRP may represent an active participant in atherogenesis. Among the DM risk factors (like

hypertension, atherogenic dyslipidemia, insulin resistance, impaired fibrinolysis, inflammatory profile), inflammation is the neglected one. *Moringa oleifera* (*M. oleifera*) has been suggested to exert anti-inflammatory and hypoglycemic property. The study was conducted to determine the effect of *M. oleifera* leaves supplementation on the hsCRP, and HgbA1c levels of diabetics of Ospital ng Maynila Medical Center DM clinic. The researchers performed a prospective quasi experimental study on 56 adult diabetics who were given 12-weeks supplementation of *M. oleifera*. Plasma hsCRP and serum HgbA1c were compared before and after treatment with *M. oleifera*. The over all population mean prehsCRP is 3.38 mg/dl (95% CI 2.77-3.99). Supplementation of *M. oleifera* decreased significantly ($p < 0.0001$) the posthsCRP to 1.69 mg/dl (95% CI 1.28-2.09). The mean pre-HgbA1c of 6.96% (95% CI 6.64-7.09) was reduced post-HgbA1c to 6.06% (95% CI 5.88-6.24). The mean reduction of 0.6% in HgbA1c was significant (p -value < 0.0001). The study confirmed that diabetics may have additional benefit from intake of *M. oleifera* leaves by reducing hsCRP and by improving blood sugar control as evidenced by the reduction of HgbA1c. (**Authors' abstract**)

Keywords: *moringa oleifera*, *malunggay leaves*, *C-reactive protein (CRP)*, *High specificity (hsCRP)*, *Diabetes Mellitus (DM)*, *Medicine*

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(Filipiniana Analytics)
NP

0328

Effects of two ophthalmic viscoelastic devices on the corneal endothelium after phacoemulsification

Lingao, Michelle Doronila, Uy, Harvey

Objective

This study compared the effects of Discovisc (DV) and Amvisc Plus (AP) on the corneal endothelium of patients after phacoemulsification cataract surgery.

Methods

Forty eyes of 36 adult patients were enrolled in this randomized, doublemasked clinical trial. They were randomly assigned to receive either DV or AP during phacoemulsification. Both the patients and the evaluators were masked as to which viscoelastic was used during the surgery. The main outcome measures were endothelial-cell loss after surgery, intraocular pressures (IOP), and change in corneal thickness. Differences between the two groups were analyzed statistically.

Results

The mean endothelial-cell loss was 205.5 (9.79%) in the DV group and 450 (18.10%) in the AP group. There was significantly greater endothelial-cell loss among patients who received AP ($p = 0.01$). The mean postoperative corneal thickness and IOP were similar for both groups.

Conclusions

The use of DV resulted in less endothelial-cell loss compared with AP after uncomplicated phacoemulsification in normal eyes. DV, therefore, provided better protection of the corneal endothelium during cataract surgery. (**Authors' abstract**)

Keywords: *Ophthalmic viscoelastic device, Phacoemulsification, Endothelial-cell count, Intraocular pressure, Corneal thickness, Medicine*

Philippine Journal of Ophthalmology, Volume No. 33 Issue No. 1, 1-4
2008 January to June,
(Filipiniana Analytics)
NP

0329

Efficacy and Safety of Subcutaneous Insulin Analogue Versus Intravenous Insulin Infusion Among Patients with Mild to Moderate Diabetic Ketoacidosis at the University of Santo Tomas Hospital

Balili, Charlene Ann V. , Gomez, Maria Honolina S.

Introduction: Diabetic ketoacidosis (DKA) remains a significant complication of diabetes in the world and is associated with high rates of hospital admissions. In mild, uncomplicated cases of DKA a subcutaneous regimen of newer rapid-acting insulin analogues has been proposed as a safe and effective alternative to intravenous regular insulin in prospective, randomized trials. Our primary objective is to compare the efficacy and safety of intermittent subcutaneous (SC) rapid insulin administration with continuous intravenous (IV) regular insulin infusion in the treatment of mild to moderate DKA.

Methodology: A retrospective chart review of all adult Filipino patients admitted for mild to moderate DKA at UST Hospital private and clinical divisions from 2012 – 2015 was

done. Chart cases were divided into two groups, namely: group one who received IV infusion of regular insulin and group two who received SC rapid insulin analog as treatment. The clinical and biochemical characteristics of the patients on admission were obtained. Efficacy and safety of both treatment regimens were compared as to the duration of time and amount of insulin administered from admission until resolution of DKA was achieved, occurrence of hypoglycemia and hypokalemia, mortality and length of hospitalization.

Results: Twenty-one chart cases were included, twelve in the continuous IV insulin infusion group and nine in the intermittent SC rapid insulin group. The baseline

characteristics of patients were almost similar. There was no significant difference between the treatment groups in the duration of time and amount of insulin administered to achieve DKA resolution, occurrence of hypoglycemia, and death. Hypokalemia occurred more frequently and hospital stay was longer in the IV insulin group.

Conclusion: Intermittent subcutaneous rapid insulin regimen is an effective, safe, and potentially cost-effective alternative to continuous intravenous insulin infusion for treatment of mild to moderate cases of DKA. (**Authors' abstract**)

Keywords: *Diabetic ketoacidosis, rapid insulin analogue, regular insulin infusion, efficacy and safety, Medicine*

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(Filipiniana Analytics)

0330

Efficacy of BCG immunotherapy in allergic asthma

Agbayani, Beni

Sixty two (62) subjects were studied to determine the efficacy of BCG in known asthmatics in a double-blind fashion. Of these, only 40 subjects were able to finish the six-month study period giving a 35% dropout. One of the subjects under the BCG group died with severe uncontrolled asthma and another three dropped out for unknown reason. In the placebo group ten subjects dropped out because they felt no relief while the other subjects dropped out for unknown reason. Comparison between the two groups showed no significant difference as to comparative variables (i.e. age, sex, duration and severity of asthma, peak flow rates and drug intake for asthma). Analysis of the use of beta agonist when trial started, a significant reduction was noted in the BCG group compared to the control group. Furthermore, the level of OKT4 and OKT4/OKT8 were significantly reduced among the BCG treated group but no significant changes were noted of IgE levels and OKT4 in both groups. Overall, however, the parameters using peak flow rate, clinical observation of frequency and duration of asthmatic attacks and total intake of antiasthma drugs showed no significant change in both groups. This finding is contrary to the studies done by Eslava et al. Whose study observation was two years compared to ours which was only six months.

Keywords: *BCG immunotherapy, Allergic asthma, Bronchial asthma, Serum T suppressor, Pasteur train, Medicine*

Acta Medica Philippina, Volume No. 26 Issue No. 1, 13-16
1990 January - March,
(Filipiniana Analytics)
Fil(S) R97.4 A21

0331

The Efficacy of Daily Compared to Twice Weekly Basal Insulin Titration Algorithms Among Patients with Type II Diabetes Mellitus: A 12-Week Randomized Controlled Trial

Dampil, Oliver Allan C. , Labajo, Hannah R

There are a significant number of diabetic patients who remain uncontrolled despite basal insulin therapy due to lack of intensification of treatment. Different insulin titration algorithms are recommended by different treatment guidelines. This study compared two basal insulin titration algorithms in terms of time to achieve target glucose, adherence, hypoglycemia episodes, and HbA1c reduction. The study was a 12-week randomized clinical trial conducted on insulin-naïve patients with uncontrolled type 2 diabetes mellitus from outpatient clinic of St. Luke's Medical Center Quezon City. Patients on oral hypoglycemic agent/s with HbA1c seven percent and above were included in the study. They were randomized to either daily titration or twice weekly insulin titration algorithms using basal insulin glargine. Forty-one patients were included in the study. The daily titration algorithm achieved target capillary blood glucose (CBG) at stable insulin dose earlier (33 vs 41.3 days, p-value=0.042) than the twice-weekly titration. Better adherence was also seen among patients on daily titration algorithm as compared to twice weekly (94.94% vs. 91.12%, p-value = 0.009). There was no significant difference in incidence of hypoglycemia (p-value 0.0.62) for both algorithms. All patients from the two groups had significant HbA1c reduction at the end of the study period. Daily titration algorithm achieved earlier target fasting plasma glucose and better patient adherence as compared to twice-weekly titration in the adjustment of basal insulin dose. HbA1c reduction and risk of hypoglycemia were similar in both titration algorithms. (**Authors' abstract**)

Keywords: *basal insulin, insulin titration algorithm, type 2 diabetes mellitus, Medicine*

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2018 July to September,
(Filipiniana Analytics)
NP

0332

Efficacy of oral diclofenac as preemptive analgesic for pterygium surgery
Babao, Rosalina T. , Rodriguez, Amiel N. , Reyno, Danilo Q. , Bulosan, Teofilo R. , Galias, Anabe

Objective

To determine the efficacy of oral diclofenac as preemptive analgesic for pterygium excision.

Methods

A prospective, randomized, controlled, double-blind clinical trial was carried out involving 30 patients diagnosed with pterygium. They were randomly assigned to receive either placebo or oral diclofenac. A single surgeon performed the same technique of pterygium excision. Pain scores were determined using visual-analog-scale (VAS) questionnaires handed out to participants 30 minutes and 24 hours after surgery. Collected data were analyzed using two-tailed t-test, chi-square, and Fisher's exact test.

Results

There was no statistical difference between VAS pain scores in both groups in the intra- ($p = 0.33$) and postoperative periods ($p = 0.46$). No statistically significant difference was noted on the intake ($p = 0.68$) and dose (0.18) of supplemental analgesia. There appeared to be a trend for lower pain scores in the intraoperative (VAS = 2.00 ± 1.89 for diclofenac vs. 2.73 ± 2.22 for control) and postoperative (VAS = 3.86 ± 2.92 for diclofenac vs. 4.60 ± 2.44 for control) periods with intake of diclofenac. This group also took less supplemental analgesics.

Conclusion

The preemptive use of oral diclofenac showed a trend toward less intraand postoperative pain, and less need for supplemental analgesics after pterygium surgery. (**Authors' abstract**)

Keywords: *Oral diclofenac, Preemptive analgesia, Pterygium surgery, Surgical pain, Medicine*

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(Filipiniana Analytics)
NP

0333

The Efficacy of Oral Trimetazidine in Preventing ContrastInduced Nephropathy Among Patients Undergoing Elective Coronary Procedures: A Meta-analysis of Randomized Controlled Trials

Duya, Jose Eduardo D. , Alajar, Elaine B. , Anonuevo, John D. , Angeles, Roland Reuben B., King, Rich Ericson

Contrast-induced nephropathy (CIN) is a serious but preventable complication of coronary procedures. Trimetazidine (TMZ) has recently been explored for use in preventing post-procedural CIN due to its cellular anti-ischemic and antioxidant properties. The objective was to assess the efficacy of oral TMZ in the prevention of contrast induced nephropathy during elective coronary angiography and PCI among patients with renal impairment. The researchers conducted a systematic search of the Cochrane Central Register of Controlled Trials, Pubmed/ MEDLINE, EMBASE, clinicaltrials.gov for articles published until June 2016 for randomized controlled trials examining the effects of adding oral TMZ to standard therapy in preventing CIN. Outcome measures were incidence of CIN, defined as a 0.5 mg/dl or $\geq 25\%$ increase in serum creatinine 48-72 hours after contrast exposure, and incidence of dialysisrequiring CIN. Validity of studies was assessed through a risk assessment tool available from Cochrane. Treatment effect was estimated by calculating the Mantel-Haenszelweighted risk ratio (RR) using a fixed-effects model available from RevMan 5.3.

A total of four studies comprising 714 patients (TMZ group=352, Control group=362) were included in the final analysis. Pooled results revealed the TMZ group was associated with significantly fewer incidences of CIN compared to control (RR 0.33, 95% confidence interval [CI], 0.20, 0.53; $P < 0.00001$), with a relative risk reduction of 67% and an absolute risk reduction of 11.04% (NNT=nine). No dialysis-requiring CIN was observed in the included studies. The addition of oral TMZ to standard hydration confers a significant benefit in preventing CIN after coronary procedures among patients with mild to moderate renal impairment. We recommend the addition of TMZ to standard prevention strategies. However, a large well-designed trial should be conducted to determine its effect on other outcomes such as prevention of dialysis-requiring CIN and mortality. (**Authors' abstract**)

Keywords: *oral trimetazine, contrast-induced nephropathy, elective coronary procedures, Medicine*

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(Filipiniana Analytics)
NP

0334

Efficacy of Ranolazine in Lowering HbA1c in Patients with Type 2 Diabetes Mellitus: A Meta-analysis

Uy, Angelique Bea , Loyola, Aldrin B. , Ramos, Everly

Cardiovascular diseases and diabetes mellitus (DM) are two disease entities that commonly coexist in a single patient. Ranolazine is an active piperazine derivative approved by FDA in 2006 as an anti-anginal medication. It was noted to have HbA1c lowering effects in the trials on angina. The proposed mechanism of action is the inhibition of glucagon secretion by blocking the Na v1.3 isoform of sodium channels in pancreatic alpha cells leading to glucagon- and glucose-lowering effects. HbA1c lowering to a target of 6.5% in type 2 diabetes patients has been shown to reduce risk of microvascular complications. The objective of this study is to determine the efficacy and safety of Ranolazine in HbA1c lowering as an add-on therapy to existing anti-diabetic regimen. A comprehensive literature search in PubMed, The Cochrane Central Register of Controlled Trials, the ClinicalTrials.gov website, Google Scholar databases and EMBASE databases were made using the search terms “Randomized controlled trial”, “Ranolazine,” “HbA1c,” and “glycosylated hemoglobin”, as well as various combinations of these, was done to identify randomized control trials. No restriction on language and time were done. The authors extracted data for characteristics, quality

assessment and mean change in HbA1c after at least eight weeks of treatment with ranolazine. The program RevMan 5.3 was used to generate the statistical analysis of the data.

Six RCTs were included to make up a total of 1,650 diabetic patients. Five studies had moderate risk of bias assessment while one had low risk of bias assessment and hence was not included in the analysis. The overall analysis showed an HbA1c reduction of 0.35% 0.68 to -0.03, p-value=0.03) however, the population was heterogenous ($I^2=100\%$). The heterogeneity was not eliminated by sensitivity analysis. The results showed a statistically significant lowering of HbA1c with ranolazine. However, the population was heterogenous. The sources of heterogeneity could be the (1) differences in the level of glycemic control among subjects as indicated by baseline HbA1c levels, (2) the current anti-diabetic regimen of the study patients, i.e. whether or not they are on insulin therapy, (3) the presence or absence of ischemic heart disease and (5) duration of ranolazine therapy, and (4) the presence or absence of chronic kidney disease. When the analysis excluded the population with combination insulin therapy and ranolazine, the effect becomes non-significant. Thus, the HbA1c lowering effect may have been from the insulin therapy rather than the ranolazine.

Ranolazine as anti-diabetic therapy shows statistically significant HbA1c lowering effect. It can be a potential treatment option for patients with both DM and angina pectoris. However, well-designed, prospective trials are still recommended to determine the effect on a less heterogenous population. Likewise, more studies are needed to determine its safety. (**Authors' abstract**)

Keywords: ranolazine, HbA1c, Medicine

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NP

0335

Efficacy of Selenium Supplementation on Autoantibody Titers in Gravesâ€™TM Ophthalmopathy

Yu, Marc Gregory , Faltado, Jr., Antonio , Acampado, Laura Rosario

Selenium (Se) shows potential benefit in Gravesâ€™TM disease (GD) especially those with active Gravesâ€™TM ophthalmopathy (GO). The study was conducted to evaluate the efficacy of Se supplementation among patients with GD and GO. The researchers performed a meta-analysis of trials evaluating the efficacy of Se supplementation among adult patients with GD and active GO, versus either placebo or an alternative drug, and on top of standard therapy. Results were presented as mean differences, standard errors, and 95% confidence intervals, and graphically presented as forest plots. Estimates were calculated using the inverse variance method for continuous variables and pooled using the fixed effects model. I² and Chi² tests were used to assess heterogeneity. The results revealed that only two trials were ultimately included in the analysis. Both studies totaled 197 participants with GD and non-severe GO on standard therapy, and compared Se supplementation to placebo. The only common outcomes of interest were changes in TSH receptor antibody (TRAB) and thyroid peroxidase antibody (TPOAB) titers. The study found no statistically significant difference in either TRAB (95% CI, -1.38 [-3.19, 0.44], p=0.14) or TPOAB (95% CI, 36.66 [-32.56, 105.88], p=0.30) titers between Se and placebo

groups on follow up. However, the analysis was limited by the small number of included studies, a small sample size, and lack of other synthesizable outcomes. This is the first meta-analysis summarizing the available data on Se supplementation in patients with GD and non-severe GO. It was found that no statistically significant differences in both TRAB and TPOAB titers between Se and placebo groups. The researchers recommended larger studies to validate these findings. **(Authors' abstract)**

Keywords: *Selenium, Graves' disease, Graves' ophthalmopathy, Autoantibodies, Thyroid gland, Medicine*

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0336

Efficacy of Topical Pilocarpine in the Management of Primary Aqueous Tear Deficiency: An Initial Study

Marin, Jr., Jose David F. , Urriquia, Ma. Ther

Objective: To determine the efficacy of topical pilocarpine (0.05%) in the management of patients with primary aqueous tear deficiency (ATD).

Methods: This was a single center, randomized, double-blind, placebo-controlled clinical trial of 11 dry eye patients (22 eyes) with ATD who were screened from July 2012 to March 2013. They were evaluated using the Ocular Surface Disease Index (OSDI) for symptoms of ATD with abnormal Schirmer's I and tear-break-up time (TBUT) results. The eyes of each subject were randomized to either the interventional (pilocarpine 0.05%) or the control (aqueous tear substitute) groups given for 2 months. Results were evaluated by statistical testing at different time intervals.

Result: Topical pilocarpine 0.05% significantly increased the tear production from a Schirmer's I baseline of $4.09 \text{ mm} \pm 1.30$ to $12.46 \text{ mm} \pm 9.02$ after 2 months ($p < 0.01$). Symptoms improved with noted decreased OSDI score from 33.72 ± 24.88 to 13.84 ± 8.98 ($p = 0.01$). There was no increase in pupil size.

Conclusion: After 2-month treatment with topical pilocarpine 0.05%, there was a significant increase in mean tear flow in patients with primary aqueous tear deficiency with improvement in OSDI scores. There was no significant side effects noted. **(Authors' abstract)**

Keywords: *Pilocarpine, Dry Eye, Aqueous tear deficiency, Ocular Surface Disease Index, Medicine*

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NP

Efficacy of Vitamin Supplementation in Preventing Color Vision Abnormalities among Patients Undergoing DOTS for Tuberculosis

Morabe, Evelyn S. , Bagnes, Roland B. , Ramirez, Melizza T. , Tan, Anne Marfe L. , Reyes, Jan Michael R., Cruz, Emerson

Objective: To determine if vitamin supplementation can prevent the development of color vision abnormalities in patients taking ethambutol as part of DOTS for tuberculosis (TB).

Methods: A randomized, placebo-controlled, single-blind clinical trial was conducted among newly diagnosed category-1 TB patients enrolled in DOTS health centers in the third district of Manila from June 2011 to August 2012. Before starting therapy, the participants underwent a complete eye evaluation including baseline color vision tests using the Ishihara Color Vision Plates (Ishihara), Farnsworth Panel D-15 (FD 15), and Lanthony Desaturated D-15. Only subjects who passed the three color vision tests were included in the study. They were divided into 2 groups: Group A received vitamin supplementation and Group B received a placebo. Follow-up color vision testing was done monthly for 3 months.

Results: There were 105 patients included in the study, 77 males and 28 females, age ranging from 16 to 68 years with a mean of 37 years. Forty three (43) patients received vitamin supplementation (group A) and 62 received placebo (group B). After one month of DOTS, 5 of 43 patients (11. 6%) in group A and 10 of 62 patients (16.1%) in group B developed color vision abnormalities, detected only with the Lanthony Desaturated test. The absolute risk reduction (ARR) of color vision abnormalities by vitamin supplementation was 4.5%, with the number needed to treat (NNT) of 23. After the second month of therapy, ARR was 7.4% and NNT was 14. ARR was highest in the third month at 8.3%, with a corresponding decreased NNT of 12. Among patients who developed color vision abnormalities, reversal of the abnormalities was observed in 80% of 5 subjects in group A, and 40% of 10 patients in group B. By the third month of treatment, all in group A already had normal color vision, while 40% in group B still showed abnormal color vision.

Conclusion: This study showed that vitamin supplementation was effective in reducing the risk of, and in reversing cases of, color vision abnormalities among patients undergoing DOTS therapy for tuberculosis. (**Authors' abstract**)

Keywords: *DOTS, Tuberculosis, Ethambutol, Vitamin B, Color Vision, Optic Neuritis, Medicine*

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NP

Endocrine Malignancies: A Five-Year Retrospective Analysis in a Tertiary Hospital

Sawadjaan, Leila , Ong-Ramos, Celeste C., Villa, Michael

Endocrine malignancy in the Filipino population has not been well documented particularly on the incidence, prevalence, demographic profile and survival rate. It was the aim of this study to determine the prevalence rate and demographic profile of all endocrine malignancies diagnosed at a tertiary hospital. This is a retrospective study from

March 2003 to March 2008. Data were obtained from the Tumour Registry of St. Luke's Medical Center Cancer Institute (SLMC-CI) and from the Annual Report of the Diabetes, Thyroid and Endocrinology Center (DTEC) Section of SLMC-Quezon City. Only individuals with retrievable histopathology at this institution were included in the study. Data were calculated using percentages and proportions. There were a total of 855 cases of endocrine malignancies documented in five years of which, 833 were cases of thyroid malignancies (97.4%). Fourteen cases of adrenal cancer (1.60%), seven cases of neuroendocrine carcinoma (0.79%), and one case of parathyroid carcinoma (0.14%). There was no note of pituitary cancer. There were a total of 833 newly diagnosed thyroid cancer: 652 papillary carcinoma (78.2%), 157 follicular carcinoma (18.8%), 11 anaplastic carcinoma (1.32%); nine medullary thyroid cancer (1.08%); two thyroid lymphoma (0.28%), one poorly differentiated carcinoma (0.14%) and one metastatic to the thyroid (0.14%). Among the 14 adrenal cancers, seven cases were due to adrenal cortical carcinoma, one case was due to adrenal neuroblastoma and six cases were due to adrenal metastases. Among the neuroendocrine carcinomas, four were pancreatic neuroendocrine carcinoma which included two malignant insulinoma and three patients were extra pancreatic neuroendocrine carcinoma. **(Authors' abstract)**

Keywords: *endocrine malignancies, thyroid cancer, adrenal cancer, parathyroid cancer, pancreatic cancer, Medicine*

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NP

0339

Endometrial Tuberculosis Causing Amenorrhea and Abnormal Uterine Bleeding in a Lupus Patient Treated with Cyclophosphamide

Reyes, Bernadette Heizel M. , Magbitang, Angeline-Therese D, Racaza, Geraldine

Amenorrhea may occur in patients with lupus treated with cyclophosphamide. This is commonly attributed to primary ovarian failure leading to infertility – a possible complication of cyclophosphamide. Urogenital tuberculosis (TB) can be a rare cause of amenorrhea and infertility in lupus patients. The researchers presented a case of endometrial TB causing amenorrhea and abnormal uterine bleeding in a patient with lupus nephritis treated with cyclophosphamide. A 32-year-old Filipino female, who was diagnosed with lupus nephritis, was managed with high dose steroid and intravenous (IV) cyclophosphamide. Lupus nephritis improved with treatment, but she subsequently developed amenorrhea and vaginal spotting for two months. Symptoms were initially attributed to premature ovarian failure due to cyclophosphamide. Gynecologic examination showed thickened endometrium with normal ovaries and uterus on ultrasound. Dilatation and curettage was performed. Histopathology of endometrial curetting revealed chronic granulomatous endometritis with Langhans giant cells. Endometrial TB was diagnosed, and antiKoch's therapy was started. The patient showed a favourable response, with resumption of normal menstruation after only the first month of treatment. This paper emphasized the importance of considering a wide range of differential diagnosis for gynecologic symptoms in patients with lupus. Tuberculosis should be considered in areas of high endemicity. **(Authors' abstract)**

Keywords: *Systemic lupus erythematosus, extrapulmonary tuberculosis, female genital tuberculosis, abnormal uterine bleeding, cyclophosphamide, Medicine*

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NP

Endoscopy-assisted balloon dacryocystoplasty in the treatment of congenital nasolacrimal-duct obstruction

Henson, III, Ruben D. , Henson, Ra

This study reported two cases of balloon dacryocystoplasty (DCP). This is a case series of a five-year-old boy with congenital nasolacrimal-duct obstruction (CNLDO) in the right eye underwent primary DCP. A six-year-old boy with bilateral CNLDO with previous nasolacrimal-duct probing had bilateral secondary balloon DCP. Both patients were symptom-free even at follow-up of 14 months. Balloon dacryocystoplasty is a good and safe alternative in the treatment of CNLDO. (**Authors' abstract**)

Keywords: *congenital nasolacrimal-duct obstruction (CNLDO), dacryocystoplasty (DCP), Balloon dacryocystoplasty, Medicine*

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NP

Epidemiological pattern of retinoblastoma at the Philippine General Hospital

de Jesus, Arnel A. , Valera, Eric G. , Mercado, Gary V. , Espiritu, Ro

The study evaluated the epidemiological and clinical patterns of retinoblastoma in a tertiary government hospital. This is a retrospective case series of new retinoblastoma patients seen at the University of the Philippines-Philippine General Hospital (UP-PGH) in three periods: 1967 to 1977, 1985 to 1995, and 1997 to 2001. The demographic and clinical characteristics of retinoblastoma over the three periods were compared. The incidence of retinoblastoma increased from 40/100,000 new cases in 1967 to 1977 to 237/100,000 new cases in 1997 to 2001. The average age at onset did not change over time but the age at consultation decreased from 1.5 years to 1 year. The most common initial ocular manifestation at onset was cat's eye reflex (77 to 79%) with findings of leukocoria (67 to 77%). Extraocular findings of proptosis and orbital mass declined through the years. Bilateral retinoblastoma comprised 30% in this series and showed no change in distribution over the years. The epidemiological and clinical patterns of retinoblastoma cases at the Philippine General Hospital may be changing over time and requires continuous monitoring of incidence and characteristics. (**Authors' abstract**)

Keywords: *Retinoblastoma, Tumor, Epidemiology, Medicine*

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NP

Epidemiology and Visual Outcomes of Pediatric Ocular Trauma Cases in a Tertiary Hospital

Merca, Theresa Gladiola B., Valbuena, Mari

Objectives: To determine the demographics, incidence, etiology, and severity of pediatric ocular trauma cases seen in a tertiary hospital and to establish the visual outcomes of these cases using the Ocular Trauma Score (OTS).

Methods: Pediatric patients, aged 0-18, who came to the emergency clinic for ocular trauma between January to April 2012 were included in the study. They were examined on initial consult and computed for the OTS by converting the OTS variables into OTS categories. They were followed up after 1, 2, and 3 months. The distribution of percentage of final visual acuity was compared with the OTS.

Results: There was a male predominance (76%) occurring mostly in the 2-6 year age group (37%). Injuries were predominantly accidental (91%), occurring at home (72%), and frequently caused by blunt trauma (55%), followed by penetrating injuries (21%). Majority (76.2%) had no impairment while 14% had severe visual disability after three months. Eighty-three percent corresponded to the OTS proposed final visual acuities and the remaining 17% fell into the category one below or above the proposed final visual acuity.

Conclusion: Ocular trauma is a common cause of visual impairment in children and can be prevented. There should be preventive measures, better supervision, public education, and aggressive and prompt management to improve visual outcomes. (**Authors' abstract**)

Keywords: *Pediatric ocular trauma, Ocular Trauma Score, Visual prognosis, Visual outcomes, Epidemiology, Medicine*

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0343

Epidemiology of Herpes Zoster in Children and Adolescents: A Five-Year Review

Padlan-Ramos, Janelle Marie, Palmero, Ma. Lourdes

Introduction: Reactivation of latent varicella zoster virus results in herpes zoster. It is more common in the elderly. Studies of herpes zoster in children are limited.

Objective: The primary objective of this study is to establish the epidemiological profile of herpes zoster in children (0-9 years old) and adolescents (10-19 years old) diagnosed at the Santo Tomas University Hospital Dermatology department from January 2007-December 2011.

Method: Clinical records of patients aged 0-19 years old, clinically diagnosed as herpes zoster, were retrieved. The incidence, clinical presentation, history of primary varicella infection and/or varicella vaccination, and co-morbidities or possible predisposing factors were reviewed and analyzed.

Result: A total of 75 patients were included in this retrospective study. The incidence among children and adolescents ages 0-19 in this study was computed at 4.82 per 1000. The highest number of cases belonged to the adolescent group (81.33%). There was male predilection (61.33%). The dermatomes of the thoracic ganglia were most commonly affected (64%). No history of varicella vaccination was recorded. Most had a history of varicella infection (62.67%). Possible predisposing factors were respiratory diseases, including asthma, primary complex or pulmonary tuberculosis and respiratory tract infection.

Conclusion: Primary varicella infection is a prerequisite for herpes zoster. Even healthy children were affected and a small percentage did not have any history of varicella infection. The two known risk factors of herpes zoster in children namely: maternal varicella infection and varicella at first year of life were rarely found in this study. Some had underlying diseases, mostly respiratory in nature. (**Authors' abstract**)

Keywords: *Herpes Zoster, varicella zoster, vaccination, thoracic ganglia, varicella infection, Medicine*

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0344

Epinephrine, but not dexamethasone, induces apoptosis in human retinal pigment epithelium cells *in vitro*

Gabel, Veit-Peter , Monzer, Jan , Leser, Rita , Eckert, Elfriede , Spiegel, Detlev , Sibayan, Santiago Antonio B., Kobuch, Kari

The pathogenesis of central serous chorioretinopathy is poorly understood. It is believed to be due to dysfunction of the retinal pigment epithelium and/or choroid, and has been associated with elevated levels of epinephrine and administration of corticosteroids. Epinephrine and corticosteroids have previously been shown to induce apoptosis (programmed cell death) in various types of cells. It has also been shown that experimentally-induced central serous chorioretinopathy is associated with degeneration of the underlying retinal pigment epithelium. The objective of this study was to investigate whether epinephrine and dexamethasone, a corticosteroid, can induce apoptosis in cultured human retinal pigment epithelium cells. This may help elucidate the pathogenesis of central serous chorioretinopathy. Third passage human retinal pigment epithelium cells were grown to confluence and incubated for 1 - 7 days in culture medium containing epinephrine (10^2 - 8×10^7 pg/ml) or dexamethasone (4 - 4×10^4 ng/ml). The cultures were evaluated for apoptosis by phase contrast microscopy and in situ terminal deoxynucleotidyl transferase-mediated dUTP nick-end labeling. Epinephrine (4×10^7 - 8×10^7 pg/ml) induced apoptosis in a dose- and time-dependent manner. Exposure to lower concentrations of epinephrine (10^2 - 2×10^7 pg/ml) and all tested levels of dexamethasone did not result in apoptosis. Human retinal pigment epithelium cells may undergo apoptosis following exposure to elevated levels of epinephrine. These findings suggest a possible pathophysiologic mechanism for the development of central serous chorioretinopathy. (**Authors' abstract**)

Keywords: *in vitro , Epinephrine, epithelium cells, retinal pigment, Medicine*

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NP

E-rosette inhibition by anti-T11 and anti-lymphocyte globulin in cervical cancer a comparative study
Padua, Florecita

Rosette inhibition using ALG and anti-T11 were compared in healthy women and cervical cancer (Stage I and II) patients. With both reagents the inhibition titers overlapped heavily, failing to distinguish patients from controls. When patients were stratified according to stages, the overlaps cleared but incompletely among stage I patients and controls. Unexpectedly, a reversal of inhibition titers was noted between the stage II patients and their respective controls. Because of these observations, pursuing further studies to investigate the diagnostic and predictive value of Rosette Inhibition using anti-T11 may not be promising.

Keywords: *Rosette inhibition, anti T-11, Anti-lymphocyte globulin, Cervical cancer, Receptor protein, Medicine*

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 Fil(S) R97.4 A21

EVALUATION OF SUPRACRICOID PARTIAL LANGECTOMY WITH CRICOHYOIDOEPIGLOTTOPEXY IN A TERTIARY HOSPITAL

Rodriguez, Kathleen M., Pangilinan, Jeffrey A. , Ureta, Celso V

OBJECTIVE: To present cases of supracricoid partial laryngectomy with Cricohyoidoepiglottopexy SCPL-CHEP) done in this institution and describe the operative procedure performed in the patients. To evaluate the post-operative deglutition and speech of patients who underwent supracricoid partial laryngectomy with cricothyroidoepiglottopexy (SCPL-CHEP). To determine the association factors as age, length of hospital stay, day of decannulation, aspiration, stage of cancer lesion and speech outcome among post-operative deglutition of patients who underwent supracricoid partial laryngectomy with cricothyroidoepiglottopexy (SCPL-CHEP).

DESIGN: Restrospective analytic study

SETTING: Tertiary medical center

SUBJECTS: Seven male patients with a mean age of 66 years (range, 52-87) with T1 and T2 glottic lesions who underwent supracricoid partial laryngectomy with cricothyroidoepiglottopexy (SCPL-CHEP) in a tertiary medical center.

RESULTS: Seven cases of T1 to T2 squamous cell carcinoma of the glottis who underwent supracricoid partial laryngectomy with cricohyoidepiglottopexy (SPL-CHEP) were presented. Post-operatively, all patients were successfully decannulated. The speech and aspiration grading of the seven patients were evaluated and scored. Post-op deglutition was evaluated using the Grading Scale of the Fiberoptic Endoscopic Evaluation of Swallowing, among the seven cases one patient had aspiration and retention and underwent gastrostomy while the remaining six patients were able to return to normal deglutition. In terms of speech, all seven patients were graded with moderate dysphonia using Pinho's classification of auditory-perceptive evaluation. Statistical analysis showed no significant correlation between hospital stay and speech, however an inverse trend was noted between age, stage of cancer lesion, decannulation of tracheostomy and aspiration score.

CONCLUSION: This paper presented seven (7) patients who underwent conservative surgery using SPCL with CHEP. Six out seven patients were assessed with normal post-op deglutition while one patient had marked spillage, retention and aspiration. In terms of speech all seven (7) patients were graded with moderate dysphonia. Due to the limited number of cases no significant correlation was noted between length of hospital stay and speech but the study showed an inverse trend between the age of patients, decannulation of tracheostomy, NGT removal, and aspiration. Supracricoid Partial laryngectomy is an organ preserving surgical technique with high local control rate of disease while preserving swallowing and speech. (**Authors' abstract**)

Keywords: *Supracricoid Partial Laryngectomy, Cricohyoidoepiglottopexy, Organ Preservation, Radiation therapy, Medicine*

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NP

0347

An Evaluation of the Safety and Potency of Equine Rabies Immunoglobulin Through Measurement of Suppression on Vaccine-Induced Antibody Production Among Healthy Volunteers

Salva, Eumelia P. , Dimaano, Efren M. , Villarama, Jose Benito R. , Suquila, Jas

This study evaluated the safety and potency of a new highly purified equine rabies immunoglobulin (ERIG) through indirect measurement of suppression of vaccine-induced antibody production using rapid fluorescent focus inhibition test. This is a prospective, randomized open labeled clinical study on healthy volunteers. Forty-five subjects were randomly assigned to three groups of 15 subjects: All groups received the purified chick embryo cell culture (PCEC) rabies vaccine using the Zagreb regimen (2-1-1). Group A then received ERIG at the same site where the PCEC vaccine was administered; Group B received ERIG at a distant site from where the PCEC vaccine was administered; Group C received only the PCEC vaccine at the same regimen. Arithmetic mean (AM), standard deviation (SD) and range were used to describe the baseline characteristics. Geometric mean titer (GMT) was calculated on Days 0, 7, 14, 21 and 28. Wilcoxon rank-sum test and Kruskal-Wallis Analysis of Variance test were used to compare the means of two and three groups, respectively. Local and systemic adverse reactions were reported by subjects and monitored by investigators. By day 14, 64% of the subjects in Group A, 20% in Group B and 7.0% in Group C failed to seroconvert. During that same period, comparative analysis of GMT of Group A (0.36, 95% CI: -17.92 to 18.64), Group B (1.09, 95% CI: 0.14 to 2.04) and Group C (3.90, 95% CI: -0.63 to 8.43) showed statistically significant differences ($p = 0.0016$). In terms of safety, neither serious adverse events nor anaphylactic reactions were reported. ERIG is a potent and safe product that can be effectively used for passive immunization in category III rabies exposures. In resource-limited areas, this product is an excellent alternative to human rabies immunoglobulin (HRIG). (**Authors' abstract**)

Keywords: *Equirab, Rabipur, rabies, equine immunoglobulin, ERIG, HRIG, vaccine, safety, potency, clinical study, San Lazaro Hospital, Medicine*

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NP

0348

An Evaluator-Blinded Pilot Study Comparing the Efficacy and Tolerability of Intralesional Bleomycin versus Intralesional Triamcinolone Acetonide in the Treatment of Small Keloids

Thaebtharm, Agnes , King-Ismael, Daisy , Lee-Olalia, Dana M

Background: In recent years, considerable interest has evolved over the use of chemotherapeutic agents for the treatment of scars. At present, there is currently no locally published trial comparing intralesional (IL) bleomycin and IL triamcinolone for the treatment of keloids.

Objective: This single center, pilot study aims to assess the efficacy and safety of IL bleomycin versus IL triamcinolone acetonide in the treatment of small keloids.

Methods: Six subjects aged 11 to 36 years old with two or more small keloids on the trunk or extremities were included in the study. A blinded evaluator assessed the study scars using the Vancouver Scar Scale (VSS) at the beginning and at the end of the trial period. The experimental keloid was injected with 0.1 mL of 1.5 U of bleomycin, while the control keloid was injected with 0.1 mL of 10 mg/mL of triamcinolone every 2 weeks. The incidence of adverse events, and self-assessed changes in pruritus, pain, erythema, softness, and size of the treated keloids were considered. Participant's satisfaction was also measured.

Results: The keloids that received IL bleomycin showed a significant improvement in the VSS at the end of the trial, which was not seen in the triamcinolone group. None of the patients were dissatisfied with the treatment outcomes. Adverse reactions were hyperpigmentation and crusting in the bleomycin group, and telangiectasia and hyperpigmentation for the triamcinolone group.

Conclusions: This pilot study shows that IL bleomycin is an effective and safe treatment for keloids. In addition to improving the cosmetic appearance of the keloids, it also improved pruritus and pain, and was perceived by the subjects as a satisfactory treatment. In addition, it may be used as an alternative treatment for those non-responsive to IL triamcinolone. Larger and longer studies may follow this research to assess whether bleomycin could result in faster improvement and a prolonged time to recurrence, thereby resulting in fewer treatments over time. (**Authors' abstract**)

Keywords: *bleomycin, keloid, scar, triamcinolone acetonide, Medicine*

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2015 - 2016,
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NP

Evolving techniques in orbital decompression of thyroid orbitopathy

Lucarelli, Mark J. , Palmero, Man

The study reviewed recent advances in orbital decompression reported in recent literature. A review of literature regarding orbital decompression published in English was performed. Special attention was given to articles published from 2000 to 2005. These were analyzed along with several earlier important papers on orbital decompression. Techniques in orbital decompression have continued to evolve through the years. Orbital decompression in the setting of Graves' orbitopathy is generally indicated for reversal of proptosis complicated by corneal exposure, compressive optic neuropathy, orbital congestion, and increasingly, for disfiguring proptosis. Advances in technique are mainly in the category of incision placement, selection of walls for decompression, and prevention of new-onset diplopia. Techniques in orbital decompression continue to evolve. Significant changes have occurred over the last decade in the indications for decompression, the incisions used to gain access, and the bony surfaces selected for removal. (**Authors' abstract**)

Keywords: *Thyroid orbitopathy, Exophthalmos, Orbital decompression, Medicine*

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NP

External Quality Assessment Scheme for Transfusion Transmissible Infections among Blood Service Facilities in the Philippines, 2015

de Vera, III, Benjamin , Punzalan, Kenneth Aristotle , Chamen, Iza Mae , Yu,

The External Quality Assessment Scheme (EQAS) for Blood Screening Serology aims to raise standards and assess the phases of laboratory testing of blood units.

In 2015, the National Blood Program listed a total of 200 Blood Service Facilities (BSF), 147 of which, enrolled for EQAS. These participants were given an EQAS panel designed to check the capacity of a BSF to detect the 5 transfusion transmitted infections (HIV, HBV, HCV, Syphilis and Malaria). Panels should be tested how a blood unit is routinely screened to mimic the actual laboratory process. This allows the NRL and participant to check and validate the entire blood unit screening process.

Test results were analyzed by OASYS Canada using the ISO 13528:2005 Robust Statistics method (Huber's Method) to identify outliers. Data analysis from the test event showed a significant number of participants that reported aberrant results due to errors related to random or systematic errors. This also showed deviations

from standard practice recommended by the Department of Health as well as a comparison of different test platforms for blood screening.

Ultimately, the data gathered from the EQAS are used to improve on policies for blood screening and set recommendations for the safety of the Philippine blood supply. **(Authors' abstract)**

Keywords: *blood transfusions, human immunodeficiency virus, hepatitis, syphilis, malaria, external quality assurance scheme, transfusion transmissible infections, Medicine*

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2016 April,
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NP

0351

External Quality Assessment Scheme for Transfusion Transmissible Infections among Blood Service Facilities in the Philippines, 2016 *Chamen, Iza Mae , Yu, Rhoda , Punzalan, Kenneth Ari*

The External Quality Assessment Scheme for Transfusion Transmissible Infections in the Philippines aims to raise the standards of quality testing for infectious diseases in blood units.

The National Blood Program lists more than 200 Blood Service Facilities (BSF) in the country in which 162 participated in the 2016 EQAS test event. These participants were given an EQAS panel composed the HVHT4320 serology program and MLRA415 malaria program. The panels should be treated by the participants as routine donor samples to simulate the actual laboratory process which allows the NRL and the participant to check and validate the entire blood unit screening process.

The results were submitted via an online informatics system and were analyzed by One World Accuracy Canada using the ISO 13528:2008 Robust Statistics method (Huber's Method) to identify outliers. Qualitative results were evaluated and compared with the reference results of the NRL to which non-concordance would mark their results aberrant. The results of the test event showed a number of participants having

aberrant results due to either random or systematic errors.

Data gathered from this EQAS test event are used to improve the processes of the blood service facility to ensure quality testing. **(Authors' abstract)**

Keywords: *quality assurance, blood donor serology, transfusion transmissible infections, proficiency testing, Medicine*

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0352

External Quality Assessment Scheme for Transfusion Transmissible Infections among Blood Service Facilities in the Philippines, 2017

Chamen, Iza Mae , Yu, Rhoda , Punzalan, Kenneth Ari

The External Quality Assessment Scheme (EQAS) evaluates the performance of participating laboratories through an external agency by which known blinded samples are sent to participants for analysis, and their performance evaluated and monitored.

The Transfusion Transmissible Infections – National Reference Laboratory provides an external quality assessment scheme for transfusion transmissible infections to blood service facilities in the Philippines with the aim of raising the standards of quality testing in infectious diseases in blood units and as a mandatory requirement in the licensing of laboratories.

In the 2017 test event, 180 participants were given an EQAS panel composed of the HVHT4120 serology program and the MLRA415 malaria program. Results were submitted through an online informatics system managed by OneWorld Accuracy Canada using the ISO 13528:2008 Robust Statistics method (Huber's Method). Results were analyzed and evaluated with the reference result of the NRL to which non-concordant results would be marked aberrant.

From the 14,392 generated results from the HVHT4120 program and 885 generated results from the MLRA415 program, 51 (0.35%) results and 86 (9.72%) results were reported as aberrant respectively. The aberrant results reported were either due to random or systematic errors.

Analyzed data from this test event are used for the continuous improvement of their competencies and the renewal of their license to operate as required by the Department of Health. **(Authors' abstract)**

Keywords: *quality assurance, blood donor serology, transfusion transmissible infections, proficiency testing, Medicine*

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0353

An Extremely Rare Case of Primary Aorto-enteric Fistula in a Filipino Patient

Ramos, John Daniel A. , Abola, Ma. Teresa , Maglaya, Patrick Louie

An aorto-enteric fistula is a fistulous communication between the duodenum and the aorta. The non-traumatic form, or primary aorto-enteric fistula (PAEF), is rare and fatal if untreated. This is a case of PAEF in a Filipino patient who presented with upper gastrointestinal bleeding (UGIB). A 62-year-old Filipino sought consult for hematemesis and melena. He had just been discharged the previous day and sent home on empiric *Helicobacter pylori* eradication therapy after a week of workup, which included an unremarkable esophagogastroduodenoscopy (EGD). He claimed to be hypertensive but was not taking any maintenance anti-hypertensive medication. Blood pressure was 80/50 mmHg, and cardiac rate of 94 bpm. He had pale palpebral conjunctivae, and pale nailbeds. Abdominal exam was

unremarkable. Rest of physical exam was normal. Stat hemoglobin was 63 g/dL. Exploratory laparotomy revealed the primary aortoduodenal fistula at the anterolateral aspect of the fourth segment of the duodenum (PADF). Patient was started on metoprolol and atorvastatin. Axillary femorofemoral bypass, ligation of aorta, wedge resection of aortoduodenal fistula, duodenorrhaphy, tube jejunostomy completed was done. Post-operative course was complicated by peritonitis and sepsis, and eventually went into arrest on his third week. This is the first case of PAEF in the researchers' institution, and possibly in the country. It is an extremely rare condition that has an annual incidence of 0.007 per million. Since its description in 1843, only 250 cases have been reported in literature. A high index of suspicion is key to its diagnosis and management. Massive UGIB, a negative endoscopy, and known aortic aneurysm should raise the suspicion for PAEF, as prompt surgical intervention is the only chance for survival among these patients. (**Authors' abstract**)

Keywords: *primary aorto-enteric fistula, upper gastrointestinal bleeding, esophagogastroduodenoscopy, Medicine*

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0354

EYE PROFILE OF CHILDREN AGES 3-5 YEARS OLD IN A DAY-CARE CENTER IN BRGY. BATIS, SAN JUAN

Inopia, Kristine, Chua, Car

OBJECTIVE: To determine the eye profile of children ages 3-5 years old in a day-care center in Brgy. Batis.

DESIGN: Cross-sectional descriptive study.

METHODS: Visual screening was conducted in 89 preschool children aged 3 to 5 years. The screening involved two basic procedures; the distant visual acuity test and structural eye exam. Those who failed the examination were referred to an ophthalmologist for further examination.

RESULTS: The prevalence of visual impairment was 5.6%. Of the 89 preschool children screened, 4 of them failed the distant visual acuity test. One had strabismus. Refractive errors were the most common cause of visual impairment. Hyperopic astigmatism was the most common type of refractive error seen in these age groups.

CONCLUSIONS: The study is a small but important step in the effort to understand the problem of visual impairment among our preschool children. Although results were low, the mere presence of visual disorders in this study is an important confirmation that there is a need for preventive ophthalmologic examination in these age groups. (**Authors' abstract**)

Keywords: *Preschool children, Eye screening, Prevalence, Visual impairment, Distant visual acuity, Strabismus, Amblyopia, Medicine*

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Factors Leading To Poor Adherence To Titration Of Once-Daily Basal Insulin Among Patients With Type 2 Diabetes Mellitus

Dampil, Oliver Allan C. , Quimpo, Joselynn A. , Tappan, Sweet Garllie Alb

Given the increasing burden of diabetes worldwide as well as in the Philippines, understanding factors affecting diabetes management is crucial. The researchers investigated the factors leading to poor adherence to titration of longacting, once a day, basal insulin among patients with type 2 diabetes mellitus (DM) seen at the outpatient department (OPD) clinics of St. Luke's Medical Center, Quezon City. This qualitative study included semi-structured individual interviews and focus group discussions (FGD). A total of 43 type 2 DM patients using once a day, basal insulin participated. 22 patients had one-on-one interviews while 21 patients were divided into three separate FGDs. Data were analyzed using thematic analysis. More than half (53.5%) of the type 2 DM patients included in this study did not have any method of titration of their once-daily basal insulin despite being taught by their attending physicians. The categorized themes identified were the following: patient-centered, treatment-related, healthcare system-related, and psychological/social factors. Lack of income or financial support, fear of insulin injection and its side effects, high cost of insulin, inaccessibility of medical assistance from healthcare facilities, negative attitude/fear of titration, and difficulty complying to lifestyle changes were some of the identified factors leading to poor adherence to the titration of once-daily basal insulin in this study. Good, constant communication between the patient and the doctor appears to improve adherence to insulin dose titration. Future studies may adapt the themes and concepts identified to improve adherence to titration of once-daily basal insulin among patients with type 2 DM. (**Authors' abstract**)

Keywords: *diabetes mellitus, insulin, hypoglycemia, hyperglycemia, blood glucose, patient education, healthcare, Medicine*

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A Filipino with Polyangiitis Overlap Syndrome and Associated Multiple Infections

Reyes, Katrina Angela Z. , Racaza, Geraldine Z., Penserga, Ester G. , Abrahan IV, Lau

Polyangiitis overlap syndrome (POS), a systemic vasculitis not classifiable into well-defined syndromes, is diagnosed based on combined characteristics of two or more primary systemic vasculitides, such as Takayasu arteritis and antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis (AAV), but not two AAVs. Our objective is to present such, with associated multiple infections. A 25-year-old Filipino female had six years of recurrent purpura, debilitating joint pains, hemoptysis, rhinorrhea, epistaxis, eye redness, dyspnea, and abdominal cramps. She was cachectic, had oral ulcers, bibasal crackles, polyarthrits, and generalized purpura. Work-up showed anemia, eosinophilia excluding parasitism, elevated inflammatory markers, and positive cytoplasmic (c)-ANCA and antiproteinase 3. There was chronic sinusitis on rigid rhinoscopy, middle to lower lung field interstitial infiltrates on radiographs, pulmonary vasculitis on chest CT, moderate pulmonary hypertension on echocardiography, but normal spirometry. Skin biopsy showed leukocytoclastic vasculitis without necrotizing granulomas. Serology showed chronic hepatitis B infection. *Pseudomonas aeruginosa* and methicillin-resistant *Staphylococcus aureus* grew from bronchial washings and nasal swabs, respectively. ASO titer was high. Human immunodeficiency virus infection was ruled out.

She was diagnosed with POS, with features of two AAVs – limited granulomatosis with polyangiitis (GPA) and Churg-Strauss syndrome (CSS), associated with multiple infections, and was given naproxen and culture-guided antibiotics (ciprofloxacin, clindamycin, penicillin), with partial resolution of symptoms. Prednisone 10 mg once a day (OD) was started two weeks after hepatitis B reactivation prophylaxis with lamivudine 100 mg OD. Complete resolution of skin lesions and upper airway symptoms and inflammatory marker improvement were observed after 12 weeks. She is maintained on prednisone 5.0 mg daily. This is the first reported case of POS involving two AAVs – limited GPA and incomplete CSS, associated with multiple pathogens. Identifying POS is important; inability to classify patients into well-recognized vasculitic syndromes delays treatment. The infections likely perpetuated the vasculitis, and both antimicrobials and immunosuppression were necessary to induce disease remission. (**Authors' abstract**)

Keywords: *polyangiitis overlap syndrome, antineutrophil cytoplasmic antibody, ANCA-associated vasculitis, Wegeners granulomatosis, granulomatosis with polyangiitis, Churg-Strauss syndrome, infectious vasculitis, primary vasculitis, eosinophilia, Medicine*

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0357

A Five-Year Review of Refractive Procedures, Outcomes and Complications

Vizconde, Dennis C. , Canilao, Lilette Marie B. , Valencia, Niccolo Zandro R. , Tady, Clarissa Marie S. , Ang, Robert Edward T., Rivera, Mark Christian

Objective: To evaluate the visual and refractive outcomes of LASIK, PRK, phakic IOL, and Supracor as treatment for errors of refraction, including presbyopia, performed at a private eye center.

Method: This is a retrospective, single-center, single-surgeon study that reviewed the surgical outcomes of patients who underwent LASIK, PRK, phakic IOL, and Supracor from January 2010 to December 2014. Main outcome measures were postoperative uncorrected and corrected distance, intermediate, and near visual acuity (for Supracor), and mean manifest-refraction spherical equivalent (MRSE) of patients who had at least 1 month follow up. Complications and enhancements were analyzed independently.

Results: Data were analyzed from 1,366 eyes of 771 patients. LASIK was the most commonly performed procedure (68%), followed by PRK (18.3%), Supracor (10.2%), and phakic IOL (3.7%). The postoperative mean MRSE at 1 month for LASIK, PRK, and phakic IOL were -0.08 ± 0.36 , $+0.06 \pm 0.52$ and -0.11 ± 0.44 , respectively. The mean postoperative logMAR uncorrected distance visual acuity (UDVA) at 1 month for LASIK, PRK, and phakic IOL were 0.02 ± 0.10 , 0.07 ± 0.12 , 0.001 ± 0.09 , respectively. In the Supracor group, the mean preoperative and postoperative spherical equivalent were $+1.12 \pm 0.8$ and -0.76 ± 0.62 , respectively. The mean postoperative logMAR UDVA and uncorrected near visual acuity (UNVA) for Supracor were 0.24 ± 0.19 and 0.02 ± 0.08 , respectively. The most common postoperative complication was symptomatic dry eye (13%). Regression and off-target outcomes occurred in 24 (1.8%) and 13 eyes (1%), respectively. Overall enhancement rate was 2%.

Conclusion: LASIK remained to be the most common refractive procedure, with femtosecond laser-created flap becoming the norm. Refractive and visual outcomes showed good efficacy with all the refractive procedures. Complication and enhancement rates were low. (**Authors' abstract**)

Is FNA Still a Useful Tool in the Diagnosis of Breast Masses? A 5-Year Review with Cytohistopathologic Correlation

Salillas, Annette, San Juan,

Introduction. Breast cancer is the most common cancer among women worldwide. In the Philippine National Cancer registry, 1 in every 13 Filipino women is likely to suffer from breast cancer. Fine needle aspiration cytology (FNAC) is a safe, accurate, fast and economical technique practiced worldwide in breast cancer diagnosis.

Objective. To assess the value of FNAC as a rapid diagnostic tool in the local setting with the expectation to provide an immediate and highly reliable diagnosis in more than 90% of breast lesions.

Methodology. From January 2010 to December 2014, there were 306 out of 1465 breast FNAC documented cases with histopathological correlation. The FNAC smears were retrieved, retrospectively reviewed blindly and reclassified into 5 categories (C1- C5). All FNAC were performed by pathology residents, pathologists and cytopathologist. Smears were fixed in 95% ethyl alcohol and stained with Papanicolaou method.

Results. The FNAC findings showed: 13 (4.25%) unsatisfactory (C1); 160 (52.29%) benign (C2); 23 (7.52%) atypical (C3); 9 (2.94%) suspicious (C4) and 101 (33.01%) malignant cases (C5). There were 120 (39.22%) malignant and 186 (60.78%) benign lesions. There were 3.92% (12/306) false negative and 0.65% (2/306) false positive cases.

The FNAC had 90% sensitivity, 99% specificity, 98% positive predictive value, 99% negative predictive value and 95% accuracy. The risks of malignancy for each category were: C1=15%; C2=4%; C3=13%; C4=78% and C5=100%.

Conclusion. Despite the increasing preference for core needle biopsy among surgeons, FNAC continues to be an acceptable, affordable, quick and valuable tool contributing significantly to early breast cancer diagnosis and treatment, particularly in developing countries like the Philippines. Owing to its high sensitivity and specificity, it can be used as a screening and confirmatory diagnostic tool. Malignant and benign

interpretations of breast FNAC give highly accurate prediction of outcomes but must be correlated with clinical and mammographic findings. **(Authors' abstract)**

Keywords: fine needle aspiration cytology, breast, cytohistopathological correlation, Medicine

**FOLIC ACID SUPPLEMENTATION IN THE TREATMENT OF ACUTE WATERY
DIARRHEA IN CHILDREN 6 MONTHS TO 36 MONTHS OF AGE: A RANDOMIZED
DOUBLE-BLIND PLACEBO-CONTROLLED CLINICAL TRIAL**

Resurreccion, Michael M. , Martinez-Lee, The

OBJECTIVE: To determine the efficacy and safety of folic acid supplementation among pediatric patients 6 months to 36 months old with acute, non-bloody diarrhea in Quirino Memorial Medical Center.

STUDY DESIGN: randomized, double- blind placebo-controlled clinical trial

SETTING: Pediatric Ward of a Tertiary Government Hospital.

PARTICIPANTS: Seventy two subjects aged 6 month to 36 months old with acute non bloody diar-rhea of six days duration or less, with some or moderate signs of dehydration based on WHO-CDD protocol.

INTERVENTION: Subjects were randomized into two treatment groups: Group 1 (Folic Acid Group) and Group 2 (Placebo Group)

OUTCOME MEASURES: Efficacy of the folic acid was measured in terms of stool characteristics, frequency, volume and duration

RESULTS: A total of 72 diarrheal cases ages 6 months – 36 months were enrolled to the study. The two groups were essentially similar in terms of age, sex and degree of dehydration. Mean age was 11.3 months for Group 1 and 13 months for Group 2. The character of stool was described as either liquid, semi-formed/semi-liquid, and formed stool. The stools significantly differed in the two groups by Day 2, 75% of subjects in Group 1 showed semi-formed stool, and 33% in Group 2 (P value – 0.0009). By Day 3, 53% of subjects in Group 1 had formed stools , and only 11% in Group 2. Among the subjects not discharged at days 3 and 4, the proportion of those with formed stools was significantly higher in Group 1 than in Group 2. The volume of stools measured in grams was similar for Day 1 in both groups, but at days 2-3, the volume of stool was significantly lower in Group 1 than in Group 2 (P value 0.0000). It showed that there was a significantly higher proportion and percentage (cumulative) of subjects discharged starting day 3, in Group 1 than in Group 2. By day 5 , 97% of patient in group 1 was discharged while only 75% in group 2. The length of hospital stay was 2.3 days in Group 1 and 3.6 days in Group 2 (P-value 0.0000).

CONCLUSION: Folic acid supplementation to the management of acute diarrhea enabled majority of the subjects in this study to have earlier formed stools, reduce volume of stool earlier and re-duce frequency of stooling, resulting in early discharge and shorter hospital stay. (**Authors' abstract**)

Keywords: acute diarrhea, bloody diarrhea, folic acid, supplemental treatment, Medicine

Follow-up Study on the Safety of Prophylactic Intracameral Administration of Moxifloxacin 0.5% Ophthalmic Solution in Cataract Surgery

Carbonell, Denise Ramona V., Espiritu, Ramon Cesar

Objective: To determine the safety of intracameral moxifloxacin 0.5% ophthalmic solution in cataract surgery given at a dose of 500 mg/0.1 mL.

Methods: Medical records of uncomplicated phacoemulsification performed between January 2009 and December 2010 were reviewed. Each eye received 0.1 mL intracameral moxifloxacin (0.5% ophthalmic solution containing 500 mg of moxifloxacin) prophylactically. Outcome measures included anterior chamber cells and flare (Hogan System), corneal thickness, endothelial cell density, visual acuity, and intraocular pressure.

Results: 353 eyes of 244 patients, mean age of 67.51 ± 9.22 years, were included into the study. All patients completed follow-up to 3 weeks, with 79 patients (103 eyes) followed up to 3 months. All eyes had 20/40 or better vision at 3 weeks and 3 months postoperatively. Trace to +2 anterior chamber cells and flares were observed in 96% of eyes on day 1 postsurgery. All had quiet anterior chambers at subsequent follow-up examinations. Intraocular pressures recorded postoperatively were not significantly different. Mean endothelial cell count (ECC) postoperatively were 2473.25 cells/mm² at 3 weeks and 2468.42 cells/mm² at 3 months and were not significantly different from baseline (2586.57 cells/mm²) ($p = 0.07$ and 0.12 respectively). The mean central corneal thickness postoperatively at 3 weeks (551.92 μ m) and at 3 months (542.67 μ m) were not different from baseline (546.48 μ m) ($p = 0.47$). Those with diabetes mellitus showed similar results.

Conclusion: Intracameral moxifloxacin 0.5% appears to be safe for prophylactic use in cataract surgery. At a dose of 500 mg/0.1 mL, there was minimal anterior chamber reaction, and the corneal thickness and endothelial cell density were not significantly different from preoperative. (**Authors' abstract**)

Keywords: *Intracameral moxifloxacin, Phacoemulsification, Endophthalmitis prophylaxis, Endothelial cell count, Pachymetry, Medicine*

Four-year Clinical Outcomes of Filipino Patients with or at Risk for Atherothrombotic Events from the REACH Registry

Punzalan, Felix Eduardo R. , Abola, Maria Ter

Patients with established atherothrombotic disease (EAD) or those with only atherothrombotic risk factors are at high risk for cardiovascular events and death. There are scant data on the clinical profile of stable Filipino patients with or at risk for atherothrombosis and their long-term outcomes. The authors' objective is to present the baseline clinical profile and four-year cardiovascular outcomes in Filipino outpatients with EAD and those with multiple atherothrombotic risk factors in comparison to the Asian and Global populations. The Reduction of Atherothrombosis for Continued Health (REACH) registry is an international, prospective cohort of 68,236 patients aged at least 45 years old with either EAD or at least three atherothrombotic risk factors enrolled from 44 countries in 2003-2004. The Philippine cohort consists of 1040 outpatients with EAD (N=913) or at least three atherothrombotic risk factors (N=127) consecutively enrolled and followed up for at least one to four years for the occurrence of cardiovascular death (CVD), myocardial infarction (MI) and stroke.

Nine hundred fifty-five Filipino outpatients (96%) completed the four-year follow-up. Mean age is 65.5 years with similar sex distribution. Common risk factors included diabetes (46%), hypertension (87.4%), hypercholesterolemia (62.9%), and smoking history (29.7%). Ninety-two percent had EAD – 43% with coronary artery disease, 45% with cerebrovascular disease (CVD) and four percent with peripheral artery disease (PAD). The combined primary endpoint of CVD/MI/stroke was 14.7%, but higher (19.8%) among those with polyvascular disease. Cerebrovascular disease (CVD) patients had the highest CVD/MI/stroke rates (17.6%); PAD patients had the highest CVD/MI/stroke and hospitalization rate (33.2%). Baseline medication usage is 81.1% for antiplatelet agents, 62.6% for statins and 69% for angiotensin-converting enzyme inhibitor/angiotensin receptor blocker but four-year follow-up medication usage rates were lower. Filipino outpatients with or at risk for atherothrombosis experienced high long-term rates of CV events. This is the first report of long-term cardiovascular outcomes of stable Filipino outpatients with this high-risk profile. (**Authors' abstract**)

Keywords: *atherothrombotic disease, atherothrombosis, REACH Registry, Medicine*

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0362

Freeze-dried human cancellous bone as orbital implant in an animal model

Tan, Alexander D. , Peczon, Jr., Ildefo

The study was conducted to determine if freeze-dried human cancellous bone is biocompatible and can be used as an integrated orbital implant. This is an experimental study of 10 rabbits that underwent unilateral enucleation with placement of a 14mm spherical orbital implant made from freeze-dried cancellous bone of human femoral heads. The implants were harvested after six weeks. Grossly, the rabbits were observed for occurrence of inflammation and implant extrusion. Histologically, the extent of fibrovascular ingrowth was assessed. Six rabbits completed six weeks of observation. All implants were exposed at the time of harvest, although there was no evidence of gross infection or inflammation. None of the implants were extruded. Fibrovascular ingrowth was observed in the outer third zone. A few plasma cells were seen, mostly in the periphery, and scattered among red blood cells in the center of the implant. Orbital implant made from freeze-dried human cancellous bone is comparable to commercially available porous implants with regard to the presence of fibrovascular ingrowth when implanted in rabbit eyes. This lessens the chance

of implant extrusion. The absence of implant rejection in this study is an encouraging indication that it should be tested in humans. **(Authors' abstract)**

Keywords: *freeze-dried human cancellous bone, integrated orbital implant, Medicine*

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0363

Frequency of Epidermal Growth Factor Receptor Mutations among Filipino Patients with Non-small Cell Lung Carcinoma in a Private Tertiary Care Setting

Ang, Daphne , Andar, Jose Jasper , Nee-Estuye-Evangelista, Cyr

Background. Epidermal Growth Factor Receptor (EGFR) mutation status has been shown to have a significant prognostic and predictive role in the management of Non-small Cell Lung Carcinoma (NSCLC), significantly prolonging patients' survival. Thus, EGFR mutational analysis before initiation of treatment is now recommended in several clinical practice guidelines. Although EGFR mutation testing in NSCLC has been a part of clinical care in the Philippines, there is little data on the EGFR mutation spectrum among Filipinos.

Objective. This study aims to determine the frequency of EGFR mutations among Filipino population diagnosed with NSCLC in a private tertiary care setting.

Methodology. A total of 626 tissue samples (444 biopsies, 108 pleural/ascitic fluids, 74 excision/resection), during a 15-month period (January 2015-March 2016) were assessed for the known EGFR driver mutations (exons 18, 19, 20, 21) using the Roche EGFR protocol with the Cobas Quantitative Real Time PCR. Macrodissection was performed as necessary. Available patient demographics were recorded. Statistical analyses were performed using the Fisher's exact test.

Results. In this study, we report the largest EGFR mutation profiling data among Filipino patients with NSCLC, which showed an overall 49.4% EGFR mutation rate. The mutation rates according to histologic types, were as follows: adenocarcinoma (49.9%, n=287/575), squamous cell carcinoma (3.5%, n=9/26), NSCLC NOS (50%, n=10/20), adenosquamous cell carcinoma (66.7%, n=2/3), and adenocarcinoma with neuroendocrine features (50%, n=1/2). Consistent with the literature, we found a significant higher incidence of EGFR mutation among women than men (60.2% vs 39.8%). With regards to individual mutation types, the most common mutations detected were deletions in exon 19 (54.7%, n=168), followed by L858R point mutation in exon 21 (27.4%, n=84).

Conclusion. The incidence of EGFR mutations in NSCLC varies across different ethnicity. In previous reports, the frequency of EGFR mutations is approximately 30% (with a range of 22.2% to 64.2%) among the Asian population compared with 20% among the white population. In the Philippines, the incidence of EGFR mutations is sparsely explored. Here we report the largest EGFR mutation profiling data among Filipinos with NSCLC in a tertiary care setting, with a frequency of 49.4%. This prevalence is almost similar to those reported in Asia. EGFR is differentially mutated among NSCLC patients with different gender, as women have significantly higher incidence than men. Hence, this study establishes relevance of routine EGFR

mutation testing for all NSCLC patients as part of initial workup at diagnosis and underscores the significant role of EGFR inhibitors as a treatment option among Filipino population. **(Authors' abstract)**

Keywords: *Epidermal growth factor receptor, non-small cell lung carcinoma, Exons 18,19,20 and 21, T790M, polymerase chain reaction, Medicine*

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0364

Frosted-branch angiitis

Remulla, Juancho Francisco C. , Uy, Harvey S. , Felipe, Anthony F., Salvosa, Farlah Angela

This study reported case of frosted-branch angiitis seen at the University of the Philippines–Philippine General Hospital. A 42 year-old male presented with progressive blurring of vision of the left eye. Indirect funduscopy showed dilated retinal veins with perivascular sheathing, giving the appearance of frosted branches of a tree. Frosted-branch angiitis is a rare form of retinal vasculitis with various etiologies. Despite the severe retinal appearance, the prognosis is usually good, with rapid recovery of visual acuity after prompt steroid treatment. **(Authors' abstract)**

Keywords: *Frosted-branch angiitis, retinal vasculitis, retinal veins, perivascular sheathing, Medicine*

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0365

Frosted-branch angiitis with central-retinal-vein occlusion: angiographic and OCT findings

Uy, Har

This study reported angiographic and optical-coherence-tomography findings in a case of frosted-branch angiitis (FBA) with centralretinal-vein occlusion (CRVO). This is a case report of a healthy Japanese female presented with monocular blurring of vision. Fluorescein angiography (FA) revealed extensive dye leakage from the retinal blood vessels and optic-nerve head. Indocyanine-green (ICG) angiography demonstrated tortuous retinal veins containing foci of hypofluorescence, foci of hyperfluorescence, and diffuse dye leakage. Late choroidal hypofluorescent patches were observed. Optical coherence tomography demonstrated swelling of the optic-nerve head and thickening of the sensory retina and nerve-fiber layer. Aggressive steroid treatment resulted in improved vision and angiographic appearance. CRVO may be an initial presentation of FBA. FA, ICG, and nerve-fiber-layer OCT examinations are useful in monitoring disease resolution. Early and aggressive steroid treatment can help control inflammation and improve visual outcome. **(Authors' abstract)**

Keywords: *Frosted-branch angiitis (FBA), Centralretinal-vein occlusion (CRVO), Fluorescein angiography (FA), Optical coherence tomography, Indocyanine-green (ICG), Medicine*

Functional Disability of Filipino Patients with Hand Osteoarthritis seen at a Rheumatology Outpatient Clinic of a Tertiary Government Hospital

Penserga, Ester G. , Manapat-Reyes, Bernadette Heizel, Afos, Ivy Elline

Introduction: Osteoarthritis (OA) is a common joint disease which may cause functional limitation in daily activities. The aim of this study is to determine disability of patients with hand osteoarthritis (HOA) using the Disability of Arm, Shoulder and Hand (DASH) questionnaire and to determine association of risk factors to the development of HOA.

Methods: This is a cross-sectional study done in a tertiary government hospital. Patients seen at the rheumatology outpatient clinic aged 40 years and above, diagnosed with primary OA of hands, knees, hips and spine based on American College of Rheumatology criteria and who gave written informed consent, were included. Patient characteristics were extracted. Descriptive statistics were used. Those with HOA were compared to those without HOA, as to biomechanical stress, menopause, body mass index (BMI) and family history. They were made to complete the DASH questionnaire. Data was analyzed using chi-square and logistics regression analysis to determine association of risk factors for HOA.

Results: One hundred fifty patients with primary OA were included; 61.3% were between 60-79 years, 92% were female. Forty-one percent were obese, 55.3% had family history of OA. There were 88 cases of HOA (59%). Mean age at onset is 58.2 ± 8.8 years, mean age at diagnosis is 61.8 ± 9.6 years. The most common complaints were stiffness and pain (60.3%), stiffness only (29.5%) and pain only (10.2%). The average DASH is 28.7 ± 15.6 (mild disability), seen in 59.1%, moderate disability in 37.5% and severe in 3.4%. Among the risk factors for the development of HOA, there was a trend for menopause, BMI and biomechanical stress to increase

risk of HOA. Among the biomechanical factors, cooking, laundry and cleaning showed a trend toward increasing risk two-fold.

Conclusion: This study showed that half of patients with primary OA in the study had HOA that was mildly disabling in a majority, and moderately disabling in 1/3 of cases.

There may be correlation with biomechanical factors in its development. Other important risk factors for its development need to be further studied in a larger cohort of patients. **(Authors' abstract)**

Keywords: *hand osteoarthritis, disability, risk factors, Medicine*

Gastrointestinal Vasculitis in Systemic Lupus Erythematosus: A Successful Treatment with Belimumab

Navarra, Sandra V. , VeÃ±egas, Elaine T., Ngo, Joenavin

Introduction: Gastrointestinal (GI) vasculitis among systemic lupus erythematosus (SLE) patients is a rare manifestation confounded with non-specific clinical symptoms and laboratory parameters which delay diagnosis leading to increase morbidity and mortality. This is a case report of a patient with of GI vasculitis who was successfully treated with belimumab

Case presentation: We describe a case of a Chinese descent, 24-year-old female who was diagnosed with SLE presenting as malar rash, arthritis, intermittent fever, positive antinuclear antibody (ANA), high titer anti double-stranded DNA and low serum complement. She had gastrointestinal manifestations of colicky abdominal pain, vomiting and diarrhea, with computed tomography scan findings of diffuse

mucosal edema involving both small and large intestines, with “target” sign strongly suggestive of GI vasculitis. She initially showed good response to methylprednisolone pulse therapy, but with recurrence of abdominal pain after three months. Repeat abdominal CT showed perforated viscus at the ileal segment with pneumoperitoneum, requiring emergency exploratory laparotomy and colostomy placement. Subsequent clinical course was marked by intolerance to oral steroid requiring regular administration of high dose intravenous steroids. Belimumab was started months after surgery and maintained for two years now. She was successfully shifted to oral prednisone, tapered to lowest dose and underwent uneventful intestinal reanastomosis with closure of colostomy.

Discussion: Gastrointestinal (GI) vasculitis is one of the most serious gastrointestinal complications SLE presenting as acute abdominal pain. Our patient was diagnosed based on abdominal CT scan which led to an accurate diagnosis and prompt treatment. Supportive measures, surgery, and belimumab impacted the outcome of this patient.

Conclusion: Gastrointestinal (GI) vasculitis in SLE has a good outcome with early diagnosis and intervention. Our patient responded well with surgery, steroid and belimumab, a fully human recombinant immunoglobulin G (IgG) 1 λ monoclonal

antibody. This case report showed that belimumab is a good alternative treatment for lupus GI vasculitis. (**Authors' abstract**)

Keywords: *gastrointestinal vasculitis, systemic lupus erythematosus, sle, lupus, Medicine*

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(Filipiniana Analytics)
NP

Glycemic Control and Changes in Macular Thickness after Phacoemulsification in Diabetics

Protasio, Jesa Nadine V., Aguilar, Romulo

Objective: To correlate glycemic control, as expressed by HbA1c levels, to the change in macular thickness in diabetic patients who undergo phacoemulsification.

Methods: This was a prospective cohort study done at the Cataract and Medical Retina Clinics of the University of the Philippines Department of Ophthalmology and Visual Sciences (UP-DOVS), Sentro Oftalmologico Jose Rizal (SOJR) of the Philippine General Hospital, University of the Philippines – Manila. Participants included 15 diabetic patients with mature cataracts that warranted lens extraction surgery via phacoemulsification by a senior resident of the UP-DOVS. Participants were screened using pre-determined inclusion and exclusion criteria. Pre-operative best corrected visual acuity (BCVA) was obtained for both eyes using the Early Treatment Diabetic Retinopathy Study (ETDRS) chart. Pre-operative central macular thickness (CMT) was measured using the Cirrus Ocular Coherence Tomography (OCT) machine. Patients then underwent monocular phacoemulsification by their respective surgeons and instilled antibiotic and steroid drops as instructed. One month after surgery, BCVA and post-operative CMT were measured. Blood was extracted and sent for determination of glycosylated hemoglobin (HbA1c) levels. Ttest was done to compare the mean CMT and BCVA at baseline and at 1 month after phacoemulsification in the study and control eyes. T-test was also used to compare the mean change in CMT in the study and control eyes. Simple correlation between HbA1c and CMT, as well as CMT and BCVA, was done using Pearson's R.

Results: Neither mean baseline nor mean post-operative CMT between study and control eyes were statistically different ($p=0.8771$ and $p=0.1562$). There was a statistically significant greater mean CMT in the study eye group ($p=0.004$). There was a mean change in CMT of $16.7 \pm 18.5 \mu\text{m}$, and $1.8 \pm 8.8 \mu\text{m}$ in the group of control eyes ($p=0.011$). Mean HbA1c was 8.19%. No positive correlation was established between HbA1c and mean CMT in both study eyes ($r=-0.312$) and control eyes ($r=-0.289$). No correlation was established between BCVA and CMT ($r=0.426$).

Conclusion: In diabetics, eyes that undergo phacoemulsification gain a significant change in CMT but this may not necessarily result in macular edema and may not parallel the severity of diabetic retinopathy. We were not able to demonstrate correlation between CMT and HbA1c levels or CMT and BCVA. (**Authors' abstract**)

Keywords: *central macular thickness, HbA1c, phacoemulsification, cataract surgery, diabetics, Medicine*

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NP

0369

Goal Attainment Theory-Based Empowerment for Chronically Ill Older Persons in the Community

Garma, Paul Froilan U., Kuan, Letty

Empowerment programs focusing on chronically ill older persons remain limited, fragmented, complex in approach, and lacking in nursing theoretical background. The aim of the study was to test the effects of the goal attainment theory-based empowerment (GATE) on self-efficacy and health empowerment among chronically ill older persons in the community. This is a quasi-experimental with non-equivalent control group pre-test post-test study. Older persons aged 60 years old and above living in an urban community with at least one chronic condition namely hypertension, coronary artery disease and diabetes mellitus were recruited in two health centers.

The participants were randomized into control and intervention groups. The GATE intervention integrated Imogene King's goal attainment theory and empowerment principles in a phone-assisted follow-up. Data were collected at baseline and four weeks after the intervention. A total of 59 participants completed the study. Both intervention (n= 30) and control groups (n= 29) were homogenous in baseline characteristics except for personal monthly income. The intervention group had significantly higher health empowerment than the control group after four weeks. Although self-efficacy did not differ between the groups, there was a significant increase in the intervention group from baseline. Preliminary findings showed that GATE improves health empowerment and self-efficacy of chronically ill older persons in the community. Goals of chronic disease management should be shaped by the older person's health goals and life situation. Further studies are needed to explore the use of nursing theory, empowerment framework and technology in caring for older persons with chronic conditions. **(Author's abstract)**

Keywords: *Health empowerment, goal attainment theory, chronic care, gerontologic nursing, Medicine*

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NP

0370

Health-Related Quality of Life in Patients with Permanent Pacemaker at the University of Santo Tomas Hospital: A Cross-sectional Correlational Study

Muljadi, Nadia, Ramirez, Marcellus Francis

The evolution of cardiac pacing is expected to decrease the cardiovascular morbidity and mortality but this type of intervention might affect the health-related quality of life (HRQOL) and eventually the overall prognosis of the patient. This study assessed the HRQOL in patients with permanent pacemaker using Philippines (Tagalog) Short Form (SF)-36v2 health survey. A cross-sectional correlation study was conducted. Philippines (Tagalog) SF-36v2 health survey was administered among patients with permanent pacemaker who had their pacemaker analysis at the University of Santo Tomas Hospital from October to December 2015. The higher the score the better HRQOL and many studies used a cut-off point of 50. Pearson Correlation and Non-Parametric Mann-Whitney Tests were used in this study. Forty-two patients were enrolled in this study. There were 24 male and 18 females with mean interval of age 71.48±12.3. Most of the HRQOL scores were lower than 50. The highest HRQOL scores were vitality and mental health aspect while the worst were role emotional and physical functional aspect. Age, educational attainment, type of permanent pacemaker, pacemaker dependency, NYHA (New York Heart Association) functional capacity and presence of co-morbidities particularly diabetes mellitus type 2 were significant factors for poor HRQOL. This study showed that overall the HRQOL in patients with permanent pacemaker was below average. A comprehensive management in order to improve the HRQOL should be considered among patients with permanent pacemaker. **(Authors' abstract)**

Keywords: *health-related quality of life, HRQOL, permanent pacemaker, philippines (tagalog) SF-36v2 health survey, cross-sectional correlational study, pacemaker analysis, Medicine*

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(Filipiniana Analytics)
NP

Hemodialysis Patients' Compliance and Adherence Behaviors to Renal Replacement Therapy in Two Dialysis Centers in Iloilo City

Palmes, Patricio P. , Villaflor, Agnes Jean M. , Ong, Jr., Ren

Introduction: Approximately 120 per million population develop kidney failure, translating to about 10,000 Filipinos needing to replace their kidney function per year. If without the appropriate intervention, those having kidney failure will surely die. The study aims to evaluate the compliance of hemodialysis (HD) patients to renal replacement therapy (RRT) in two dialysis centers in Iloilo City, and to compare the prevalence of non-adherence in between groups.

Methods: A cross-sectional study where subjects answered the End-Stage Renal Disease–Adherence Questionnaire (ESRD-AQ).

Results: Of the 102 patients, 59.8% (n=61) were enrolled. The mean age was 47 years with average HD vintage of 30 months. More females were non-adherent to HD treatment, 17.1% vs.15.4%; whereas more males were non-adherent to the remainder descriptors (medications, 11.5% vs. 8.6%; fluid restriction, 23.1% vs. 17.1%; and diet recommendations 30.8% vs. 25.7%). There were less non-adherent patients than adherent ones (HD attendance, 9,803.92 vs. 50,000; medications, 5,882.35 vs. 53,921.57; fluid restriction, 11,764.71 vs. 48,039.22; and diet, 16,666.67 vs. 43,137.25 per 100,000). There were significant differences in their behaviors toward HD attendance ($p=0.000$); shortening of HD treatment ($p=0.000$); duration of shortening HD ($p=0.000$); adherence to medications ($p=0.000$); to fluid ($p=0.000$); and to diet ($p=0.000$). Both groups demonstrated the same level of perception and understanding towards the importance of HD ($p=0.306$ and 0.096 , respectively). There was no significant difference in their perception to medications ($p=0.427$); however, figures illustrate a significant difference in their levels of understanding towards its importance ($p=0.001$). Adherent subjects have better perception and

understanding in fluid restriction regimen and dietary recommendations as data show significant differences in between groups ($p=0.000$ and 0.000 ; and $p=0.001$ and 0.004 , respectively).

Conclusion: The compliance of adherent subjects to HD treatment, medications, fluid restriction protocol and dietary recommendations was more adequate. The non-adherent subjects were less prevalent than adherent subjects.
(Authors' abstract)

Keywords: renal replacement therapy, end-stage renal disease adherence questionnaire, adherence behaviors and compliance, Medicine

Hepatocellular-Cholangiocarcinomas in Non-alcoholic Fatty Liver Disease: Evidence for Stem Cell Origin

Kagen, Alexander , Wayne, Michael , Ho, Lorraine , Tsui, Wilson , Mendoza, Paulo Giovanni, Theise, N

The authors present two cases of combined hepatocellular-cholangiocarcinoma in a background of noncirrhotic, non-alcoholic fatty liver disease (NAFLD). The increasing incidence of NAFLD and the subsequent recognition of it being a pre-malignant condition even in the absence of significant fibrosis or established cirrhosis has led to the investigations of the different pathways involved in NAFLD-associated hepatocarcinogenesis, including speculations regarding the possibility that many derive from pre-malignant hepatocellular adenomas, tumors also increasingly associated with NAFLD, or reflect malignant transformation of mature hepatocytes through genetic and epigenetic alterations reflecting inflammatory changes in NAFLD. However, NAFLD, like most chronic liver diseases, leads to progressive activation of resident hepatobiliary stem/progenitor cells that are thought to give rise to malignant tumors in other settings. In particular, combined hepatocellularcholangiocarcinomas (with and without stem cell features) are thought to reflect malignant transformation of these activated progenitors. Our two cases of combined hepatocellular-cholangiocarcinomas suggest that malignant transformation of hepatobiliary stem/progenitor cells in NAFLD are also a possible pathway to malignancy, even in the absence of established cirrhosis. **(Author's abstract)**

Keywords: *hepatocellular-cholangiocarcinoma, non-alcoholic fatty liver disease (NAFLD), steatohepatitis, stem cell, Medicine*

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NP

0373

The hidden eye: A case of cryptophthalmos

Lim Bon Siong, Ruben , Joaquin-Quino, Raquel M., Mangubat, Leonard

This is a report of a case of cryptophthalmos seen at the University of the Philippines-Philippine General Hospital (UP-PGH). Differential diagnosis and management options are discussed. A 12-day old boy presented with no right palpebral fissure, eyelashes, or eyebrow. The skin overlying the right orbit was continuous from the forehead to the cheek. Under this skin was a 17 mm x 15 mm soft, round, movable mass anterior to the globe. The left upper lid was colobomatous with no eyebrow and fornix. The left cornea measured 9 mm x 6 mm with exposure keratitis and large ulcer. Ultrasound of the right orbit identified the presence of the right globe with normal posterior segment. Cranial computed tomography (CT) showed a cystic mass anterior to the right globe with absent lens. Visual evoked response of the left eye established nonspecific severe optic-nerve damage, delayed visual-pathway maturation and visual-pathway affection. Management of complete cryptophthalmos is difficult and requires separation of the lids and placement of mucous membrane grafts to allow for fitting of prosthesis. Reconstruction of the lid coloboma is necessary to prevent exposure keratitis. Genetic counseling is also important in the management of cryptophthalmos. **(Authors' abstract)**

Keywords: *Cryptophthalmos, Palpebral fissure, Coloboma, Symblepharon, Congenital, Medicine*

Philippine Journal of Ophthalmology, Volume No. 29 Issue No. 3, 1-3
2004 July to September,
(Filipiniana Analytics)
NP

Histomorphologic Effects of *Bacillus clausii* Spores in Enteropathogenic *E. coli* O127:H21-infected Mice: A Pilot Study

Zantua, Anna Carmina , Yorobe, Mari Anne , Yao, Ada Lyn , Villasenor, Liz , Zuniga, Wilson , Zantua, Anna Carmina , Yorobe, Mari Anne , Yao, Ada Lyn , Villasenor, Liz , Villarante, Katrina Lenora , Villanueva, Ana Patricia , Villalobos, Ralph Elvi , Ver, Mikhail Lew , Umali, Arlene , Umandap, Christine Hope , Tuano, Diana Francesca , Tud, Raissa Marie , Torres, Ryan , Yu, Marc Gregory, Zuniga, Wilso

The study aimed to determine the basic histomorphologic effects of *Bacillus clausii* (*B. clausii*) spores in enteropathogenic *Escherichia coli* (*E. coli*) O127:H21-infected mice by evaluating the spleen, mesenteric lymph nodes, and intestinal mucosa. The study involved 46 apparently healthy *Balb/c mice* (*Mus musculus*) which were acclimatized for 19 days prior to any intervention. Sixteen mice were used to determine the sublethal dose of *E. coli*, which was performed by administering serially-diluted solutions and subsequent generation of a standard curve. From the remaining 30 mice, ten served as normal controls while the remaining 20 were randomized to receive either *B. clausii* or placebo of sterile water for a week. All mice were then challenged with *E. coli* for another week and euthanized, and the spleen, mesenteric lymph nodes, and small intestine harvested and examined microscopically. All study personnel were blinded of the treatment assignments. Histologic evaluation of the small intestine in *E. coli* only-fed mice exhibited prominent attachment effacement lesions, with severely denuded mucosa, lymphocytic infiltration, and debris in the intestinal lumen. However, mice given *B. clausii* prior to *E. coli* infection displayed only minimal mucosal damage with less sloughing of villus tips, plus increased mucus-secreting goblet cells. In the spleen, *E. coli* only-fed mice showed moderate to severe lymphoid hyperplasia with blurred boundaries between red and white pulp. In contrast, mice which received *B. clausii* prior to *E. coli* infection had only mild degrees of lymphoid hyperplasia. Similar findings were seen in the mesenteric lymph nodes where *E. coli* only-fed mice showed moderate to severe lymphoid hyperplasia while those given *B. clausii* prior to *E. coli* infection merely had mild lymphoid hyperplasia. *B. clausii* exerts a potential protective and immunomodulatory action in *E. coli* O127:H21-infected mice based on histomorphologic effects. However, additional studies are needed to fully characterize these mechanisms mice based on histomorphologic effects. **(Authors' abstract)**

Keywords: *Bacillus clausii*, *Escherichia coli*, *Mus musculus*, *Medicine*

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NP

Histopathological Detection of *Mycobacterium Tuberculosis* and *Mycobacterium Leprae* using a Modified Acid-Fast Technique

Quinones, Gloria June , Dizon, Florencio , Cabic, Alpha Grace , Esposito, Sheila Marie , Cabic, Estatera, Guia, Ar

Introduction. *Mycobacterium tuberculosis* and *Mycobacterium leprae* are acid-fast organisms with lipid-rich cell walls that resist decolorization with acidified alcohol after application of a dye with heat. The Ziehl-Neelsen and Fite Faraco staining technique, which are diagnostic tools for identification of acid-fast bacilli (AFB)

found in histopathologic samples, are based on this principle. A modification of the Ziehl-Neelsen technique is described as an alternative rapid and reliable method of diagnosis for prompt detection and treatment.

Methodology. One hundred and seven (107) archived tissue specimens from autopsy and dermatology cases interpreted as positive for *M. tuberculosis* and *M. leprae* were stained using the proposed modified acid-fast (MAF) technique compared with Fite Faraco (FF) staining method as reference standard. Each specimen was read by two independent evaluators.

Results. The degree of diagnostic agreement of the MAF with FF was calculated. For autopsy (n=16) and dermatology (n=91) samples, the Cohen's kappas are 0.765 (substantial) and 0.397 (fair), respectively. Overall, the Cohen's kappa is 0.458 (moderate).

Conclusion. The proposed modified Acid-Fast staining method may be considered as an alternative to the conventional Ziehl-Neelsen method and the Fite Faraco method in identifying positive acid-fast bacilli in tissue samples taken from clinical cases of *M. tuberculosis* and *M. leprae*. (**Authors' abstract**)

Keywords: *acid-fast bacilli, Mycobacterium tuberculosis, Mycobacterium leprae, tuberculosis, leprosy, Ziehl-Neelsen, Fite Faraco, Medicine*

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NP

0376

HLA-DR antigens in graves disease an association with the HLA-DR7 in Filipinos *Villareal, Den*

HLA-DR antigens were determined in 28 unrelated Filipino patients with Graves disease and 69 normal control subjects with the use of the microtoxicity test. HLA-DR7 was found to be significantly increased in patients with Graves disease as compared to controls (P

Keywords: *HLA-DR antigens, Graves disease, HLA-DR7, Endocrine disease, Medicine*

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1990 January - March,
(Filipiniana Analytics)
Fil(S) R97.4 A21

0377

Hospitalizations, Renal Activity and Damage Incur the Highest Medical Costs Among Filipino Patients with Systemic Lupus Erythematosus *Navarra, Sandra V. , Geslani, Kathleen G. , VeÁ±egas, Ela*

Systemic lupus erythematosus (SLE) predominantly affects individuals at peak age of productivity, and medical costs negatively impact on personal, family and community resources. This study aimed to identify annual medical costs and cost predictors among Filipino SLE patients. Direct annual healthcare costs were determined by survey questionnaires conducted among patients aged > 18 years with minimum one-year illness duration, consecutively seen at the lupus clinics of University of Santo Tomas (UST) Hospital from February to July 2016. Excluded were costs related to biologics. Predictors of cost were estimated using multiple regression analysis. Respondents included 300 SLE patients, 270 females, (94%) age range 11-62 years, mean age 32.84±9.89 at SLE diagnosis, mean disease duration 5.87±5.58 (1-36) years. Median and mean annual direct medical cost was Php 90,950 and Php 133,040 respectively (range Php 17,440- 859,050). Annual cost was higher in those requiring dialysis (n=16) compared to those not requiring dialysis (n=150) vs those without nephritis (n=134), (median Php 595,400 vs 144,700 vs 55,020 respectively), p<0.001. End stage renal disease (ESRD) (p<0.001), mycophenolate use (p<0.001), high frequency of clinic visits (p=0.016) and lupus-related hospitalizations (p=0.018) were independent variables which significantly contributed to annual costs. Nephritis especially if requiring dialysis was the most important cost predictor in this cohort, increasing annual costs to seven-fold. Mycophenolate use, lupus-related hospitalizations and clinic visits increased annual costs by 147.2%, 173.8% and 2.6% respectively. This study reinforces the need for early recognition and aggressive disease control to prevent complications especially in those with renal involvement. (**Authors' abstract**)

Keywords: hospitalization, renal activity, nephritis, systemic lupus erythematosus, SLE, Medicine

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NP

0378

Implantation of single-piece hydrophobic acrylic intraocular lens in the ciliary sulcus

Uy, Christopher Sebastian J. , Uy, Harvey S., Chan-Uy, Pik S

The study reported the association of sulcus-fixated, single-piece hydrophobic acrylic intraocular lenses (HAIOL) with pigment-dispersion syndrome (PDS) and pigmentary glaucoma (PG). This is a noncomparative consecutive case series of 20 eyes that underwent sulcus implantation of a single-piece HAIOL after posterior-capsule rupture (PCR) during phacoemulsification. The following data were analyzed: postoperative best-corrected visual acuity (BCVA); manifest refraction; frequency of IOL decentration, dislocation, and repositioning; intraocular pressures; gonioscopic findings; and postoperative complications. The postoperative BCVA was 20/40 or better in all eyes. The mean postoperative sphere was -0.05 ± 0.7 diopters (range, +1.25 to -2.00) and the mean postoperative cylinder was -1.2 ± 0.8 diopters (range, 0 to -2.50). None of the HAIOLs became decentered, dislocated, or required repositioning. Seven eyes (35%) developed PDS while 3 eyes (15%) developed PG that required IOP-lowering medications or filtering surgery. The average followup period was 17.2 ± 9.4 months (range, 6 to 36). Implantation of single-piece HAIOLs in the ciliary sulcus is associated with PDS and PG. Alternative methods of aphakic correction should be considered in cases of PCR. (**Authors' abstract**)

Keywords: Ciliary sulcus, Hydrophobic acrylic intraocular lenses, Pigment-dispersion syndrome, Pigmentary glaucoma, Aphakic correction, Medicine

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2005 October to December,
(Filipiniana Analytics)
NP

Implementation and Pilot Data on Diabetic Retinopathy in a Teleophthalmology Program at a Multispecialty Primary Care Clinic

Cavallerano, Jerry D. , Reyes, Myra Alisa J. , Erni, Jocelyn G. , Fortuna, Egidio Jose S. , Papa, Ricardo Tobias M. , Arroyo, Milagros H. , Valero, Sherman O. , Bengzon, Alfonso U. , Tayapad, Joanne B., Aiello, Lloyd Paul , Silva, Paolo

Objective: To report on the implementation and initial pilot data of diabetic retinopathy (DR) identified using a validated telemedicine program for DR in a multispecialty primary care clinic.

Methods: This was a retrospective, cross-sectional pilot survey of diabetic patients imaged for the first time at the telemedicine program of The Medical City from November 26, 2012 to August 31, 2013. The retinal images were obtained following the validated program of the Joslin Vision Network nonmydriatic fundus photography for DR evaluation. These were evaluated by 4 retina specialists using a standardized protocol to assess for diabetic retinal disease and the presence of other retinal findings. The findings were recorded on customized electronic templates.

Results: Seven hundred seventy-six (776) eyes of 388 patients were evaluated using the telemedicine program. The prevalence of DR was 28.2% (219 eyes), with 25.1% (195 eyes) having nonproliferative DR (NPDR). 14.2% [110 eyes] had mild, 8.2% [64 eyes] moderate, 2.2% [17 eyes] severe, and 0.5% [4 eyes] very severe NPDR. 3.1% (24 eyes) had proliferative DR (PDR), of which 45.8% (11 eyes) had high-risk characteristics. The ungradable rate with selective mydriasis was 1.80% (14 eyes). The rate of referable DR (moderate NPDR or worse, any level of diabetic macular edema, or ungradable images) was 21.90% (170 eyes).

Conclusion: In the primary care setting, teleophthalmology can effectively identify patients with diabetic retinal complications and potentially refer these patients to appropriate levels of eye care. Retinopathy was present in over 28% of patients evaluated and over 21% had referable disease that may potentially progress to vision loss. Teleophthalmology for DR in this setting allows early detection of potentially sight threatening disease and may prevent visual loss and complications. **(Authors' abstract)**

Keywords: *Diabetic retinopathy, Diabetic retinopathy screening, Teleophthalmology, Retinal imaging, Telemedicine, Medicine*

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NP

In vitro* evaluation of natamycin 5% suspension against *Aspergillus flavus*, *Fusarium solani*, and *Candida parasilopsis

Nievera, Lilia Flor , Cubillan, Leo P. , Salvosa, Farlah Ang

This study compared the minimum inhibitory concentration (MIC) and minimum fungicidal concentration (MFC) of two available brands of natamycin 5% suspension (Natacyn and Elmycin) against three ocular fungi (*Aspergillus flavus*, *Candida parasilopsis*, *Fusarium solani*). Antifungal susceptibility testing by broth microdilution was

performed. The MIC and MFC of both brands were determined and paired t-tests were compared. Results of MIC and MFC of Elmycin and Natacyn against *Aspergillus flavus* showed no significant difference ($p = 0.05$). The same values were obtained for *Fusarium solani* and *Candida parasilopsis*, showing no difference in their MIC and MFC. Elmycin and Natacyn have similar MIC and MFC against *Aspergillus flavus*, *Fusarium solani*, and *Candida parasilopsis* as determined by *in vitro* tube dilution technique. Elmycin may be used as an alternative agent against these organisms in fungal keratitis. (**Authors' abstract**)

Keywords: *Aspergillus flavus, Candida parasilopsis, Fusarium solani, in vitro, Medicine*

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NP

0381

The Incidence, Clinical Characteristics and Risk Factors of Tuberculosis Among Renal Allograft Recipients at National Kidney and Transplant Institute

de Jesus, Ana Karina A., Mendoza, Myrna T

Renal allograft recipients are at higher risk of developing tuberculosis (TB) as compared to the general population. The infection also carries with it a significant morbidity and mortality. However, data is limited regarding its incidence and risk factor analysis in our setting. This study determined the incidence, characteristics and risk factors of post-transplant TB in National Kidney and Transplant Institute (NKTi). This is a retrospective study involving chart review of 1,621 renal allograft recipients from 2003-2009. The researchers recorded demographic information, transplant characteristics, median time to diagnosis of TB and forms of TB. The incidence of TB in renal allograft recipients is 2.6%. Median time to diagnosis of TB after transplant is 21 months (one to 105 months). Risk factors identified in this study were previous history of TB (OR 4.15, 95% CI 1.4-12.2), one episode of rejection (OR 2.33, 95% CI 1.2-4.6) and subsequent use of methylprednisolone as antirejection therapy (OR 2.36, 95% CI 1.3-4.4). Patients given a tacrolimus based regimen (OR 0.5, 95% CI 0.24-1.03) and those without episode of rejection (OR 0.43, 95% CI 0.22-0.84) had less tendency to develop post-transplant TB. There were no sufficient evidence to prove association between onset of TB and use of isoniazid prophylaxis, use of induction immunosuppression and type of immunosuppression. Eighty one percent (81%) had pulmonary and 19% had extrapulmonary forms of TB. Incidence of TB among renal allograft recipients is lower as compared to other high TB burden countries but is still higher as compared to the general Filipino population. The study identified multiple risk factors for post-transplant TB. Prevention of these diseases and identification of patients at risk are as important as early diagnosis and treatment of post-transplant TB. (**Authors' abstract**)

Keywords: *renal transplant, T8, risk factors, immunosuppression, rejection, Medicine*

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2015 April to June,
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NP

0382

Incidence, Indications, and Outcomes of Yag Capsulotomy In Eyes Implanted with an Accommodating Intraocular Lens

Dela Cruz, Albert G. , Cruz, Emerson M. , Reyes, Rosalie Mae M. , Samano, Angela Adelaida J. , Ang, Robert Edward T., Solis, Maria Luisa Patricia

Objectives: To report the incidence of capsular changes in Crystalens-implanted eyes and analyze the indications and outcomes of yag capsulotomy.

Methods: We reviewed the records of 411 eyes of 258 patients implanted with the Crystalens IOL. Capsular change indications for yag capsulotomy were posterior capsular opacification (PCO), lens tilt, and capsular striae. Eyes in each indication were further subdivided into therapeutic yag (TY) and prophylactic yag (PY) groups. Outcomes before and after yag capsulotomy were analyzed.

Results: Ninety of 411 crystalens-implanted eyes (22%) had undergone yag capsulotomy. Sixty-one eyes had PCO, 12 had lens tilt, and 17 had striae. Twenty-seven eyes belonged to the therapeutic (TY) and 63 eyes to the prophylactic (PY) yag subgroups. The mean interval between phacoemulsification and yag capsulotomy was 10 months. In the TY PCO subgroup, uncorrected distance visual acuity (UDVA) changed from 20/40 pre-yag to 20/25 post-yag, uncorrected near visual acuity (UNVA) from J3 to J2, manifest refraction spherical equivalent (MRSE) from -0.43D to -0.2D. In the TY tilt subgroup, UDVA changed from 20/50 to 20/30, UNVA was unchanged at J2, and MRSE from -1.21D to -0.89D. In the TY striae group, UDVA changed from 20/50 to 20/30, UNVA from J3 to J2, and MRSE from 0.62D to -0.4D. In the PY PCO subgroup, UDVA was unchanged at 20/25, UNVA unchanged at J2, and MRSE changed from -0.52D to -0.47D. In the PY tilt subgroup, UDVA changed from 20/25 to 20/20, UNVA unchanged at J2, and MRSE changed from -0.87D to -0.45D. In the PY striae subgroup, UDVA was unchanged at 20/30, UNVA changed from J3 to J2, and MRSE changed from -0.62D to -0.7D.

Conclusion: Capsular changes occurred after Crystalens implantation that necessitated yag capsulotomy. Once vision has deteriorated, a therapeutic yag treatment can help improve vision. If capsular changes have occurred but vision has not deteriorated, a prophylactic yag capsulotomy can stabilize visual and refractive outcomes. (**Authors' abstract**)

Keywords: *Crystalens, accommodating IOL, YAG capsulotomy, posterior capsularopacity, lens tilt, striae, Z syndrome, Medicine*

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(Filipiniana Analytics)
NP

0383

The Incidence of In-Hospital Hypoglycemia and its Associated Risk Factors Among Adult Filipino Patients with Diabetes Mellitus in Chong Hua Hospital

Lagula-Bilocura, Imelda , Duyongco-Tiu, Ma.

Hypoglycemia is a burdensome complication in the management of diabetes mellitus (DM), and has been noted to be increasing. This study evaluated the occurrence of hypoglycemia and identified its risk factors among diabetic Filipino patients. Census of Filipino non-pregnant adults with type 2 DM of Chong Hua Hospital, admitted and discharged from January 2015 to June 2015 was taken. This study determined the incidence rate of hypoglycemia (capillary blood glucose <70 mg/dL), its severity, patients' dietary status, medication, and the common hospital areas where

hypoglycemia occurred. The clinical profiles of these patients were analyzed and associated risk factors of hypoglycemia were identified. Also, the incidence of congestive heart failure, myocardial infarction, cerebrovascular disease, and all cause mortality among patients with hypoglycemia were determined. Among 1,676 subjects, 8.9% had hypoglycemia predominantly non-severe type (blood glucose 51-69 mg/dL). The identified risk factors for the development of hypoglycemia were the following, age >65 years old (52.7% vs 36.2%, $p<0.001$), diabetes duration of 8.56 years (± 10.34 years), the presence of cardiovascular disease (62.7% vs 48.6%, $p<0.001$), congestive heart failure (8.7% vs 4.4%, $p=0.009$) and stage III, IV, V kidney disease (32.7% vs 25.1%, $p=0.043$, 12% vs 5.5%, $p=0.002$, 12% vs 4.1%, $p<0.001$, respectively), and the use of insulin whether combined with oral therapy (25.3% vs 16.5%, $p<0.006$) or used alone (34.7% vs 12.1%, $p<0.001$). Hypoglycemia occurred more frequently in the non-ICU ward (82.7%). Only one patient developed non-fatal myocardial infarction, one had nonfatal cerebrovascular disease and one had congestive heart failure. All-cause mortality rate was 4.7%. The notable incidence of in-hospital hypoglycemia of 8.9% among diabetic patients should be addressed to decrease the associated morbidity and mortality. (Authors' abstract)

Keywords: hypoglycemia, diabetes, diabetes mellitus, Medicine

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0384

The Incidence of *Mycobacterium* Other than Tuberculosis Isolated in Specimens Suspected of Tuberculosis in a Tertiary Hospital in the Philippines: A Retrospective Study

Siapno, Rosario Pinkie V. , King Kay, Caroline Bernadette O. , Visperas, Julie Christie G.

In the Philippines, a diagnosis of pulmonary tuberculosis is very common especially in the presence of sputum findings positive for Acid Fast Bacilli (AFB). But it should be kept in mind that not all *Mycobacterium* are tuberculosis (TB). A previous study done at the University of Santo Tomas (UST) Hospital from 2003 to 2009 showed a 2.17% incidence of *Mycobacterium* other than tuberculosis (MOTT). However, due to its growing correlation with the Human Immunodeficiency Virus (HIV), updated incidence rates are warranted. Likewise, the importance of culture in the right diagnosis of diseases should always be emphasized. The study aimed to determine the incidence of MOTT in a tertiary hospital in Manila among patients suspected of having TB. The study is a retrospective study done at the UST Hospital, a quality-assured referral center for TB in Manila, with a TB Directly Observed Short Course (TBDOTS) Clinic. Laboratory records of specimens submitted for culture and sensitivity studies for *Mycobacterium tuberculosis* (MTB) for which isolates of MOTT grew, using BACTEC™ (Becton-Dickinson) method and Mycobacteria Growth Indicator Tube (MGIT™), from January 2003 to December 2014, were reviewed. A total of 6,886 specimens were submitted for MTB culture and sensitivity studies. Results showed 157 cases of MOTT with an incidence of 2.28%. Majority of the specimens with MOTT were from pulmonary sources (85%), most common of which was from sputum. Non pulmonary sources (15%) were mostly from urine, cerebro-spinal, and gastrointestinal tract. were isolated for MOTT. These findings are consistent with the previous local available data. Correct identification of this organism influence eventual decisions for treatment. In conclusion, the incidence of positive culture for MOTT in our institution remains to be low. However, there is an increasing trend in the number of specimens which are turning out to be positive for MOTT. A future study on the correlation with the patients' clinical profile is recommended. (Authors' abstract)

Keywords: mycobacterium, University of Santo Tomas Hospital, Tuberculosis, mycobacterium tuberculosis, Medicine

Incidental Diagnosis of Rectal Cancer in a Patient with Papillary Thyroid Cancer

Lo, Tom Edward N., Buenaluz-Sedurante, Myrna , Panlilio, Mara Teresa

Differentiated thyroid cancer is a common endocrine malignancy with an indolent course and a high overall survival rate. With more cases diagnosed early, survivors of this cancer live longer and hence are at risk of second primary cancers. In patients with known primary malignancy, work-up often focuses on the primary disease, so that coexistence of another primary malignant lesion can be missed. The researchers reported a case of a 78 year-old Filipino male diagnosed to have papillary thyroid cancer with nodal metastases presenting with an incidental rectosigmoid cancer on preoperative workup. Patient eventually underwent complete surgical removal of both malignancies. He is currently on levothyroxine suppression therapy with no evidence of tumor recurrence for both malignancy and is on close follow-up for cancer recurrence surveillance. Clinical vigilance for cancer screening and surveillance is mandatory for patients diagnosed with any type of primary malignancy to reduce the rate of missing secondary primary malignancy simultaneously present in the same patient. Early cancer detection might improve cancer patient's overall prognosis and eventually proved to be life-saving. (**Authors' abstract**)

Keywords: *Multiple Primary Malignant Neoplasms, Papillary Thyroid Cancer, Colon Cancer, Medicine*

Indications for penetrating keratoplasty in the Philippines

Padilla, Ma. Dominga B., Eltanal-Pascual, Marie Antonette

The study determined the indications for penetrating keratoplasty (PKP) in the Philippines. This is a retrospective review of data collected by the Sta. Lucia International Eye Bank Foundation (SLIEBF) of Manila based on postoperative reports of penetrating keratoplasty. A total of 2,131 postoperative reports from 1996 to 2004 were reviewed. The average age of recipients was 47.2 years. The age distribution was bimodal, with peaks at 35 to 45 years and at 65 to 75 years. The leading indications for PKP were corneal scars (23.9%), pseudophakic bullous keratopathy (PBK) (19.7%), microbial keratitis (17.6%), regrafts (9.8%), and aphakic bullous keratopathy (ABK) (5.6%). Indications for PKP showed increasing trend for regrant and decreasing trend for corneal scar. Trauma, microbial keratitis, and corneal scar were more common among males while Fuch's dystrophy, corneal stromal dystrophy, PBK, and glaucoma causing bullous keratopathy were more common among females. Corneal scar, microbial keratitis, and viral infection were frequently seen among those in the lower socioeconomic groups while PBK, ABK, regrant, Fuch's, and keratoconus were seen among more affluent patients. Corneal scar, PBK, and microbial keratitis were the leading indications for PKP in the Philippines from 1996 to 2004. There was an increasing trend toward regrant and a decreasing trend for corneal scar during the period. (**Authors' abstract**)

Keywords: *Penetrating keratoplasty, Corneal transplantation, Corneal scar, Bullous keratopathy, Keratitis, Fuchs dystrophy, Medicine*

An Indolent Course of Acute Myeloid Leukemia with Peripheral Spontaneous Remission in a 34-year-old Filipino Female

Baylon, Honorata G. , Culla, G

Acute myeloid leukemia (AML) is a clonal, malignant disease of hematopoietic tissues, which carries a poor prognosis and a median survival of 12 months. Definitive treatment includes chemotherapy and hematopoietic stem cell transplantation. Spontaneous remission in AML is possible but extremely rare, with 100 cases reported since the 1980s. Even rarer is an indolent course of de novo AML, with only eight patients reported in literature surviving beyond 12 months without treatment.³ To date, no case report of indolent AML has yet been published locally. This paper reported the first documented case of acute myeloid leukemia following an indolent course who achieved spontaneous peripheral remission in the Philippines. A 34-year-old female presented initially with a three-month history of fever, pallor, dizziness and body malaise. Complete blood count showed pancytopenia and bone marrow aspirate with biopsy revealed acute myeloid leukemia. She required multiple transfusions and developed severe sepsis secondary to osteomyelitis. After treatment with blood transfusion and antibiotics, the patient's blood counts improved and were maintained at almost normal levels for the next 16 months. Multiple repeat bone marrow biopsies still showed diffuse infiltration with acute myeloid leukemia. She remained asymptomatic, did not require further blood transfusions and did not undergo chemotherapy. The researchers reported a rare case of an indolent acute myeloid leukemia in a young female patient who had spontaneous peripheral remission following a severe systemic infection. Despite abnormal bone marrow morphology and no chemotherapy, the patient has remained asymptomatic with normal blood counts 16 months since diagnosis of acute myeloid leukemia. To the researchers' knowledge, this is the first case report of indolent AML following spontaneous peripheral remission in the local setting. (**Authors' abstract**)

Keywords: *Indolent acute myeloid leukemia, spontaneous remission, Medicine*

INFLAMMATORY CONDITION OF THE LARYNX VERSUS A NEOPLASTIC LARYNGEAL MASS: A DIAGNOSTIC DILEMMA

Pangilinan, Jeffrey A., Ureta, Celso

OBJECTIVE: This case report aims to present a case of a 56 year old male presenting with a progressive respiratory impairment, its atypical clinical manifestations, diagnostic dilemma and management.

STUDY DESIGN: Case Report

SETTING: Tertiary Hospital

PARTICIPANT: Single patients

RESULT: This case study described the management and unpredicted outcome of a patient pre-senting with a laryngeal swelling which lead to a diagnostic dilemma between imaging studies and its microbiologic findings.

CONCLUSION: This paper presented a case of a 56 year old immunocompromised patient present-ing with an acute upper airway obstruction secondary to a *Pseudomonas* infection. Repeated direct laryngoscopy with biopsy procedures confirms the presence of the infection despite the CT scan and MRI findings presenting with a soft tissue neoplasm. Prompt tracheostomy tube insertion done was used to secure the airway with adequate antibiotic use prompting gradual resolution of symp-toms. (**Authors' abstract**)

Keywords: *laryngeal infections, laryngeal neoplasm, laryngeal swelling, Pseudomonas aeruginosa infections, dyspnea, stridor, Medicine*

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0389

Inflammatory foveal mass and cystoid macular edema

Uy, Har

This study reported a case of inflammatory foveal mass and cystoid macular edema and the role of optical coherence tomography in its diagnosis and treatment monitoring. This is a case report of a healthy, young female who experienced sudden onset of wavy, blurring of vision. Clinical examination revealed an idiopathic, yellow, foveal mass and cystoid macular edema. The condition resolved rapidly after treatment with oral corticosteroids suggesting an inflammatory nature. The vision returned to 20/20 after disease resolution. Optical coherence tomography was useful in diagnosing this disease condition and monitoring treatment response. (**Authors' abstract**)

Keywords: *cystoid macular edema, Inflammatory foveal mass, optical coherence tomography, Medicine*

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0390

In-Hospital Outcomes of Methylprednisolone Pulse Therapy in the Treatment of Systemic Lupus Erythematosus

Magbitang, Angeline-Therese D., Rubio, Anna Kristina Gutierrez, Salido, Evelyn Os

Methylprednisolone Pulse Therapy (MPPT) is standard of care in the management of severe systemic lupus erythematosus (SLE). This treatment, though, is considered a double-edged sword due to its life-threatening adverse effects. Renal disease, liver disease and high dose of the drug are factors proposed to adversely affect outcomes of patients treated with MPPT. Despite the widely accepted use of MPPT, there are no reports describing the outcomes from its use among Filipinos with SLE. The study was done to determine the in-hospital outcomes of patients with SLE treated with MPPT and to identify factors associated with adverse outcomes. Adult patients with SLE who were admitted in Philippine General Hospital and underwent MPPT from January 2008 to December 2012 were tested for this study. Patient demographics, disease characteristics on admission, indications for MPPT and in-hospital outcomes were extracted. Chi-square test and Fisher's exact test were used to elicit association of population characteristics to outcomes. Forty-two patients with SLE who underwent MPPT were included. Majority are females (98%) and most (60%) underwent MPPT within one year of SLE diagnosis. High disease activity is seen at the time of MPPT with a mean Mex-SLEDAI score of 14.69. Infection (83%) is the most common comorbidity. Anemia, hypoalbuminemia and significant proteinuria are the most common laboratory abnormalities. The top indication for MPPT is nephritis (83.3%). The dose received by the majority (66.7%) is one gram/day for three days, which is a high dose. Improvement rate is 76% but the in-hospital complication rate is 64% and mortality rate is 21%. Patients with in-hospital complications have significantly lower absolute lymphocyte count ($p=0.013$), serum albumin ($p=0.04$) and greater 24-hour proteinuria ($p=0.04$) at baseline. High-dose MPPT is significantly associated with in-hospital complications ($p=0.04$) but not mortality. Nephritis ($p=0.04$) and low platelet counts at baseline ($p=0.01$) are associated with mortality. In this population, there was a high rate of improvement of lupus disease activity when MPPT was used but there was a corresponding high rate of in-hospital complications and mortality. High dose of MPPT seemed to be associated with increased in-hospital complication, while nephritis and low platelet count showed a probable association with mortality. Further studies on a larger cohort are needed. For now, the findings of this study may be helpful in developing guidelines on the use of MPPT among Filipino patients with SLE. (**Authors' abstract**)

Keywords: *methylprednisolone pulse therapy, Systemic Lupus Erythematosus, pulse steroid treatment, outcomes, Asian, Filipino, Medicine*

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0391

An Insight into the Histopathology of Oral Neoplasms with Basaloid Morphology and a Working Classification

Bajpai, Manas, Pardhe, Nil

Basal cell tumors (BCT) are tumors usually derived from pluripotential stem cell compartments of the basal layer of epidermis and/or oral epithelium. BCTs are infrequent entities in the oral cavity and are not discussed separately in general and oral pathology. A literature review did not reveal any classification of tumors with basaloid morphology. This paper is an attempt to categorize the oral neoplasms with basaloid morphology and discuss their differential diagnoses in detail. A review of the literature was carried out to rule out the frequency of different oral BCTs reported in the literature. Additionally, a simple working classification of oral BCTS has been proposed. We hope that this classification will be helpful for oral and general pathologists and students. (**Author's abstract**)

Keywords: *basal cell tumors, basaloid morphology, oral cavity, Medicine*

Insulin Analog Use and Pregnancy Outcomes Among Women with Gestational Diabetes Mellitus (GDM): A Retrospective Analysis at the University of Santo Tomas Hospital

Gomez, Maria Honolina S. , de Luna, Krist

Approximately 40% of women with gestational diabetes mellitus (GDM) will require insulin when diet failed to reduce glycemic levels. Insulin analogs have been noted to result in an improved glycemic control and an acceptable safety profile in diabetes mellitus. The researchers' general objective was to evaluate the efficacy, safety, and pregnancy outcomes of insulin analog versus human insulin in women with GDM. Retrospective cohort analysis of women with singleton pregnancy and GDM from January 2013 to March 2016 at the University of Santo Tomas Hospital was performed. Women were grouped into Group A (diet-controlled), Group B (supplementary insulin analog), Group C (supplementary human insulin), and Group D (combination of supplementary insulin analog and human insulin). Maternal characteristics, glycemic data, and outcomes and neonatal outcomes were compared among the treatment groups. Parametric data were expressed as mean, standard deviation, frequency, and percentage. Chi-square and one-way analysis of variance were utilized to analyze data. Of 144 women with GDM, 59 received insulin analog and 19 received human insulin. Good glycemic control and low rate of hypoglycemia in Group B were comparable to other groups. Maternal outcomes (hypertensive disorders of pregnancy and primary cesarean section) in Group B were not increased and similar to other groups. Neonatal outcomes (birth weight, large for gestational age, neonatal hypoglycemia, neonatal jaundice, and acute respiratory distress syndrome) in Group B were also not increased and comparable to other groups. Rates of prematurity were higher in Groups A and B. The study demonstrated that insulin analog was comparable to human insulin in terms of non-increased rates of adverse pregnancy outcomes with the exception of prematurity, and can be safely used as a viable treatment option without increased risk of hypoglycemia while achieving optimal glycemic control throughout pregnancy in Filipino women with GDM. (**Author's abstract**)

Keywords: *gestational diabetes mellitus, insulin analog, pregnancy outcome, Medicine*

Inter- and Intra-Observer Reliability Among Retinopathy of Prematurity (ROP) Screeners

Retinopathy of Prematurity Working Group , Reandelar, Jr., Macario , Aquino, Jubaida , Corpus, Kr

Objective: (1) To determine the inter and intra-observer reliability in diagnosing ROP in terms of the stage, zone, and presence of plus disease among local ROP screeners involved in the ROP Working Group; and (2) to determine the inter-observer reliability between 2 groups of subspecialties – retina specialists and pediatric ophthalmologists.

Methods: This is a prospective observational study that analyzed the inter- and intra-observer reliability in describing ROP in 3 key observations: stage, zone, and presence of plus disease. This study utilized a test with 32 sets of fundus images from 27 cases, five of which were repeated. Images from previously photographed infants with and without ROP were collated into a downloadable powerpoint test and tested against retina specialists and pediatric ophthalmologists of the ROP Working Group. Outcome measures included presence of variability in ROP diagnosis in terms of the stage, zone, and presence of plus disease among screeners, and reliability coefficient (intra-class coefficient or ICC) in 2 levels: (1) individual and 2-group inter-observer reliability, and (2) intra-observer reliability.

Results: There were 11 respondents: 5 retina specialists and 6 pediatric ophthalmologists. Seven (46%) reported prior experience with RetCam image review. There was high inter-observer reliability (ICC 1.0) in the staging of ROP, but poor reliability in the identification of zone (ICC 0.3) and plus disease (ICC 0.5). The group of retina specialists and pediatric ophthalmologists scored high reliability for diagnosis of stage (ICC 1.0 vs 0.9) and plus disease (ICC 0.9 vs 0.9), while both showed poor reliability in the identification of zone (ICC 0.5 vs 0.4). Majority had high intra-observer reliability with regard to the stage (55%) and zone (73%) of ROP and most (73%) had acceptable intra-observer reliability in identifying plus disease. None of the respondents had poor intra-observer reliability.

Conclusion: The diagnosis of the stage of ROP was consistently reliable for both inter- and intra-observer parameters. However, identification of zone of ROP and plus disease were sources of significant discrepancies. **(Authors' abstract)**

Keywords: ROP, Retinopathy of prematurity, Screening, Variability, ROP grading, Medicine

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0394

Intermediate and Long-Term Outcomes of Glaucoma Drainage Device Implantation by Glaucoma Fellows at a Tertiary Eye Center

Jacoba, Cris Martin P., de Leon, John Mark

Objective: To describe surgical outcomes of glaucoma drainage device (GDD) implantation performed by glaucoma fellows, and to identify factors influencing success.

Methods: This is a retrospective case series of eyes with GDDs implanted by glaucoma fellows at a tertiary eye center in the Philippines from February 2015 to March 2017. Records with at least 6 months post-operative followup were included. The primary outcome variables were intraocular pressure (IOP), number of anti-glaucoma medications, and visual acuity (VA). Surgical outcomes were classified as a complete success, a qualified success, or a failure. A complete success was defined as IOP ≥ 6 mmHg and ≤ 21 mmHg at last follow-up, without any glaucoma medication or additional glaucoma surgery. A qualified success was defined as IOP ≥ 6 mmHg and ≤ 21 mmHg at last follow-up, and on at least one topical anti-glaucoma medication. Failure was defined as IOP > 21 mmHg or < 6 mmHg at last follow-up, or the need for additional glaucoma surgery or a cyclodestructive procedure.

Results: Seventeen eyes (16 subjects) were included in the study. Twelve (12) eyes were implanted with Ahmed® GDDs while 5 eyes received Baerveldt® GDDs. Mean follow-up time was 11.18 ± 6.74 months. There were

significant decreases in the mean IOP ($P<0.0001$) and mean number of anti-glaucoma medications ($P<0.0001$) at final visit (16.29 ± 3.50 mmHg and 0.88 ± 0.39 , respectively, from 28.16 mmHg ± 10.69 mmHg and 3.39 ± 1.05 prior to GDD implantation). VA was stable ($P=0.22$). GDD surgeries were classified as successful in 6/17 (35%) eyes, a qualified success in 8/17 (47%) eyes and as failures in 3/17 (18%) eyes. The complication rate was 10/17 (59%).

Conclusion: GDD implantations by glaucoma fellows in a single institution in the Philippines resulted to significant IOP decrease, reduction in number of anti-glaucoma medications, with good preservation of vision, however, complication rate was high. (**Authors' abstract**)

Keywords: *glaucoma drainage device, GDD, glaucoma, valve surgery, Medicine*

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0395

Interobserver Variability of Gleason Score and Completeness of Histopathology Report in Prostatic Adenocarcinoma in Prostate Needle Biopsy Specimens among General Pathologists in a Multi-institutional Setting

Valdez, Anne Lizbeth, So, Jeff

Introduction. Gleason score, the most widely used grading system for prostatic adenocarcinoma, is the most powerful predictor of patient's clinical outcome and is used to customize treatment strategies. It possesses an inherent degree of subjectivity, as inter-observer and intra-observer variability does exist. Moreover,

there are currently no structured histopathology report guidelines for prostate needle biopsies in our setting, making relevant information overlooked by pathologists and interpretation of report between laboratories challenging.

Objective. With these in mind, we sought to study the interobserver variability of Gleason score and completeness of histopathology report in prostate needle biopsy specimens.

Methodology. A set of 19 prostate needle biopsy slides was sent to 18 general pathologists from different institutions in the Philippines for histopathologic analysis of Gleason scores and completeness of reporting. The interobserver agreement of each pathologist will be evaluated using Spearman's rank correlation coefficient.

Results. Overall, there was moderate correlation between the interobserver's Gleason score and Gleason grade group. Low to moderate correlation was seen in primary grade while negligible correlation was seen in secondary grade. Best agreement was seen in poorly differentiated neoplasms. Undergrading was more common than overgrading. Most respondents gave an incomplete histopathology report.

Conclusion. There is an overall moderate correlation between Gleason score. A non-standardized histopathology report is currently used, leaving out relevant histopathologic findings. (**Authors' abstract**)

Keywords: prostate, prostate cancer, urology, Medicine

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0396

Intraoperative Frozen Section Assessment of Sentinel Lymph Nodes in Breast Cancer: Six-Year Experience in a Tertiary Hospital

Alcazaren, Elizabeth Ann , Tolentino-Molina, Maria Kariza, Datay-Lim, Sarah Jane

Introduction. To determine the reliability of intraoperative frozen section (FS) assessment of sentinel lymph nodes (SLN) in breast cancer patients and describe the factors affecting its evaluation.

Methodology. Records of 245 breast cancer patients with FS of SLNs from December 2007 to December 2013 were retrieved and analyzed. The effect of discordant FS examination and pathology findings on axillary lymph node (ALND) dissection was then evaluated.

Results. Of the total 616 SLNs evaluated, 85 (13.80%) SLNs were positive on FS, with the majority having a histological diagnosis of invasive ductal carcinoma of no special type (62.04%). Overall identification rate was 98.36%. Frozen section biopsies had good correlation with permanent sections, with a sensitivity (Sn) of 92.39%, specificity (Sp) of 100%, and a positive predictive value (PPV) of 100%. Negative cases on FS but were found positive on permanent sections were all cases of micrometastases, giving a false negative rate of 1.31% and negative predictive value (NPV) of 98.68%. Validation with ALND showed Sn of 100%, Sp of 50%, NPV of 100%, and PPV of 37.17%.

Conclusion. The 6-year data on intraoperative FS reliably evaluated the SLN status of breast cancer patients with a negligible false negative rate. Factors affecting its effectiveness include the predictors of nodal involvement, multilevel sectioning, and size of metastases. **(Authors' abstract)**

Keywords: sentinel node biopsy, breast cancer, axillary lymph node dissection, Medicine

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0397

Intravascular Large B-Cell Lymphoma: A Continuing Clinical Enigma

Lique, Ivy Carol , Lo, Ra

Intravascular large B-cell lymphoma (IVLBCL) is a rare form of extranodal diffuse large B-cell lymphoma characterized by the proliferation of lymphoma cells in the lumen of small blood vessels. Clinical presentation varies among reported cases and diagnosis can be challenging for both clinicians and pathologists. We report a case of a 64-year-old female with a history of prolonged fever. Diagnosis was suspected clinically due to thrombocytopenia and elevated serum lactate dehydrogenase after exhausting work-up for an infectious etiology. IVLBCL was established on post-mortem examination upon finding infiltration of CD20- positive neoplastic cells in several organs in the absence of lymph node involvement. (**Author's abstract**)

Keywords: lymphoma, large B cell, intravascular, fever of unknown origin, Medicine

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0398

Intravitreal Bevacizumab as Adjunctive Therapy for Bleb Survival in Trabeculectomy in Rabbit Eyes

Veloso, Ma. Imelda , Agulto, Manuel , Echavez, Mar

Objective: To determine the effect of intravitreally administered bevacizumab, alone or as adjunct to mitomycin-C, after trabeculectomy on bleb survival and histology in rabbit eyes.

Methods: An experimental, interventional, comparative, animal study consisting of 16 rabbit eyes underwent trabeculectomy, 8 of which were enhanced with intra-operative mitomycin-C. Eyes were randomized to receive intravitreal bevacizumab at a concentration of 12.5 mg/mL. Intraocular pressure (IOP), bleb dimensions, and vascularity grading were obtained. IOP was recorded as a ratio of the IOP of the experimental operated eye divided by the IOP of the contralateral control eye (IOP_{ratio}) as a function of time. Bleb morphology was recorded as a percentage of the maximum estimated bleb volume (% Bleb) over time. Bleb failure occurred if $IOP_{ratio} \geq 0.8$, or if % Bleb =0. Eyes were enucleated and submitted for histopathological analysis.

Results: In terms of IOP, mean bleb survival of the plain trabeculectomy group was 7.00(± 0.00) days compared to 11.00 (± 1.00) days in the intravitreal bevacizumab group ($p=0.02$). In mitomycin-C-enhanced trabeculectomy eyes, the mean bleb survival was 15.25 (± 0.75) days compared to 19.00 days in the intravitreal bevacizumab group ($p=0.002$). In terms of bleb morphology, bleb survival were 9 (± 1.00) and 13 (± 0.00) days for the plain trabeculectomy and intravitreal bevacizumab groups respectively ($p=0.02$); and 18.25 (± 0.75) and 20.00 (± 0.58) days for the trabeculectomy with mitomycin and intravitreal bevacizumab groups respectively ($p=0.11$). Mean vascularity grading were 1.67 (± 0.33) and 1.33 (± 0.33) for the plain trabeculectomy and bevacizumab groups and 1.50 (± 0.59) and 1.25 (± 0.25) for the mitomycin and bevacizumab groups respectively ($p=0.72$). Histologic analysis showed less fibroblast count for eyes treated with bevacizumab.

Conclusion: Intraoperative intravitreal bevacizumab as adjunctive therapy after trabeculectomy, whether plain or enhanced with mitomycin-C, was associated with improved bleb survival rates in the rabbit model. (**Author's abstract**)

Keywords: Trabeculectomy, Wound healing, Vascular endothelial growth factor, Bevacizumab, Bleb failure, Medicine

IRVAN Syndrome *Zahari, Mimiwati, Ramli, Norl*

This study reported a case of idiopathic retinal vasculitis and neuroretinitis (IRVAN) syndrome. This is a case report of a 35-year-old Caucasian male was referred for evaluation of posterior uveitis. Vitritis, retinal vasculitis, and capillary dropout in the peripheral retina were observed. Fluorescein angiography confirmed the changes. Systemic and blood work-up revealed negative findings. Oral steroid combined with a systemic immunosuppressant had no effect on the disease course. The pattern of the disease and lack of response to immunosuppressives were consistent with a diagnosis of IRVAN syndrome. The patient remained on regular follow-up and maintained good visual acuity of 6/6 in the affected eye. Clinicians should be aware of the existence of IRVAN syndrome to prevent injudicious use of steroids and systemic immunosuppressants in these patients. (**Authors' abstract**)

Keywords: *IRVAN Syndrome , posterior uveitis, Vitritis, retinal vasculitis, capillary out, Medicine*

Ischaemic Optic Neuropathy in Southeast Asia A different pattern of disease *Cullen, Ja*

Ischaemic optic neuropathy (ION) is the commonest adult optic neuropathy encountered in Southeast Asia and will increase in incidence with an ageing population. It occurs in two forms: arteritic and non-arteritic. The latter variety being by far the commoner encountered in the region and presenting as an anterior optic neuropathy with optic disc swelling. The clinical presentation of both varieties is described with particular reference to the hyperaemic disc appearance of the non-arteritic disease as opposed to the ischaemic, pale, swollen, infarcted disc seen in arteritic anterior ION. Essential visual field defects found in both varieties are emphasized; the prognosis and treatment are discussed. Pathological specimens are also illustrated. Posterior ION is briefly mentioned being a diagnosis of exclusion.

The anatomy, especially the blood supply of the optic nerve head, is discussed along with its role in the production of the different varieties of ION. (**Authors' abstract**)

Keywords: *Optic neuropathy, ischaemia, optic disc swelling, ciliary arterial circulation, pathology, Medicine*

Kaposi Sarcoma in an HIV-Negative Filipino with Myasthenia Gravis and Anterior Mediastinal Mass

Dantes, Marita B. , Mabilin-Prieto, Karen B., Prieto, Rei Joseph P. , Prieto, Elizabeth

Kaposi sarcoma (KS) is a rare vascular tumor derived from endothelial cell lineage with four clinical variants: classic, endemic, HIV-associated and immunosuppression-associated Kaposi sarcoma. Immunosuppression-associated Kaposi sarcoma has been reported among organ transplant recipients and those who are receiving immunosuppressive therapy for a variety of medical conditions that include myasthenia gravis.

A 44-year-old HIV-negative Filipino male, diagnosed with myasthenia gravis and an anterior mediastinal mass who was maintained on pyridostigmine and prednisone presented with a two-month history of non-tender, non-pruritic, bluish to violaceous papules, nodules and plaques over both feet. The patient mechanically manipulated the lesion over the right plantar foot, which resulted in right leg swelling that was eventually managed as cellulitis. Skin punch biopsy done over the violaceous plaque on the right medial foot revealed histopathologic findings consistent with Kaposi sarcoma, patch stage. This was confirmed by CD34 immunostaining. A final diagnosis of immunosuppression-associated Kaposi sarcoma was made. The consensus was to perform excision of the anterior mediastinal mass before initiating treatment of Kaposi sarcoma. The patient expired before the plan could be carried out.

Immunosuppression-associated Kaposi sarcoma responds well to cessation of immunosuppressive therapy however management decisions should be made based on the presentation and coexistent systemic problems of each patient.
(Authors' abstract)

Keywords: *Kaposi sarcoma, immunosuppression-associated Kaposi sarcoma, HHV-8, myasthenia gravis, anterior mediastinal mass, Medicine*

Kikuchi Fujimoto Disease: A Series of Three Cases

Cruz-Bermudez, Charito , Recto, Rh

Kikuchi-Fujimoto disease (KFD) is a rare self-limited disorder manifested by painful cervical lymphadenopathies commonly associated with fever and night sweats. This is a series of three female patients presenting with fever and lymphadenopathies diagnosed with KFD. The first case was a 34-year-old female admitted due to fever of 10 days associated with lymphadenopathies and joint pains. Excision biopsy done showed necrotizing histiocytic

lymphadenitis consistent with KFD. Other laboratories showed hypocomplementemia, positive ANA and anti-dsDNA. Patient was discharged improved with low dose oral corticosteroid and hydroxychloroquine. The second case is a 53-year-old female with fever, lymphadenopathies, polyarthritides and morning stiffness. Biopsy of the cervical lymph node was done showing KFD and lupus serologies (ANA 1:640 speckled, anti-dsDNA and anti-Smith) revealed positive results as well. Patient was then diagnosed with SLE and was started on low dose oral corticosteroid and hydroxychloroquine which resulted to resolution of fever and gradual resolution of lymph nodes on out-patient follow up. The last case is a 45-year-old female admitted due to persistent fever, painful lymphadenopathies and headache. Serological work-up including autoantibody tests for SLE were all unremarkable but showed associated iron deficiency anemia. Biopsy of the cervical lymph node showed Kikuchi's disease. Patient was discharged with oral methylprednisolone. The rarity of KFD makes defining an autoimmune etiology a challenge to clinicians. Careful disease course follow up is then recommended for patients who initially lack parameters for SLE diagnosis. (**Authors' abstract**)

Keywords: Kikuchi-Fujimoto disease, cervical lymphadenopathy, SLE, Medicine

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0403

Knowledge, Attitude and Practices on Smoking Cessation Among Physicians in Makati Medical Center

Mangulabnan, Melissa Camille E., Maghuyop, Nor

BACKGROUND: Despite major efforts through ordinances and government policies against tobacco use, cessation promotion remain to be a challenge and risk of relapse remain high. The World Health Organization (WHO) has recommended that tobacco-smoking surveys be conducted among health professionals to determine how their smoking knowledge and attitude affect their role as models and educators for patient smokers.

OBJECTIVE: To describe and correlate the knowledge, attitudes, and practices on smoking cessation of physicians at the Makati Medical Center

Study Design: Descriptive; cross-sectional study

Methods: A single center, hospital based, survey was conducted among randomly selected 339 physician in Makati Medical Center for the year 2014. All selected participants were sent a copy of a 47- item self-administered modified WHO Global Health Professional Survey (GHPS).

Result: There were 110 respondents out of 339 physicians, giving a response rate of 32.4%. There were more never smokers (70 of 110, 63.6%) than there were ever smokers (40 of 110, 36.4%). 13 out of 40 ever smokers reported to be current smokers while 24 were previous smokers. Less than half of the physician respondents have heard of, read, or are familiar with the smoking cessation guidelines. All physicians agreed that smoking is harmful to health. All physicians have positive attitude regarding smoking cessation. Ever smokers tend to be less active in providing smoking cessation practices compared to never smokers.

Conclusion: The physicians in Makati Medical Center were noted to have good knowledge and attitude regarding smoking cessation, regardless of smoking status; Smokers tend to educate less than nonsmokers. Never smokers tend to have a better practice regarding smoking cessation compared to ever smokers. Majority stated that lack of time and training are the common barriers they encounter in their practice. Majority expressed interest in updating their knowledge. (**Authors' abstract**)

Keywords: *Smoking Cessation Practices, Knowledge, Attitude, Practices, Physicians, tertiary hospital, Medicine*

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0404

The La Salle Assessment of Return of Spontaneous Circulation in Adult Cardiac Arrest: A Case Control Study (The LASARUS study)

Darmawan, Guntur, Salvador, David Raymund Kalaw

Return of spontaneous circulation (ROSC) is the first crucial phase to be achieved in cardiac arrest resuscitation. To date, there is no valid tool available to prognosticate ROSC in adult, non-traumatic out-of-hospital cardiac arrest (OHCA) patients. To develop a model of clinical scoring system predicting ROSC in adult, non-traumatic OHCA patients – the LASARUS score. The researchers retrieved complete medical records of adult, non-traumatic OHCA patients between January 2009 and December 2013. Univariate analysis and logistic regression analysis were subsequently performed, providing a value for each variable in the scoring system. Receiver Operating Characteristic (ROC) curve was then done to determine the best cut-off score. Of the 370 patients, initial ECG rhythm, witnessed arrest, bystander cardio pulmonary resuscitation (CPR), interval between collapse and CPR initiation were variables associated with ROSC. Logistic regression analysis assigned a value of four (4) for initial ECG rhythm, two (2) for bystander CPR, two (2) for interval between collapse and CPR initiation, and one (1) for witnessed arrest. ROC curve analysis showed three (3) as the best cut-off score (accuracy 0.741, 95% CI: 0.689-0.792, $P < 0.001$). The cumulative score was divided into two groups (0-2 and ≥ 3) with the rate of ROSC in each group was 9.65% and 47.26% respectively ($P < 0.001$). The LASARUS score demonstrates a preliminary model of clinical scoring system predicting ROSC in adult, non-traumatic OHCA. (**Authors' abstract**)

Keywords: *Non-traumatic out-of-hospital cardiac arrest, return of spontaneous circulation, LASARUS score, Medicine*

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0405

Langerhans Cell Histiocytosis of the External Auditory Canal in an Adult Patient with Myelodysplastic Syndrome: A Case Report

Chang, Ann Margaret, Hung, Joh

A 68-year-old female with myelodysplastic syndrome presented with a 1-year history of gradually enlarging bilateral external auditory canal masses without temporal bone involvement. Material from the bilateral external auditory masses showed intraepidermal and dermal proliferation of cells exhibiting ovoid grooved or folded nuclei, fine chromatin and moderate amount of eosinophilic cytoplasm. The neoplastic cells are strongly and diffusely positive for CD1a and Langerin (CD207). A diagnosis of Langerhans cell histiocytosis was made and the patient administered with topical steroids. The patients' response to topical corticosteroid administration was less than favorable. (**Author's abstract**)

Keywords: *Langerhans cell histiocytosis, external auditory canal, adult, myelodysplastic syndrome, Medicine*

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0406

LARGE ERYTHEMATOUS MASS OF THE AURICLE IN A 17-YEAR OLD MALE: AN UNCOMMON PRESENTATION OF ACUTE MYELOGENOUS LEUKEMIA

Bernas, Eleanor P., Almazan, Natividad, Ureta, Celso

OBJECTIVE: To present an enlarging mass in the right auricle of a 17 year-old male as the initial symptom of Acute Myelogenous Leukemia.

STUDY DESIGN: Case Report

SETTING: Tertiary Hospital

PARTICIPANT: One patient

CASE REPORT: A 17-year old male with on and off fever, ecchymosis on the elbow and knees complained of an enlarging erythematous mass of the right auricle. This was his initial presentation to the attending physician. He was referred to the Otolaryngology (ENT) service where incision and drainage of the right auricle was done and revealed the presence of nonclotting blood. The edematous erythemas of the right auricle progressively enlarged to auricular hematomas. When the laboratory examinations showed pancytopenia with mild splenomegaly, an impression of acute leukemia was made. The diagnosis was confirmed by the findings of myeloid hyperplasia and cytoplasmic myeloperoxidase in his bone marrow. The mass later increased in size to 10 x 7cm, fluctuant, non-tender, fixed and friable occupying the pre auricular and post auricular area. The external ear canal was so edematous that inspection of the tympanic membrane could not be substantiated.

CONCLUSION: Enlarging mass of the auricle is not always due to simple trauma, but may be a cause of other detrimental systemic disease entity like Acute Leukemia in our patient. Incision and drainage of seroma or hematoma of the ear should be done with caution and a good history-taking is a must to avoid complications like bleeding and infection. (**Authors' abstract**)

Keywords: *Acute Myelogenous Leukemia, Auricular hematomas, incision and drainage, Medicine*

Late-Onset Myasthenia Gravis in an Elderly Female After Thymectomy: A Case Report

Chu, Donnabelle M., Perez, Martesio

Late-onset myasthenia gravis is characterized with onset after 60 years of age and has a male predominance. Myasthenia gravis may develop after surgery on any thymic mass hence questions as to the role of thymectomy in individuals without myasthenia gravis symptoms have been raised and is still controversial. We now present a rare case of a 75 year old female who was initially asymptomatic but had incidental finding of a thymic mass on routine chest x-ray and subsequently had thymectomy done when she was 65 years old. Two months after thymectomy, she developed fluctuating generalized muscle weakness, diplopia and ptosis more pronounced in the afternoon. She was diagnosed to have myasthenia gravis confirmed by positive results on both repetitive nerve stimulation and Tensilon tests. She was maintained on Pyridostigmine and Prednisone as well which provided improvement of her symptoms. She remained stable until 7 years and 9 months after thymectomy when she again had fluctuating muscle weakness as well as ptosis and diplopia. **(Author's abstract)**

Keywords: *Myasthenia gravis, Late-onset myasthenia gravis, Thymectomy, Post-thymectomy myasthenia gravis, elderly female, Medicine*

“Somewhere Up There”: A Case Of Pineal Gland Tumor in a 20-Year-Old Male

Oronce, Arman , Dolom-Mundin, Mary A

Pineal region tumor is a rare and reportable case. Incidence rate adults is 0.025 in 10,000 hence there is no established guidelines among adults for diagnosis and management of this case. The study presented a case of a 20-year-old male with a two-month history of intermittent headache, occipital area with VAS 5/10, increasing in severity. Until two days prior to admission with severe headache VAS 9-10/10, occipital, and nonradiating. Patient noted episodes of projectile vomiting hence, admitted. Patient presented with non-lateralizing symptoms but noted papilledema and parinaud syndrome. Cranial MRI with contrast revealed a 2.5cm pineal gland tumor with obstructive hydrocephalus. Serum AFP (alpha-fetoprotein) and beta-HCG (beta subunit of human chorionic gonadotropin) were requested and revealed elevated levels. The patient underwent endoscopic third ventriculostomy but no biopsy was done due to high risk of bleeding. Patient underwent series of radiotherapy and was advised to undergo chemotherapy but patient refused. Patient had improved upward gaze but with residuals, no recurrence of headache or vomiting, had normalization of the serum tumor markers but noted increase in size of the tumor despite radiotherapy. Case reports of pineal region tumors will help doctors in the primary hospitals diagnose such cases and differentiate it from benign causes of headache. This will aid in early referral to specialists and early intervention. **(Authors' abstract)**

Keywords: pineal region tumor, Parinaud syndrome, Endoscopic third ventriculostomy, Medicine

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0409

“VisualFields Easy”: an iPad Application as a Simple Tool for Detecting Visual Field Defects

Santos, Angelane S., Morabe, Evelyn

Purpose/Objective: This study aims to determine the reliability of the “VisualFields Easy” application in detecting visual field loss among ophthalmology patients; and to determine the sensitivity, specificity, positive predictive and negative predictive values of this examination using the Humphrey Visual Field Analyzer as the gold standard.

Methods: This is an analytical study that enrolled subjects requiring visual field examination as part of the comprehensive evaluation of their ophthalmologic condition. Each subject was tested using the standard automated Humphrey Field Analyzer (Carl Zeiss Meditec, Inc., Germany) with the 30-2 Swedish Interactive Thresholding Algorithm (SITA) and the “VisualFields Easy” application (background = 10 cd/m² ; size V target; 16-dB stimulus) loaded in an iPad 2 ver. 8.3. The print outs of each test were then interpreted independently by the principal investigator and verified by a glaucoma specialist as positive or negative for visual field defects and computation for sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were done.

Results: The study included 137 eyes of 77 patients, 52 (68%) females and 25 (32%) males, age ranging from 18 to 82 years with a mean (SD) of 58 (+ 14) years. The mean test duration for the standard Humphrey perimetry was 7 minutes 50 seconds (SD + 0.08s), and 3 minutes 21 seconds (SD + 0.01s) for the “VisualFields Easy”. Correlations of False Positives and False Negatives between the 2 tests were $p=0.02$ and $p=0.03$ respectively and that there was no statistically significant difference between the reliability parameters of the two tests. There were a total of 74 positives and 63 negatives visual field defects for the Humphrey. These were considered as the True Positive (TP) and True Negative (TN) values. For the “VisualFields Easy”, there were 67 positives and 70 negatives. The results of the “VisualFields Easy” were plotted against the Humphrey perimetry. Sensitivity was computed at 91% and specificity at 100%. Likewise the Positive Predictive Value (PPV) was computed to be 100% and the Negative Predictive Value (NPV) was computed at 90%.

Conclusion: The “VisualFields Easy” application is a quick, easily accessible and fairly reliable way of measuring visual field abnormalities, both for glaucoma and neuro-ophthalmology patients. The application is not intended to replace standard automated perimetry machines, but it may have a role in detecting, documenting and monitoring visual field defects in low resource settings where visual field tests are not available. **(Authors' abstract)**

Keywords: visual fields, perimetry, visual fields easy, visual field defects, glaucoma, Medicine

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The “Weekend Effect” Among Patients Presenting with Acute Coronary Syndrome at the Philippine General Hospital

Ramos, John Daniel A. , Aherrera, Jaime Alfonso M. , Punzalan, Felix Eduardo R.

Studies have shown that weekend and holiday admissions for patients with acute coronary syndrome (ACS) are associated with higher incidence of in-hospital mortality and major adverse cardiovascular events (MACE). This has been referred to as the “weekend effect”.

The researcher aimed to determine whether adults with ACS admitted on weekends have an increased risk for adverse outcomes, primarily in-hospital mortality. To conduct the study, the researchers used a retrospective cohort observational study. An ACS database of a prospectively collected cohort was reviewed. Participants in this database included patients with a diagnosis of ACS who satisfied pre-defined inclusion and exclusion criteria. Clinical characteristics and admission data (weekend/holiday versus regular day admission) of all patients were collected. Outcomes of interest were in-hospital mortality, severe heart failure, and re-infarction. Descriptive analysis was done by obtaining the mean and standard deviation of quantitative variables. Proportions and frequencies were reported for qualitative variables. For quantitative variables, T-test of two independent samples was used to determine if there is a significant difference. For categorical variables, the Z-test was used. Multiple logistic regression was also done to explore the predictors of the weekend effect. A total of 175 patients were included in this study, 59 were admitted on a weekend/holiday and 116 on a regular day. The duration of symptoms prior to admission were longer among those who were admitted during the weekend (40.86 ± 54.11 hrs vs 11.83 ± 8.40 hrs, $p < 0.0001$). A weekend hospital admission was found to be an independent predictor of in-hospital mortality. For patients with ACS, a weekend admission was associated with increased in-hospital mortality despite similar management approach in both groups. There is a need to further explore the factors that contribute to this “weekend effect” in the researchers' setting by a prospective trial. (**Authors' abstract**)

Keywords: *acute coronary syndrome, weekend effect, Medicine*

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Liver Abscess Harbors Melioidosis: A Case Report on this Rare Finding in A Potentially Endemic Community

Inductivo-Yu, Ira , Yap, Emily Mae L., Ocampo-Rosario, Minette Claire

Introduction: Melioidosis among Filipinos may be underreported. The causative agent, *Burkholderia pseudomallei*, thrives in soil and water in tropical regions. Because our country thrives on agriculture as a source of livelihood, occupational exposure through farming needs to be recognized.

Case Presentation: We report a case of a 40-year-old male complaining of intermittent fever, progressive weight loss and jaundice for three weeks prompting consult. Whole abdominal ultrasound showed presence of a hepatic mass.

Further evaluation using CT scan of the whole abdomen with contrast revealed multiple cystic hepatic nodules with wall/septal enhancement. He was admitted and was initially managed as sepsis secondary to a complicated intra-abdominal infection (liver abscess, pyogenic or amebic). Ciprofloxacin and metronidazole were started. Aspiration of the hepatic abscess showed many pus cells. Culture of the aspirate grew *Burkholderia pseudomallei*, sensitive to ceftazidime. Antibiotics were shifted accordingly. Defervescence ensued. Patient was discharged improved after two weeks of ceftazidime 1g every eight hours given intravenously followed by a three-month oral course of cotrimoxazole 160mg/800mg tablet, two tablets every 12 hours and doxycycline 150mg capsule every 12 hours. On follow-up after three months, he had no recurrence of symptoms and was able to resume his usual work.

Discussion: Melioidosis is a disease of humans and animals that is geographically restricted to tropical countries since the organism thrives in soil and water. Symptom onset may be delayed due to the ability of the organism to produce latent infection. Isolation of *B. pseudomallei* from clinical specimens sent for culture and sensitivity testing is the diagnostic gold standard.

Conclusion: Melioidosis may present as an intraabdominal infection. A high clinical index of suspicion among those with occupational exposure to contaminated soil and water is important to promptly recognize and treat this infection. (Authors' abstract)

Keywords: melioidosis, *burkholderia pseudomallei*, hepatic mass, case report, Medicine

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0412

Local Validation of WINROP, an Online Screening Tool for Retinopathy of Prematurity

Bautista, Grace Celine D., Ventura, Ricardo

Objective: To validate WINROP, a web-based screening tool for retinopathy of prematurity (ROP), in the detection of any-stage ROP or treatment-requiring ROP among Filipino preterm infants screened for ROP from January 2013 to April 2017.

Methods: Charts of preterm infants who were screened for ROP at a tertiary hospital from January 2013 to April 2017 were reviewed. Birth date, gestational age, birth weight, and weekly postnatal weight measurements were collected and entered into WINROP. The number of infants that were tagged by WINROP with alarm signals for any-stage ROP or treatment-requiring ROP were noted and compared with actual ROP screening findings. The sensitivity, specificity, positive predictive values (PPV), and negative predictive values (NPV) of the WINROP application in predicting any-stage ROP and treatment-requiring ROP were computed.

Results: Charts of 138 preterm infants were included in the study. Sixty-four (64) had a chart diagnosis of anystage ROP and 13 had treatment-requiring ROP. WINROP tagged 77 and 10 preterm infants with any-stage ROP and

treatment-requiring ROP, respectively. The sensitivity and specificity rates of WINROP for detecting any-stage ROP were 63.5% (95% CI: 51.5% - 74.2%) and 78.1% (95% CI: 65.7% - 87.1%), respectively. While the sensitivity and specificity rates at identifying treatment-requiring ROP were 76.9% (95% CI: 45.9% - 93.8%) and 46.4% (95% CI: 37.5% - 55.5%), respectively.

Conclusion: WINROP is fairly sensitive and specific in predicting any-stage ROP but has fair sensitivity and poor specificity in predicting treatment-requiring ROP. WINROP may aid in ROP prediction, but regular screening of preterm infants at risk for ROP based on current criteria remains to be the standard of care. **(Authors' abstract)**

Keywords: *retinopathy of prematurity, ROP, WINROP, preterm, postnatal weight gain, Medicine*

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0413

Long Term Outcome of Type 2 Diabetic Patients With Critical Limb Ischemia

Plata-Que, Ma. Teresa , Tuazon, Danny

Diabetes Mellitus is associated with vascular disease. One of its macrovascular complications is peripheral arterial disease (PAD), which can present as critical limb ischemia (CLI) that can eventually lead to amputation and death. The study was conducted to determine the long-term outcome of Type 2 diabetic patients with critical limb ischemia in National Kidney and Transplant Institute (NKTi). Computerized search of NKTi Medical Records Section was done using the Docuview. Type 2 diabetic patients with critical limb ischemia of the lower extremities were included in the study. Patients were grouped according to the intervention received (No intervention, Bypass Graft or Peripheral Angioplasty). Endpoints such as amputation and mortality were ascertained on readmissions and on outpatient records. Data processing and analyses were performed using SPSS v20. Kaplan-Meier Survival Analysis was used to examine days to amputation and days to mortality between groups. Twenty-three (23) patients were included in the study. There was no significant difference on the baseline characteristics of those who received revascularization and those who did not have revascularization. Amputation rate was 31% while mortality rate was 30% for the whole population. Patients who had revascularization seemed to have greater probability of amputation and lesser probability of dying, but these were not statistically significant based on Kaplan - Meier Survival Curves p values of 0.918 and 0.433, respectively. Diabetic patients with CLI still carries a high risk of amputation and mortality even with revascularization but the time to amputa. **(Authors' abstract)**

Keywords: *critical limb ischemia, bypass graft, angioplasty, amputation, mortality, Medicine*

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NP

0414

Long-term intraocular-pressure outcome following an attack of acute primary angle closure

Hussain, Rusnah , Koay, Aun Na, Eu Lim, Andrew Keat , Abdul Rahman, Ropila

The study was conducted to discern the long-term intraocular-pressure (IOP) outcome after laser peripheral iridotomy (LPI) among patients presenting with acute primary angle closure. Records of 64 eyes of 54 consecutive patients diagnosed with acute primary angle closure from March 1996 to November 2003 were reviewed. Follow-up was at least 6 months after LPI to detect any long-term rise in IOP requiring further treatment. Eight predictive factors on the need for long-term treatment were analyzed. The mean follow-up period was 30.9 ± 23.6 months. The mean presenting IOP was 52.6 ± 14.1 mm Hg. Fifty-two eyes were treated with LPI, of which 48 were patent. Of the 48 eyes, 17 (35.4%) had successful long-term IOP control while 31 (64.6%) required further treatment on follow-up. All developed raised IOP within 6 months of the LPI. Positive predictive factors on the need for long-term treatment include duration of symptoms greater than 6 days ($p=0.01$), duration of attack greater than 6 days ($p=0.003$), and initial cupdisc ratio >0.4 ($p=0.002$). Age and sex of the patient, level of presenting IOP, time it took to perform LPI, and the presence of cardiovascular diseases did not significantly affect the long-term need for treatment. Eleven (35.5%) of the 31 eyes eventually underwent surgery because of uncontrolled IOP. The mean time to trabeculectomy after a patent LPI was 5.6 months. LPI alone was not sufficient in preventing the long-term IOP rise after an attack of acute primary angle closure in majority of cases. Risk factors for failure of LPI include late presentation, longer duration of attack, and larger cup-disc ratio at presentation. As many eyes developed raised IOP within 6 months of the LPI, close monitoring during this period is essential to detect those requiring further treatment. (**Authors' abstract**)

Keywords: *Glaucoma, Acute primary angle closure, Laser peripheral iridotomy, Intraocular pressure, Medicine*

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NP

0415

Long-Term Results of Mini-Monoka® Monocanalicular Intubation in the Repair of Canalicular Lacerations

Tan, Alexander D. , Suller, Arm

Objective: To report the epidemiology of canalicular lacerations and surgical outcomes of canalicular laceration repair with Mini-Monoka® (FCI Ophthalmics, Issy-les-Moulineaux, Cedex, France) intubation.

Methods: This is a retrospective interventional case series of patients who underwent Mini-Monoka® intubation in the repair of canalicular laceration from 2010 to 2015 at a tertiary state-owned hospital in Manila, Philippines. Patient demographics, surgical outcomes, and complications were analyzed.

Results: Fourteen patients (12 males and 2 females) underwent Mini-Monoka® intubation for monocanalicular laceration. The mean age at presentation was 27 years (range, 16-47 years). The mean duration of follow-up was 2.92 years (range, 1.28-6.15 years). Canalicular patency was achieved in 12 out of the 14 patients (86%). None of the 12 patients experienced epiphora following stent removal resulting in a functional success rate of 100%. Two patients had punctal slitting (14%). Premature stent loss occurred in 2 out of the 14 patients (14%).

Conclusion: Mini-Monoka® intubation is effective in maintaining the long-term anatomical patency of the lacerated canaliculus. It is a simple and minimally invasive procedure making it a safe and reasonable alternative to the traditional methods of canalicular repair. **(Authors' abstract)**

Keywords: *canalicular injury, canalicular laceration, canalicular trauma, Mini-Monoka®, monocanalicular intubation, Medicine*

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0416

Low-cost electromagnet for extraction of metallic intraocular foreign body

Castro, Jr., Joselito Joel R., Chuanico, Rodolfo U

The study was done to develop a low-cost electromagnet for extraction of metallic intraocular foreign body. This is an experimental study of an improvised electromagnetic device for extraction of intraocular metallic foreign body in a porcine eye. The device is an electromagnet made from locally available electronic materials. It is equipped with two sizes of solenoid coil heads acting as the reservoir of magnetic field. The coils are fitted with two types of probes for intraocular and external magnetic extraction in a porcine eye. The device is compared with a rare earth permanent magnet to demonstrate its strength over existing magnets used in ophthalmology. The strength of the device is quantified by magnetizing a series of weighted iron plates and determining the maximum weight it held. The porcine eye was cut and the anterior hyaloid phase preserved. A 6x5-millimeter metallic fragment was introduced intravitreally; magnetic extraction was done with the use of the electromagnetic device through a 3mm sclerostomy. The device is 100 times less expensive than its commercial counterpart and stronger than the permanent magnet. It has a maximum lifting capacity of 8.5 pounds. The electromagnetic probe extracted the 6 x 5 mm metallic fragment from the porcine eye. The low-cost electromagnet has a potential use in internal and external extraction of metallic intraocular foreign bodies in human patients. **(Authors' abstract)**

Keywords: *electromagnet, intraocular foreign body (IOFB), alternating current (AC), direct current (DC), Medicine*

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(Filipiniana Analytics)
NP

0417

Low-Dose Systemic Retinoids in Preventing Subsequent NonMelanoma Skin Cancers (NMSC) in Patients with History of NMSC: A Systematic Review

Sumilang, Francesca Mari P. , Ciriaco-Tan, Cynthia P. , Gatmaitan-Dumlao, Jolene Krist

Non-melanoma skin cancers (NMSC) consists of basal-cell carcinomas (BCC) and squamous-cell carcinomas (SCC). Certain populations are predisposed to develop NMSC, including patients with previous history of NMSC. Systemic retinoids have shown promising results in chemoprevention of recurrence of NMSC in other high-risk populations

(xeroderma pigmentosum and renal-transplant patients). The researchers assessed the efficacy and safety of lowdose systemic retinoids compared with placebo, as a chemopreventive agent for NMSC in patients with previous NMSC. Electronic databases were systematically searched for the study. Participants in the studies selected must have had a biopsy-proven NMSC, over 18 years of age, with no exclusion of other demographic characteristics. All types of systemic retinoids were included with no restriction on dosage. Two authors independently performed standardized eligibility assessment and data-extraction. Differences in opinion were resolved by consensus with the third author. Statistical analysis was done using the Review Manager 5 software.

Eleven full-text studies were assessed for eligibility out of 178 studies found. Five studies were excluded because of the different population, while the two articles used topical retinoids. Four articles were included. The interventions were 10.0 mg isotretinoin, 25,000IU retinol and 25.0 mg acitretin, compared with placebo. Meta-analysis produced RR of 0.94 (95% CI, 0.89-1.00), with moderate heterogeneity (34%) due to the difference in interventions used. There are significantly more adverse events in the retinoids group, especially in the incidence of mucocutaneous adverse events, and deranged lipid profile and liver enzymes. There is insufficient evidence to support the use of low-dose systemic retinoids as chemoprevention for patients with previous NMSC. Furthermore, adverse events may limit their use. Topical preparations with less side-effects may be investigated. (**Authors' abstract**)

Keywords: *Low-dose systemic retinoids, Non-melanoma skin cancers, NMSC, Medicine*

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0418

Lupus among Filipinos: Unmet needs

Esquibel, Ma. Imee Lynne C. , Navarra, Sandra V., Tanangunan, Robelle Mae D

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease with a wide range of manifestations and potential to affect several organ systems. Complications arise from the disease itself as well as the medications especially glucocorticoids, significantly contributing to overall morbidity and mortality. SLE predominantly affects patients during prime productive years resulting in a substantial economic burden on the patient, caregivers, and society due to direct, indirect and intangible costs. The University of Santo Tomas (UST) lupus database established in 2008 and supported by Lupus Inspired Advocacy (LUISA), aims to bring recognition of SLE as an important disease among Filipinos, serving as the impetus to drive policy makers to include SLE in the national health agenda. (**Author's abstract**)

Keywords: *lupus, filipinos, unmet needs, Medicine*

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0419

Macular Pigment Optical Density in Healthy Eyes of Filipino Adults

Pablo, Jr., Ernesto , Javate, Reynaldo , Eusebio, Jr., Jesus , Mupas, Jacq

Objective: To determine the range of macular pigment optical density (MPOD) levels in healthy Filipino adults using both the MPS II and the macuscope and to investigate whether age and sex were related to inter-subject variations in MPOD.

Methods: This was a prospective, cross sectional study of 168 healthy Filipino patients who underwent heterochromatic filter photometry to measure macular pigment levels using the MPS II and the macuscope. The MPOD levels were averaged per age group and analyzed as to variations among age and gender.

Results: One hundred thirty (130) and thirty-eight (38) patients underwent MPS II and macuscope testing respectively. The mean MPOD level for MPS II was $0.39(\pm 0.16)$ and for macuscope $0.27(\pm 0.07)$. MPOD values were similar across all age groups and gender, but they were lower when measured with the macuscope.

Conclusions: MPOD levels measured among healthy Filipino adults were lower with the macuscope compared to the MPS II. These differences should take into consideration the differences in apparatus and techniques of measurement. **(Authors' abstract)**

Keywords: *macular pigment optical density, age-related macular degeneration, macular pigment, lutein, zeaxanthin, Medicine*

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NP

0420

Malignant Glomus Tumor of the Heart in a 64-Year-Old Male Presenting with Stroke

Templo, Jr., Felipe , Arias, Randell , Radin, II, C Philip Teomar , Balisan, Othaniel

Glomus tumor is a soft tissue neoplasm usually observed as a solitary, or sometimes multicentric painful mass, that rarely occurs extracutaneously. We describe a rare case of malignant glomus tumor of the heart in a 64-year-old male diagnosed with a left ventricular mass. Echocardiography and color flow Doppler revealed a large echogenic mobile structure in the left ventricular cavity that was surgically resected. The histopathologic diagnosis was malignant cardiac glomus tumor. We describe the histopathology, differential diagnosis and clinical presentation of this extremely rare primary cardiac tumor. **(Author's abstract)**

Keywords: *cardiac tumor, left ventricular mass, glomus tumor, malignant cardiac glomangioma, embolic stroke, Medicine*

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NP

Malignant Melanoma of the Conjunctiva *Tan, Alexander D. , Mangubat, Leonardo R. , Dizon, Gr*

This is a case report of a malignant melanoma of the conjunctiva seen at the University of the Philippines-Philippine General Hospital (UP-PGH). A 42-year-old male presented with an enlarging, bleeding mass on the left upper lid. There was dark, diffused pigmentation of the caruncle and the bulbar conjunctivae. A section biopsy revealed findings consistent with malignant melanoma. An orbital exenteration was performed. The management of malignant melanoma of the conjunctiva should involve removal of the tumor, prevention of local recurrence, and prevention of metastasis and death. (**Authors' abstract**)

Keywords: *Malignant melanoma, biopsy, tumor, metastasis, death, Medicine*

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 NP

Management of Plaque Type Psoriasis with Aloe Vera (Aloe Barbadensis) Extract in Hydrophilic Ointment versus Clobetasol Propionate Ointment: A Prospective Randomized Double Blind Controlled Trial

Cifra, C. , Dy K.D. , Salas-Walinsundin W.M.M., Prieto E.

BACKGROUND: Psoriasis is considered as a genetically programmed disease of dysregulated inflammation, which is driven and maintained by multiple components of the immune system. Topical medications both evidenced-based medical and herbal, are widely utilized as treatment for psoriasis affecting less than 20% of the total body surface area of involvement.

OBJECTIVE: To compare the efficacy and safety of aloe vera (AV) extract in hydrophilic ointment versus clobetasol propionate in hydrophilic petrolatum in the resolution of lesions of plaque type psoriasis.

METHODS: A randomized, double blind, controlled 4-week study was designed. Forty-six patients randomly received AV ointment and 0.05% clobetasol propionate and their clinical responses were evaluated using Psoriasis Area Severity Index (PASI). The Psoriasis Disability Index (PDI) was also used to evaluate treatment satisfaction from the topical medications.

RESULTS: Intent to treat analysis done at the end of four weeks showed statistical significance in the mean difference between the treatment groups that is 3.4 (CI:0.6-6.1; P:0.0174). Similarly, per protocol analysis elucidated a significant difference of 3.69 (CI:0.89,6.49 P:0.0115) in the means of both the Aloe vera and the clobetasol group.

CONCLUSION: This study showed the efficacy of AV extract in hydrophilic ointment is not inferior to that of Clobetasol propionate ointment in hydrophilic petrolatum for the treatment of plaque type psoriasis. In both groups there were no recorded adverse events and the patients showed marked improvement in the quality of life after treatment. (**Authors' abstract**)

Keywords: *Aloe Vera, Aloe Barbadensis, Hyhilic Ointment, Psoriasis, Medicine*

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2015 - 2016,
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NP

0423

Manifestations of Bardet-Biedl syndrome
Lo, Kristine T., Remulla, Juancho , Santiago, Alvina Pauli

To report the first documented case of Bardet-Biedl syndrome at the University of the Philippines Philippine General Hospital. This is a case report of a 7-year-old boy who was diagnosed to have Bardet-Biedl syndrome based on the presence of five of the six primary manifestations of the disease: retinitis pigmentosa, obesity, postaxial polydactyly, learning disabilities, hypogenitalism, and renal dysfunction. Bardet-Biedl has ocular and systemic manifestations requiring a multidisciplinary approach to treatment. (**Authors' abstract**)

Keywords: *Bardet-Biedl syndrome, Retinitis pigmentosa, Polydactyly, Hypogenitalism, Medicine*

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NP

0424

Maternal and Infantile Risk Factor Profile of Preterm Infants Screened for Retinopathy of Prematurity in a Tertiary Hospital
Lazo, Maynard Sam O., Corpus-Velasquez, Kristine

Objective: To identify maternal and infantile risk factors for retinopathy of prematurity (ROP) among preterm infants screened in St. Luke's Medical Center, Quezon City (SLMC-QC) from 2014-2017.

Methods: This was a retrospective study that included the ROP databank of the Eye Institute and the Research and Biotechnology Group of St. Luke's Medical Center, Quezon City from 2014 to 2017. This study included medical records of all premature infants screened for ROP and excluded those who had incomplete data or other ocular pathologies other than ROP. Risk factors were analyzed using univariate analysis. Odds ratio (OR) and 95% confidence interval (CI) were also calculated with significant P value set at <0.05.

Results: Among the 455 infants screened for ROP, 118 (25.9%) had any stage of ROP while 23 (5.0%) had treatment-warranted ROP (TW-ROP). Univariate regression analysis showed that the top 5 infantile risk factors associated with any stage of ROP and TW-ROP were low birth weight (97.5% and 100%, respectively), prematurity (87.3% and 100%, respectively), history of blood transfusion (21.2% and 13%, respectively), sepsis (21.2% and 17.4%, respectively), and oxygen supplementation (16.1% and 8.7%, respectively). After multivariate analyses, the most important adjusted risk factors associated with any stage of ROP include low birth weight (OR 52, CI 16.20- 166.96, P=0.001), prematurity (OR 25.73, CI 14.10-46.95, P=0.001), and history of blood transfusion (OR 8.79, CI 4.08-18.96, P=0.0001).

Conclusion: The most significant infantile risk factors associated with any ROP include low birth weight, prematurity, and history of blood transfusion. There were no significant probable maternal risk factors. Timely ROP screening is recommended especially among infants with any of these risk factors in their profile. (**Authors' abstract**)

Keywords: *retinopathy of prematurity, risk factors, low birth weight, blood transfusion, oxygen supplementation, Medicine*

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NP

0425

Mature Bone in the Eye: A Case of Choroidal Osteoma

Corpus, Kristine, Lopez, J

Objective: To describe a case of choroidal osteoma.

Methods: This is a case report.

Results: A 49-year old female had unilateral, gradual, progressive, painless, blurring of vision. She was previously started on anti-TB treatment because of positive PPD skin test. T-spot test was negative and vision of hand movement persisted in the left eye. Both eyes had yellow, slightly elevated, peripapillary subretinal patches with scalloped margins. Fluorescein angiography revealed bilateral subretinal patchy hyperfluorescence and perifoveal petalloid hyperfluorescence in the left. Macular OCT showed hyporeflective ill-defined sub-retinal pigment epithelial (RPE) lesion in the right eye and a hyporeflective well-defined sub-RPE thickening with large cystoid macular edema in the left. B-scan ultrasonography revealed bilateral densely hyperechoic subretinal concave band with posterior shadowing that persisted on decreased gain. These were consistent with bilateral choroidal osteoma with secondary cystoid macular edema in the left eye.

Conclusion: Choroidal osteoma is a rare benign choroidal tumor of healthy young women wherein the choroid is replaced with mature bone. It is a clinical diagnosis with characteristic ultrasonographic findings. (**Authors' abstract**)

Keywords: *choroidal osteoma, choroidal calcifications, TB choroidopathy, Medicine*

Philippine Journal of Ophthalmology, Volume No. 40 Issue No. 1, 1-5
2015 January to June,

**The Meanings of Diabetes, Healthy Lifestyle and Barriers to Healthy Lifestyle Among
Filipino Immigrants in the United States**
Serafica, Reimund, Lane, Susan H

The purpose of this study was to explore the knowledge, perception, and beliefs of newly arrived Filipino immigrants regarding Type 2 Diabetes Mellitus (T2DM), healthy lifestyle, and perceived barriers to healthy lifestyle.

This is a qualitative study. A sample (n=40) of newly-arrived (less than six years in United States) first generation Filipino immigrants, not diagnosed with T2DM, living in

southeastern part of United States were the focus of the study. Face to face interviews were conducted using an interview guide. No further interviews were conducted after data were saturated. The data sources were field notes and audio-recorded interviews, which were transcribed verbatim by the researcher. This study complied with the protocol for human subjects' protection as obtained from the institutional review board. Prior to analyses of the transcripts, each transcript was read at least twice and compared to the recordings to ensure accuracy and completeness. To ensure trustworthiness, selected transcripts were reviewed and coded by two experience qualitative researchers to ensure inter-coder reliability.

A significant number of the participants had little knowledge and few beliefs about T2DM. The perceptions of T2DM were varied, but several beliefs were widely held: (a) T2DM is a "sugar disease" that is based on sweet food intake, (b) participants were aiming to achieved healthy lifestyles through diet, exercise and prayers and (c) T2DM can result from several factors, including barriers to healthy lifestyle that includes stress, possible discrimination, and not enough information to navigate health resources. Although immigration brings opportunities, there are also numerous risks. Some of the diabetes beliefs that this study delineates provide anchors for future culturally appropriate intervention programs for recent Filipino immigrants. One of the major findings in this study was the low diabetes literacy among the participants. Immigrants with low diabetes literacy may have lower awareness of the disease condition, which may have a negative impact on their disease prevention behaviors. Migratory background is also an important factor influencing beliefs about disease prevention. These results provide information for the design of health programs for

the prevention of T2DM in the Philippines and United States. (**Authors' abstract**)

Keywords: *acculturation, Filipinos, healthy lifestyle, type 2 diabetes, Medicine*

Measurement of Accommodative Amplitude Using Wavefront Aberrometer
Canilao, Lilette Marie B. , Martinez, Gladness Henna A. , Remo, Jocelyn Therese M. , Sarmiento, Jennifer Aurea S. , Ang, Robert Edw

Objective: To measure and compare the accommodative amplitude of Filipino patients with different accommodative conditions using a wavefront aberrometer.

Methods: A total of 120 eyes of 67 patients seen in a private eye center were included and divided into two groups (phakic and pseudophakic). After undergoing routine ophthalmologic examination that included manifest refraction and visual acuity testing, accommodative amplitude was measured using the iTrace™ wavefront aberrometer. Comparison of the measurements was made between the accommodative amplitude of phakic pre-presbyopes and presbyopes, and between eyes implanted with monofocal and accommodating intraocular lenses (IOLs).

Results: The mean age of the pre-presbyopes was 27 years, presbyopes 50 years, monofocal IOL 69 years, and accommodating IOL 67 years. The mean accommodative amplitude of the pre-presbyopes was $1.64 \pm 1.06D$, presbyopes $0.99 \pm 0.42D$, monofocal IOL $0.36 \pm 1.16D$, and accommodating IOL $0.94 \pm 0.89D$. The pre-presbyopes had a higher accommodative amplitude than the presbyopes ($p=0.008$), while the accommodating IOL subgroup had a higher amplitude than the monofocal IOL subgroup ($p=0.02$). Increasing age was correlated with decreasing amplitude in the phakic group ($r^2 = 0.926$). There was no correlation between refractive error and amplitude of accommodation in the phakic and pseudophakic groups ($r^2 = 0.02$ for both groups).

Conclusion: The wavefront aberrometer is a reliable tool in objectively measuring accommodative amplitude. Prepresbyopes and accommodating IOLs were shown to have higher amplitudes of accommodation than presbyopes and monofocal IOLs. (**Authors' abstract**)

Keywords: *wavefront aberrometer, accommodative amplitude, presbyopia, accommodating intraocular lens, monofocal intraocular lens, Medicine*

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0428

Meta-analysis on Prognostic Factors of Poor Renal Outcome in Patients with Lupus Nephritis

Mendoza, Erick , Rillon-Tabil, Nikki , Payte, Melanie , Navarra, Sandra

Lupus nephritis is the strongest predictor of poor outcome in systemic lupus erythematosus. Up to 60% of patients develop renal involvement with 10-20% progressing to end-stage renal disease. The objective of the meta-analysis was to determine prognostic factors of poor renal outcome in lupus nephritis patients. The findings of the study may provide a clearer indication of the likelihood of worsening state of renal function thus affect monitoring and therapeutic decisions. Two independent reviewers searched electronic databases from Pub Med and Science Direct. Predetermined criteria were used to include eligible studies. Pooled mean differences, odds ratios and 95% confidence intervals were computed using fixed-effect approach in Rev Man7®. Clinical, laboratory and renal biopsy prognostic factors were tested for heterogeneity and for overall effect. P-value <0.05 was considered statistically significant. Nine studies with a total 794 patients were included. Two hundred and seven had poor renal functional outcome which included

deteriorating estimated glomerular filtration rate, progression to chronic kidney disease or end-stage renal disease and ESRD-related mortality. Male gender (OR 1.83; 95% CI 1.02-3.26), hypertension (OR 1.97; 95% CI 1.02-3.81), nephrotic syndrome (OR 1.71; 95% CI 1.04-2.82) and high chronicity index on renal biopsy (OR 4.39; 95% CI 2.63-7.33) were poor prognostic factors in lupus nephritis. Systolic blood pressure and proteinuria were significantly elevated in lupus nephritis patients with poor renal outcome. The odds of having poor renal prognosis was increased in the presence of hypertension, nephrotic syndrome and high chronicity index on renal biopsy. The results of the study highlight the role of aggressive control of modifiable factors like hypertension and proteinuria, and the prognostic role of a kidney biopsy to minimize irreversible kidney damage. Lupus nephritis patients with poor prognostic factors merit closer monitoring and more aggressive treatment. (**Authors' abstract**)

Keywords: *prognostic factors, lupus nephritis, Medicine*

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2016 July to September,
(Filipiniana Analytics)
Fil(S) R97.4 P45 54/3 2016

0429

Metastatic Klebsiella Infection: A Case Report

Manzano, Jennifer Justice , So-Cabahug, J

Introduction: A new hypervirulent (hypermucoviscous) variant of *Klebsiella pneumoniae* (*K. pneumoniae*) had emerged. It has shown ability to cause serious infection in healthy ambulatory hosts as well as infect unusual sites. Though there have been numerous studies on severe infection by *K. pneumoniae*, little data has been documented on such infections involving *Klebsiella oxytoca* (*K. oxytoca*). It is capable of causing metastatic spread of the infection even in healthy young individuals. This report was written to describe the clinical spectrum of a case of metastatic *Klebsiella* infection.

Case presentation: We illustrate a case of a 73-year-old diabetic and hypertensive female presenting with headache and eye discharge. She was initially managed as the case of conjunctivitis as out-patient. After three weeks of topical ophthalmic antibiotics, she developed decrease in sensorium leading to her eventual admission. Workup pointed towards a disseminated infection to the eye, brain, and urinary tract. The patient was placed on broad-spectrum antibiotics and a vitreous tap was done. However, the patient's sensorium decreased further, and was eventually intubated and started on inotropes. The indolent course of the disease, which unfortunately led to the demise of the patient, directed the attending physicians to suspect a more

virulent infection.

Discussion: Infection by hypervirulent variant of *Klebsiella* has been classically known to be nosocomial and opportunistic in nature. But cases have also been reported

from the community setting. A common denominator in this population is that they are usually immunocompromised as in the case of our patient being elderly and diabetic. Unfortunately, there are no molecular or biochemical markers being used in the clinical setting to identify this strain. Hence, the attending physicians had to rely on the presentation of metastatic disease to diagnose our patient.

Conclusion: Early diagnosis, appropriate antibiotic treatment and drainage are keys in the management of these cases. **(Authors' abstract)**

Keywords: *metastatic klebsiella, hypermucoviscous, infection, klebsiella spp, Medicine*

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2019 January to March,
(Filipiniana Analytics)
NP

0430

Methanol-induced bilateral optic neuropathy *Cruz, Raul D. , Ranche, Joseph M., Inocencio, Froilan*

Objective

To emphasize the importance of diagnosing cases of methanol toxicity, demonstrate the value of electrophysiologic testing as an adjunct in the diagnosis, and provide a framework for intervention.

Methods

This is a case report.

Results

The patient's visual-evoked-response tracing showed failure of transmission while electroretinogram waveforms were normal. The findings were consistent with bilateral optic neuropathy from ingestion of methanol.

Conclusion

Complete clinical history and ophthalmologic examination are vital to the diagnosis of methanol toxicity. Respiratory assessment and support and treatment of acidosis are the cornerstone of its management. Currently, the primary therapeutic approach is the use of competitive inhibitors of alcohol dehydrogenase. **(Authors' abstract)**

Keywords: *Methanol toxicity, Methanol-induced optic neuropathy, Alcohol-related ocular toxicity, Medicine*

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(Filipiniana Analytics)
NP

0431

Methotrexate Toxicity and Associated Risk Factors in Filipino Patients with Rheumatoid Arthritis Included in the Rheumatoid Arthritis Database and Registry

Dejoras, Eliza Mia M., Panggat, Jakes Catherine M. , Santiago, Angeline-Therese M. , Penserga, Ester

Rheumatoid arthritis (RA) is a chronic autoimmune disease that is severely debilitating with a prevalence in the Philippines of 0.17-0.4%. This study aims to determine rate of methotrexate (MTX) toxicity, identify risk factors and comorbid conditions predisposing to toxicity and describe management of MTX toxicity. Rheumatoid arthritis (RA) cases from the Rheumatoid Arthritis Database and Registry (RADAR) diagnosed by the 1987 ACR criteria receiving MTX monotherapy or combination disease modifying anti-rheumatic drugs (DMARDs), with at least one dose of treatment, were included. Patients were grouped into those with and without adverse events (AE). Disease activity was measured using DAS 28-ESR. Baseline characteristics, duration of use, dose, concomitant drugs and all toxicities were listed. Management of AEs were described. Independent t-test and Mann-Whitney U test were used for numerical data and Chi-square and Fisher's exact test for continuous data. One hundred ninety four patients are included, with 95% females, age 35-64 years, disease duration of 0.2-10 years. Eighty three percent are on methotrexate monotherapy. Fifty cases (25.77%) all with dose of 8.75 ± 2.5 had AEs: hepatotoxicity (52%), gastrointestinal (24%), hematologic (14%), dermatologic (8%), pulmonary (6%). Risk factors directly correlated with toxicity were older age ($p=0.024$), disease duration ($p=0.024$), dose ($p<0.000$), duration of use ($p \leq 0.001$), anemia ($p=0.038$) and osteoarthritis ($p=0.011$). Management included dose reduction (52%), dose retention with close monitoring (26%), addition of (24%) or shift to (22%) other DMARDs. Folate dose was increased in all cases. Methotrexate (MTX) toxicity rate of RA patients from the RADAR is similar to those in literature. While dose reduction is the main management strategy, some patients' doses were maintained while others were shifted to other DMARDs. (**Authors' abstract**)

Keywords: *rheumatoid arthritis, methotrexate toxicity, rheumatoid arthritis database and registry, Medicine*

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(Filipiniana Analytics)
NP

0432

MIDLINE NECK FISTULA: 4TH BRANCHIAL CLEFT FISTULA VS INFECTED THYROGLOSSAL CYST

Rodriguez, Kathleen M., Ureta, Celso

OBJECTIVE: To present a case of a 19 year old female with recurrent mucopurulent discharge draining through midline neck fistula
: To present its clinical presentation, diagnostics and management

STUDY DESIGN: Case Report

SETTING: Tertiary Hospital

PARTICIPANT: One patient

RESULT: This is a case study which described an uncommon location of a 4th branchial cleft fistula in a 19 year old female with recurrent episodes of mucopurulent discharge. Complete ENT examinations were done and CT scan of the neck was requested with an initial impression of a 4th branchial cleft fistula versus an infected Thyroglossal duct cyst. The patient underwent neck exploration to trace the fistula tract. Its location was noted leading to a 4th branchial cleft. Excision of the tract was done and the specimen was submitted to the Department of Pathology for histopathologic finding, which revealed branchial cleft fistula. The patient improved after the operation and was eventually discharged.

CONCLUSION: This paper presented a case of a 19 year old female diagnosed with 4th branchial cleft fistula, presenting with an unusual presentation midline neck fistula draining with mucopurulent discharge. With the aid of CT scan, the tract of the fistula was identified. The patient was subjected to neck exploration and excision of the fistula tract. (**Authors' abstract**)

Keywords: *Midline Neck Fistula, 4th Branchial cleft fistula, Thyroglossal duct cysts, Medicine*

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(Filipiniana Analytics)
NP

0433

Mixed Connective Tissue Disease in Filipinos – A 13-Year Retrospective Review of 14 Cases in the Philippine General Hospital *Penserga, Ester G. , Racaza, Gerald*

Mixed connective tissue disease (MCTD) is a distinct autoimmune disease with overlapping features of different connective tissue diseases and a broad spectrum of presentation and prognosis. The researchers' aim was to present the clinical profile of a cohort of Filipinos with MCTD. Charts with diagnosis of MCTD based on the Alarcon-Segovia Criteria from the Philippine General Hospital Adult Rheumatology clinic from January 1999 to December 2011 were reviewed for demographics, clinical presentation, and management. Descriptive statistics were applied. Fourteen patients were identified to have MCTD. All were females. The median age at symptom onset, and at diagnosis, was 30.5, and 31.5 years, respectively, with two having juvenile onset of symptoms. Mean interval from symptom onset to diagnosis is two years. Patients are being followed up for the past mean of 3.5 years. All eight women who wanted children were able to conceive, and among them only two had fetal losses but were negative for antiphospholipid antibodies. Chief complaint was most commonly joint pain (67%) followed by skin tightness (13%). Systemic lupus erythematosus (SLE) was the most frequent initial diagnosis (43%). Majority had initial constitutional symptoms with generalized weakness and fatigue being the most frequent (93%). Most common physical findings in different body systems are as follows: musculoskeletal – arthritis (100%); vascular – Raynaud's phenomenon (93%); cutaneous – skin tightness (71%); gastrointestinal – dental caries (57%); hematologic – anemia of chronic disease (50%); cardiopulmonary – accentuated pulmonary component of the second heart sound and right ventricular hypertrophy (21% each); neurologic – peripheral neuropathy (21%); renal – proteinuria (21%); endocrine – autoimmune thyroiditis (21%). Half have anemia of chronic disease. Only three (21%) have proteinuria and were below nephrotic range. Twelve out of 12 have elevated sedimentation rates. For serologic studies, all have speckled ANA and very high titers of anti-U1RNP; six of six patients have normal rheumatoid factor (RF) titers; one out of two have positive anti-Ro; two out of four have anti-Ds DNA; none of two have anti-SCL70. Majority of the chest x-rays, electrocardiograms, echocardiographs were normal. Three have pulmonary hypertension. One out of four has restrictive lung disease on pulmonary function test. Most are in remission and are on low-dose prednisone (79%), hydroxychloroquine (50%), nifedipine (36%) and methotrexate (21%). This is the first study that detailed clinical and laboratory features of Filipinos with MCTD diagnosed using the Alarcon-Segovia criteria. Most clinical features, disease activity, and management are concordant with international data. Possible peculiarities include fewer interstitial lung disease,

esophageal dysmotility, thrombocytopenia and leucopenia, and RF titers. The researchers intended to add newly diagnosed patients and pursue this cohort for us to better understand the course of MCTD in Filipinos that could translate to better patient care. (**Authors' abstract**)

Keywords: *Mixed connective tissue disease, Filipino, Asian, clinical profile, demographics, Medicine*

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NP

0434

Molecular Genetic Profiling of Filipino Patients with Retinoblastoma: A Preliminary Study
Enriquez, Ma. Luisa D. , Macias, Emilio L. , Huerto, Remedios Felisa S. , Verzosa, Lee G. , Tuano, Prospero Ma. C. , Mendoza, Pia Magdal

Objective: To detect and characterize retinoblastoma susceptibility gene (RB1) mutations in tumor samples collected from Filipino patients with retinoblastoma.

Methods: Six tumor samples were obtained from Filipino patients diagnosed with retinoblastoma. DNA was extracted from the tumor samples and exons 13-21 of the RB1 gene were amplified by polymerase chain reaction (PCR). PCR amplification products were subsequently purified and sequenced. Mutation detection and characterization were done by alignment of obtained sequences to the RB1 reference sequence from NCBI GenBank using Bioedit® software. The identified mutations were correlated with clinical presentation and family history. These mutations were also compared to known mutations reported in the RB1 Gene Mutation Leiden Open Variation Database (LOVD).

Results: Mutations were detected in two out of the six samples. In a patient with unilateral disease and no family history, two mutations were identified: a novel CGT>AGT (Arginine → Serine) missense mutation in position c.1861 of exon 19 and a previously reported CGA>TGA (Arginine → STOP) nonsense mutation in position c. 1735 of exon 18. A possible large exonic deletion was identified in a case of unilateral disease with no family history.

Conclusion: We were able to identify both novel and known mutations in the RB1 gene of Filipino retinoblastoma cases using DNA sequencing techniques. These techniques may be applied to further characterize the genetic mutations of Filipino retinoblastoma cases and their families in developing a rational method of genetic testing for early diagnosis and counseling. (**Authors' abstract**)

Keywords: *Retinoblastoma, Gene mutation, RB gene, Retinoblastoma susceptibility gene, Medicine*

Philippine Journal of Ophthalmology, Volume No. 37 Issue No. 1, 1-6
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(Filipiniana Analytics)
NP

0435

Monovision soft contact lenses versus reading glasses among early emmetropic presbyopes *Tolentino, Leda , Bunagan, Gabriel, Lim Bon Siong, Ruben , Cua, Irwi*

This study determined the effectiveness and acceptance of monovision contact lenses compared with reading glasses for early emmetropic presbyopes. Fifty participants, 36 to 45 years old, with early emmetropic prebyopia were enrolled and randomized to two groups. Group 1 used monovision contact lens for 2 weeks on an extended-wear basis, while Group 2 used bilateral reading glasses for 2 weeks. Participants were then crossed over to the other group for another two weeks. Acceptance rate, binocular distance and near visual acuity (log MAR), stereoacuity, contrast sensitivity, and quality-of-life evaluation (VF-14) were measured at the end of 2 weeks after each intervention. Adverse events and complications were also noted. Chi-square, one-way analysis of variance (ANOVA), paired t-test, and Pearson correlation were used to analyze differences. Fifty patients (33 females and 17 males) with a mean age of 41 were enrolled into the study. Nineteen (38%) fully accepted the use of monovision contact lens while 22 (44%) moderately accepted it. Nine patients did not accept monovision, with 33% citing difficulty with focusing as the most common reason. Age and amount of plus power were statistically significant variables affecting monovision acceptance, with younger age and lower plus power favoring acceptance. Monovision showed poorer binocular distance and near visual acuity values and a significant decrease in contrast sensitivity and stereoacuity ($p < 0.01$). One case of eye redness and another of foreign-body sensation were reported with soft-contactlens use. Use of monovision soft contact lens to improve near vision among early emmetropic presbyopes is an effective alternative to reading glasses. Younger presbyopes and lower plus power are favorable factors for monovision acceptance. Reading glasses are superior to monovision contact lenses in terms of visual acuity, quality of vision, and quality of life. (**Authors' abstract**)

Keywords: *Presbyopia, Monovision, Contact lens, Reading glasses, Medicine*

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2007 January to June,
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NP

0436

The Morphologic Profile of Inflammatory Bowel Disease and the Diagnostic Problem of Crohn's Disease versus TB Colitis: A Case Series

Perez, Kathleen , Cu, Ricka , De Los Reyes, Francia Victoria , Tilbe, Maria L

The aim of this study is to describe the morphologic profile of the biopsy and resection specimen that were diagnosed with Crohn's disease and ulcerative colitis in the University of the East Ramon Magsaysay Memorial Medical Center (UERMMMC) from 2008-2016. Features that classify the specimen as Inflammatory Bowel Disease – Indeterminate Type are also presented. Considerations for the definitive IBD classification after an initial indeterminate diagnosis by morphology are also briefly discussed. Biopsy and resection specimen that were diagnosed with Crohn's disease, cannot exclude TB Colitis, are also presented; and the subsequent steps for a definitive classification are also discussed. All the patients included underwent an endoscopic biopsy, and are categorized by histopathologic diagnoses, age, sex, and GIT segment involved in the endoscopic procedure. Patients that underwent subsequent resection due to the disease condition are also identified.

Comparison of the histologic findings observed in the patients, with the microscopic basis for the diagnosis recommended by the European consensus on the histopathology of inflammatory bowel disease (2013), and with the histologic features described by Patil et al., (2015) for the inflammatory disorders of the large intestine,

is done. The histologic features described by Lamps (2015) for the gastrointestinal TB is used in the evaluation of the findings in the patients diagnosed with Crohn's disease, cannot exclude TB Colitis.

There are 5 Crohn's disease patients, accounting for 0.8% of all patients with lower GIT inflammatory conditions, and 10 ulcerative colitis patients, accounting for 1.6% of all patients with lower GIT inflammatory conditions. Seven patients, which comprise 1.1% of all patients with lower GIT inflammatory conditions, have the diagnosis of indeterminate colitis. The histologic features of 6 out of 7 patients that had the initial diagnosis of indeterminate colitis presented with morphologic features that favored an ulcerative colitis, but with Crohn's disease features. In comparison, one patient who had an initial diagnosis of indeterminate colitis presented with morphologic features that favored Crohn's disease but with ulcerative colitis features. In these patients, correlation with chronology of symptoms and associated ancillary procedures that can classify the patients as CD or UC are recommended to the gastroenterologist attending such patients so that a more definitive classification can be done.

Four patients, accounting for 0.6% of all lower GIT inflammatory conditions, were initially diagnosed as Crohn's disease, cannot exclude TB Colitis. This is in contrast with 34 patients who were diagnosed with Chronic Granulomatous Inflammation, Tuberculosis which accounted for 5.7% of all patients that were diagnosed with

inflammatory conditions of the lower GIT. The remaining 536 patients were composed of acute self-limited/ infectious colitis, ischemic colitis, eosinophilic colitis, inflammatory polyp, and nonspecific inflammation.

With the trend of increasing incidence of Inflammatory Bowel Disease in Asia, comparison of the more commonly seen causes of chronic inflammation of the gastrointestinal tract with a condition that appears to have a growing incidence in the region is necessary for optimal diagnostic protocol, management, and quality of care. (**Authors' abstract**)

Keywords: *inflammatory bowel disease, Crohn's disease, ulcerative colitis, indeterminate colitis, intestinal tuberculosis, colitis, morphology, histopathology, Medicine*

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NP

0437

Möbius sequence with varied strabismus presentations in Filipino patients

Uy, Christopher Sebastian J. , Santiago, Alvina Paul

The study was conducted to report various presentations of patients diagnosed with Möbius sequence, discuss theoretical basis for the findings, and present treatment options. Consecutive cases of patients meeting the minimum criteria of VI and VII cranial-nerve diplegia seen from January 2003 to June 2003 were included in this case series. Their strabis-mus presentations and associated systemic findings were presented. All patients underwent a comprehensive ophthalmologic examination. Seven patients aged six months to eight years, five males and two females, were identified. Patients were born to mothers 28 to 38 years old with varying parities. First trimester insults in the form of tobacco and alcohol exposure, upper respiratory and varicella infections were seen in three patients. While all patients had bilateral abduction deficit consistent with bilateral VI cranialnerve palsy, the strabismus deviations varied. Four patients had large-angle esotropia exceeding 40 PD, one of whom had dissociated vertical deviation (DVD), ptosis, and lid fissure narrowing on attempted adduction. The others had 20 PD of exotropia, 10 PD of intermittent esotropia with DVD, and one was orthotropic. Four patients had limb abnormalities, including three with talipes equinovarus or clubfoot and one with absent distal phalanges. Four patients, two of them females, suffered from mental retardation. Two patients had seizure disorder. Patients with typical Möbius sequence may have varying

strabismus presentations despite bilateral VI cranial-nerve involvement. Standard strabismus management principles apply. These patients require a multidisciplinary team for optimal care. (**Authors' abstract**)

Keywords: *Cranial-nerve-VI and -VII diplegia, Hanhart syndrome, Mobius sequence/syndrome, Moebius/Mobius, Poland-Mobius syndrome, Strabismus, Medicine*

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NP

0438

Multicenter survey of badminton-related eye injuries

Zamora, Katherine V., Uy, Harvey S

The study determined the patient profile and risk factors for badminton-related eye injuries in Metro Manila. The researchers conducted a cross-sectional survey of badminton-related eye injuries in Metro Manila. A survey form was sent to 13 ophthalmologists who were asked to report on patients treated for badminton-related eye injuries from July 1 to December 1, 2004. The following data were collected: patient age, gender, and sports experience; details of eye injury; use of protective eyewear; and visual outcomes. Logistic regression analysis was performed to predict sight-threatening injuries. The average patient age was 34.7 ± 6.2 years (range 18 to 46). There were more males than females (1.55:1). All patients sustained eye injury while playing doubles. None of the patients were wearing protective eyewear at the time of injury. Blunt trauma due to shuttlecock impact was the cause of injury in 74% of cases. The most common ocular findings were iridocyclitis (n=11), secondary glaucoma (n=6), and hyphema (n=5). Twenty-nine sight-threatening conditions were reported. Six (26%) patients developed chronic ocular sequelae. Sight-threatening injuries can occur in individuals playing badminton. While vision loss is uncommon, treatment outcomes are generally good. Since all injuries were sustained without the use of protective eyewear, ophthalmologists have a responsibility to promote its use when playing badminton. (**Authors' abstract**)

Keywords: *Badminton, Eye injury, Trauma, Protective eyewear, Medicine*

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NP

0439

A mysterious case of bilateral stromal keratitis

Valenton, Mario J. , Lim Bon Siong, Ruben , Lingao, Miche

The study described a rare case of bilateral stromal keratitis and demonstrate the effectiveness of penetrating keratoplasty in the management of toxocara keratitis. This is a case report of a 53-year-old male farmer had a 10-month history of bilateral corneal opacity, photophobia, redness, foreign body sensation, and eye pain. The diagnosis was central microbial keratitis with the following etiologies considered: Epstein-Barr virus, herpes simplex, fungal, syphilis, tuberculosis (TB), mycobacteria other than TB, and *Acanthamoeba*. Despite treatment with topical steroids and antibiotics, both eyes worsened. Penetrating keratoplasty markedly improved the patient's visual acuity. Histopathology of the left corneal button revealed *Toxocara* keratitis. Good history taking, complete systemic and

ocular examinations, and a histopathology of the corneal tissues are vital to the diagnosis of toxocara keratitis. Penetrating keratoplasty was shown to be effective in its management. Emphasis is given on prevention to decrease the incidence of the disease. (**Authors' abstract**)

Keywords: *bilateral stromal keratitis, keratoplasty, toxocara keratitis, Epstein-Barr virus, herpes simplex, fungal, syphilis, tuberculosis (TB), acanthamoeba, Medicine*

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0440

Neurosyphilis(Ocular Syphilis) with Bilateral Temporal Lobe Atrophy in an HIV Patient: A Case Report

Remotigue, Carmela , Robles, Jeremyjones , Edulan, Vaughn Cae

Before the advent of antibiotics, syphilis was known to be one of the most common infections affecting approximately 10% of the adult population worldwide. One of its devastating complications is neurosyphilis, which has a broad set of manifestations. Some patients may present with blurring of vision in the setting of an ongoing syphilis infection known as ocular syphilis. In the advent of increasing incidence of human immunodeficiency virus (HIV) infection, co-infection with it may further obscure its manifestations or may even cause synergistic effects. The researchers presented a case of a 26-year-old male patient who complained of bilateral fronto-occipital headache with progressive blurring of vision and scaly reddish to brown maculopapular lesions affecting the limbs prominently the soles and palms. CT scan showed cerebral atrophy prominently on the temporal lobe bilaterally. Mental status exam was normal. Neurosyphilis was confirmed by CSF studies and patient tested positive for HIV infection. Patient was then started on aqueous crystalline benzathine penicillin G four million units every four hours for ten days and was discharged with improved condition and no neurocognitive deficits. He was advised to have CD4 count and other work up for his HIV infection as outpatient. The reported incidence of neurosyphilis is increasing in the advent of HIV infection. The deficiency of a clear epidemiology, pathophysiology and complications of cerebral atrophy in neurosyphilis patients co-infected with HIV necessitates further studies to elucidate the proper approach to this preventable and treatable disease. (**Authors' abstract**)

Keywords: *syphilis, neurosyphilis, ocular syphilis, cerebral brain atrophy, Medicine*

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0441

Non-invasive Ventilation Versus Conventional Oxygen Therapy in Immunocompromised Patients: A Meta-analysis

Maghuyop, Norman , Villalobos, Ralph Elvi , Flores, Karen , Gopez, Ulysse

Respiratory failure is common in immunocompromised patients. Intubation and mechanical ventilation (MV) is the mainstay of treatment but is associated with increased risk of pneumonia and other complications. Non-invasive ventilation (NIV) is an alternative to MV in a select group of patients and aims to avoid the complications of MV. In these patients, the researchers performed a meta-analysis on the effect of NIV versus conventional oxygen therapy in reducing intubation rates and other important clinical outcomes. The researchers performed an extensive online and unpublished data search for relevant studies that met the inclusion criteria. Randomized controlled trials that used NIV versus conventional oxygen therapy in immunocompromised patients with respiratory failure were included in the metaanalysis. Eligibility and risk of bias assessments were performed independently. The primary outcome of interest was intubation and mechanical ventilation rate. The secondary outcomes were intensive care unit (ICU) and all-cause mortality, ICU length of stay and duration of mechanical ventilation.

Out of the twenty initially screened studies, four studies with a total of 553 patients met the criteria for inclusion and were included in the analysis. Patients given NIV were 38% less likely to be intubated vs. those given oxygen, RR 0.62 (95% CI 0.42,0.93); however, this analysis result is significantly heterogenous. After sensitivity analysis, results showed 48% less likelihood of intubation and mechanical ventilation in the group treated with NIV, RR 0.52 [95% confidence interval (CI) 0.35,0.77]. Patients on NIV had 1.18 days less stay in the ICU vs. oxygen group (95% CI -1.84,-0.52 days). Three studies included ICU mortality in their outcomes and showed a 54% decrease in ICU mortality among patients given NIV, RR 0.46 (95% CI 0.17, 1.29), however this result is non-significant and heterogenous $I^2=58\%$. There was no statistically significant decrease in all-cause mortality between the two groups, RR 0.77 (95% CI 0.53,1.11). After a sensitivity analysis performed specifically for this outcome, results showed a 32% reduction in all cause mortality in patients given NIV vs. oxygen therapy, however was not statistically significant RR 0.68 (95% CI 0.53-1.11) and was heterogenous $I^2=50\%$. There is no difference in the duration of mechanical ventilation between groups. In immunocompromised patients with respiratory failure, NIV reduced intubation rates, and length of ICU stay, compared to standard oxygen therapy. This intervention also showed trend toward ICU and all-cause mortality reduction. (**Authors' abstract**)

Keywords: *non-invasive ventilation, conventional oxygen therapy, Medicine*

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0442

Noradrenaline vs Terlipressin for Hepatorenal Syndrome (No To Hepatorenal Syndrome): A Meta-Analysis

Ong, Janus P. , Taquiso, Jezreel L. , Samala, Kenneth G. , Pedracio, Farrah Haidee Ly

Hepatorenal syndrome (HRS) is a functional renal impairment associated with advanced cirrhosis. The best treatment is liver transplantation; however, many patients die before this can be done. Terlipressin improves renal function in HRS, but recent studies have shown similar effects with the cheaper and more readily available norepinephrine. This review included randomized trials comparing noradrenaline to terlipressin for patients with type 1 HRS, as defined by the International Ascites Club. The study was conducted to determine the safety and effectiveness of noradrenaline in the management of HRS in terms of 1) reducing mortality, 2) reversal and 3) occurrence of adverse events. For this meta-analysis paper, the researchers utilized an electronic search of databases and manual scanning of reference lists were performed. Standardized eligibility assessment was performed independently by three reviewers. Review Manager 5.0.23 was used to calculate odds ratios (OR) with 95% confidence intervals (CIs) as well as I^2 values for inter-trial heterogeneity. Standardized eligibility assessment was performed independently by three reviewers. Thirty-six articles were found after electronic and manual searching. Three were assessed for validity and included in the final analysis. The total number of patients across all trials was 95. Noradrenaline was found not to differ from

terlipressin in terms of 15-day survival rate (OR 0.17; 95% CI: 0.01-2.66), reversal of HRS (OR 1.07; 95% CI: 0.47-2.44), and a post-hoc analysis on disease-free survival (OR 0.78; 95% CI: 0.34-1.79). Results of sensitivity analysis were consistent with the previous findings (15-day survival: OR=1.21 95% CI = 0.52-2.83; HRS reversal: OR= 1.33, 95% CI = 0.56-3.13; disease-free survival: 1.35, CI =0.56-3.25). Only transient adverse effects were noted with either drugs. There was inconclusive evidence that noradrenaline and terlipressin are significantly different in the reversal of HRS and reduction of mortality. Larger trials on noradrenaline or a non-inferiority trial may be needed to establish the equivalence of noradrenaline with terlipressin. (**Authors' abstract**)

Keywords: *hepatorenal syndrome, noradrenaline, terlipressin, Medicine*

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0443

Nurturing the Seeds of Evidence-Based Practice: Early Ambulation Among Cardiac Surgery Patients

Moreno-Lacalle, Rain

Background: Cardiovascular disorders continue to be the most prevalent cause of morbidity and mortality in the Philippines and worldwide. Surgical treatments used to manage cardiovascular disorders (unfortunately) have multiple complications. As part of the health care team, nurses need to develop interventions that are safe, scientifically grounded, and cost-effective in order to counteract these complications. One of the nursing interventions that can be implemented is early ambulation.

Aim: To search, appraise, and synthesize the best evidence surrounding early ambulation among cardiac surgery patients.

Methods: This study employed an evidence-based review method suggested by Melnyk and Fineout-Overholt (2005). Systematic literature search was done to the following databases: Cochrane, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Joanna Briggs Institute (JBI), MEDLINE, National Guideline Clearinghouse (NGC), and Nursing/Academic edition. Post-operative patients who have undergone coronary artery bypass surgery (CABG), percutaneous coronary intervention (PCI), and transfemoral cardiac catheterization (TCC) are included in this study. The final review also included six articles.

Results and Discussion: Findings show that early ambulation among patients who

underwent coronary artery bypass surgery (CABG), percutaneous coronary intervention (PCI), and transfemoral cardiac catheterization (TCC) improves patient care outcomes (i.e., reduce complications such back pain, puncture bleeding, and urinary discomfort, improves general well-being, and decrease health care costs). Parameters for early ambulation (ranges from 3 hours to 24 hours) and late ambulation (ranges from 12 hours to 48 hours) are used in the study reviewed. The non-randomized comparative study found that the complication rate in the early ambulation group is not increased compared to the late ambulation group (test for non-inferiority $p=0.002$). Randomized controlled trial found out that early ambulation among cardiac surgery patients could reduce back pain (OR=0.19, 95% CI: 0.08-0.45, $p<0.001$), decrease urinary discomfort (OR=0.35, 95% CI:0.14-0.90, $p=0.03$) for very or unbearable urinary discomfort, and general-well being ($p=0.0005$ for vitality scale and $p=0.014$ for the total general well-being). Furthermore, early ambulation group reported decrease in hospitalization costs (less charge of \$105 or Php 5,040).

Conclusion and Recommendations: This evidence-based practice (EBP) review ascertains that early ambulation among postoperative coronary artery bypass surgery (CABG), percutaneous coronary intervention (PCI), and transfemoral cardiac catheterization (TCC) patients could improve patient care outcomes such as reduction of complication rate, improvement of general wellbeing, and decrease of healthcare costs. This study, therefore, recommends the use of early ambulation among CABG, PCI, and TCC postoperative patients to complete the last two phases of evidence-based practice. (**Authors' abstract**)

Keywords: *early ambulation, late ambulation, early mobilization, late mobilization, cardiac disorders, surgery, evidence-based practice, Medicine*

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0444

Nutritional Status and Hospital Outcomes of In-patients in a Tertiary Hospital *Lagura-Bilocura, Imelda , Tan, Ceryl Cindy , Tam-Go, Lyzanne*

Malnutrition is a widespread condition that impacts millions of people across the world annually. The World Health Organization defines malnutrition as the deficiency, excess or imbalance in a person's intake of energy and/or nutrients. It has been highly prevalent in hospitalized patients and is often overlooked as it continues to be an unrecognized problem. It is also associated with increased risk of complications, higher mortality rate, longer hospital stay, and higher hospitalization costs. The researchers aimed to determine in-patients' nutritional status using the Subjective Global Assessment (SGA) and their outcomes in a tertiary hospital. A cross-sectional study was conducted in a tertiary hospital in Cebu city for three months. A total of 453 patients were selected through simple random sampling from those assessed to be at risk for malnutrition. The nutritional status was obtained using the SGA tool and correlated with the demographic, nutritional and clinical profiles. In the study, the mean age was 54 years with a female predominance (54.1%). A larger percentage belonged to the obese 1 category (34.9%). Fifty-eight percent had moderate risk for malnutrition and 57.2% had an SGA grade of B which corresponded to moderate malnutrition. The most common reason of admission was due to respiratory causes (25%) and the leading comorbidities were hypertension (48.79%), diabetes mellitus (36.42%) and chronic kidney disease (10.38%). The mean number of hospital stay was 6.8 days (98.9%) were discharged improved with a mortality rate of only one percent. The following factors had a positive relationship with the SGA grade: those in the older age group ($p=0.000$), those with more comorbidities ($p=0.000$), patients with diabetes ($p=0.027$) and chronic kidney diseases ($p=0.001$), those with higher nutritional risk on screening ($p=0.000$), those with pulmonologic ($p=0.035$) and oncologic cases ($p=0.012$) upon admission. The study results showed that the higher the SGA grade, the longer hospital stay ($p=0.000$). In this study, the prevalence of malnutrition was 86% wherein 57.2% of the study population had moderate malnutrition, 28.9% had severe malnutrition and 13.9% had no malnutrition. The degree of malnutrition was associated with longer hospital stay, but not with mortality. (**Authors' abstract**)

Keywords: *malnutrition, subjective global assessment, nutritional status, Medicine*

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NP

An Observational Study on the Antihypertensive Management of High-Risk Patients in the Philippines

Javelona, Jonas Q. , Lelis, Marievi A. , Pipo, Michelle Ma

High-risk hypertensive patients often need immediate and more aggressive treatment to achieve adequate blood pressure (BP) control. There is currently no available Philippine data on the level of BP control and management specific to high-risk patients. The main objective of the study was to determine the prevalence of BP control in high-risk hypertensive patients. It also aimed to observe treatment pattern prescribed for high-risk hypertensive patients with uncontrolled BP; and to observe the change in BP after eight weeks of planned treatment modification. This was a multicenter, observational disease registry of high-risk hypertensive patients based on the 2007 European Society of Hypertension/European Society of Cardiology guidelines. The study had two cross-sectional phases. Patient data, including level of BP control and any prescribed treatment modification, were collected on the first visit (V1). A second evaluation was done after eight weeks for patients with planned treatment modification (V2). In 804 patients with high-risk hypertension included in V1, only 37 patients (4.6%) had a baseline BP <130/80 mmHg. Treatment modification was planned in most patients by switching (352/804, 44%), adding anti-hypertensive agents (193/804, 24%) or increasing the treatment dose (33/804, 4.10%). Of the 325 patients with planned treatment modification evaluated at V2, 112 (34%) had no change in baseline treatment. After a mean treatment period of 5.66 weeks, there was a significant decrease from baseline in mean systolic (-23.95 mmHg) and diastolic (-9.26 mmHg) BP (both $p < 0.0001$). Among patients followed-up, 90% (294/325) achieved target systolic or diastolic BP levels, while 70% (228/325) achieved both target systolic and diastolic BP levels at study completion. BP control in high-risk hypertensive Filipinos is low. Most physicians modified treatment in patients with uncontrolled BP and this was effective in significantly lowering BP. However, larger trials based on current treatment guidelines for hypertension are needed to compare the relative benefits of different types of treatment modification. (**Authors' abstract**)

Keywords: *hypertension, blood pressure, high-risk, treatment modification, Medicine*

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NP

Observer Variability in the Diagnosis of STElevation Myocardial Infarction from Emergency Room Electrocardiograms of Patients Presenting with Chest Pain

Magno, Jose Donato A. , Timbol, Edgardo S., Amansec, Richard

BACKGROUND: The diagnosis of ST-elevation myocardial infarction on standard 12-lead electrocardiography is crucial to the timely institution of appropriate medical therapies and interventions. However, the electrocardiographic diagnosis may be prone to observer variability.

OBJECTIVES: We wanted to determine the 1) inter-observer variability among clinicians from a training hospital in the diagnosis of ST-elevation myocardial infarction (STEMI) from emergency room electrocardiograms (ECG) of

patients presenting with chest pain, and 2) the accuracy of clinician readings compared to the final cardiac diagnosis in the official patient records.

METHODS: Forty electrocardiograms were independently interpreted by 40 clinicians which included 10 cardiologists (CC), 5 cardiology fellows (CF), 15 internal medicine (IM), and 10 internal medicine residents (MR), using uniform copies of the standard 12-lead electrocardiogram print-outs. All readers were blinded to the patient's clinical profile. The accuracy of clinician readings (% of tracings correctly identified as STEMI) were compared against a reference standard, which was the final cardiac diagnosis

made based on historical, electrocardiographic, biochemical, and angiographic data.

RESULTS: The overall level of agreement among all readers (intergroup variability) was only fair with a kappa of 0.24. The level of agreement within the groups (intra-group variability) was likewise "fair" for the IM (0.35), MR (0.32), and CC (0.30) groups. Agreement was much less (0.18) among the cardiology fellows (0.18) among the cardiology fellows (CF). Accuracy of ECG diagnosis varied among the groups: IM (68%), MR (60%), CF (52%) and CC (50%).

CONCLUSIONS: There is substantial inter-group variability in the electrocardiographic diagnosis of STEMI by clinicians. The accurate diagnosis of STEMI, based on pure electrocardiographic information, varied among readers with different training backgrounds. These findings suggest that the electrocardiographic diagnosis of STEMI may be influenced by training background and experience, as well as presence or absence of supplemental medical information necessary to make a comprehensive and accurate cardiac diagnosis. More importantly, this underscores the need to harmonize electrocardiographic interpretations and recognize the value of reading ECGs in light of pertinent clinical data. (**Authors' abstract**)

Keywords: *ST-elevation myocardial infarction (STEMI), Chest Pain, 12-lead electrocardiography, Medicine*

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0447

Ocular bacterial flora and antibiotic sensitivity among Filipino patients undergoing routine cataract surgery

Objective

This study determined the most common normal lid-margin and conjunctival bacterial flora, antibiotic sensitivity, and resistance patterns in eyes of Filipinos scheduled for routine cataract surgery at a tertiary government hospital.

Methods

Lid-margin and conjunctival swab specimens were collected from patients scheduled to undergo routine cataract-extraction surgery at the Department of Ophthalmology and Visual Sciences of the University of the Philippines–Philippine General Hospital. The specimens were cultured using standard technique and those with bacterial growth were tested for antibiotic sensitivity and resistance using the disc-diffusion method.

Results

Sixty eyes of 30 patients were sampled, 17 females (57%) and 13 males (43%), with a mean age of 61.4 12.5 years (range, 37 to 84). Of the 30 patients swabbed, 27 (90%) were culture positive. The most common organism identified was *Staphylococcus epidermidis* (24/27, 89%). *Bacillus sp.* was identified in 12 (44%) patients. *Staphylococcus aureus* was identified in 3 (12%) patients. Results of antibiotic sensitivity testing revealed that 85% or more of the coagulase-negative staphylococcus isolates were sensitive to moxifloxacin, gatifloxacin, ciprofloxacin, vancomycin, gentamycin, tobramycin, and chloramphenicol.

Conclusions

Staphylococcus epidermidis was the most frequently isolated organism in the eyelid margin and conjunctiva of patients for routine cataract surgery. The isolates showed high sensitivity to commonly prescribed topical antibiotic preparations. (**Authors' abstract**)

Keywords: *Cataract surgery, Bacterial flora, Eyelid, Conjunctiva, Antibiotic sensitivity, Medicine*

Optic-nerve compression by the internal carotid artery as a cause of “unexplained” optic atrophy *Kho, Rich*

The study was conducted to present a case of bilateral optic neuropathy secondary to optic-nerve compression by the internal carotid artery (ICA). This is an observational case report of single patient seen in private practice. Compression of the optic nerves by the ICAs as the etiology of unexplained progressive optic neuropathy is reported. The patient refused further invasive procedures after diagnosis. Compressive optic neuropathy due to direct pressure

by the adjacent ICA should be considered as a possible etiology of occult, progressive visual loss in an otherwise healthy patient. Although rare, the clinical picture of progressive optic neuropathy backed by evidence of magnetic resonance imaging (MRI) should clinch the diagnosis early and spare the patient from further unnecessary ancillary work-up. (**Authors' abstract**)

Keywords: *Compressive optic neuropathy, Internal carotid artery, Dolichoectatic artery, Fusiform enlargement, Medicine*

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NP

0449

Ostrich eggshell as an onlay bone-graft substitute for orbital blow-out fractures

Romero, Hazel L. , Valdez, Allan M. , Sunico, Alice Tuesday C. , Cristobal, Susan , Pe, Lawrence C. , Lim, Gloria D. , Yadao, Rhou

The study was conducted to assess the biological behavior of an ostrich eggshell implant as an onlay graft on the orbital floor. This is an experimental study of 12 rabbits implanted with ostrich eggshell (6 rabbits with 5mm- and 6 rabbits with 10mm-diameter grafts) subperiosteally in the right orbital floor. The right orbit was harvested en bloc 1, 2, and 3 months after onlay. Radiographic studies were done one day after implantation and prior to harvest. The specimens were submitted for gross and microscopic studies. All animals showed normal wound healing. The grafts were stable and no foreign body reaction was observed 1, 2 and 3 months postimplantation. The size of the ostrich eggshell implants remained the same. There was no change in radiodensity at 3 months observation. The results of this study support the potential application of ostrich eggshell as bone substitute for orbital floor fractures. (**Authors' abstract**)

Keywords: *Eggshell, Blow-out, Implant, Orbit, Graft, Medicine*

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NP

0450

Outcome of Retinoblastoma Patients with High-risk Histopathological Features in a Tertiary Hospital

Valenzuela, Rafael , Mercado, Gary JV. , Domingo, Rolando Enrique D. , Cabrera, Patri

Objectives: To describe the outcome of patients with bilateral or unilateral retinoblastoma with high-risk histopathological features managed at a tertiary hospital in the Philippines.

Methods: This was a descriptive, retrospective review of retinoblastoma cases with high-risk histopathological characteristics seen at a tertiary hospital from January 1999 to July 2012. Out of 239 patients, those with at least one

of the following features were included in the study: positive cut optic nerve margin, postlaminar optic nerve involvement (PLONI), intra- or extrascleral involvement, choroidal invasion, and anterior segment involvement. We determined the number of patients who developed orbital recurrence and metastasis, otherwise known as events, within 1 year after enucleation or exenteration and compared the outcomes between those who received and did not receive adjuvant therapy.

Results: Of the 82 eyes of 79 patients with high-risk histopathologic features, 25.6% had orbital recurrence and 18.3% developed central nervous system, lymph node, or distant metastasis. None with isolated choroidal involvement (n=24) or combined choroidal and anterior segment involvement (n=4) developed recurrence or metastasis. Patients with isolated anterior segment (n=1) and PLONI with negative margin involvement (n=1) remained event-free with chemotherapy. The following developed orbital recurrences: 2 of 9 patients with combined choroid and scleral involvement, and 1 of 8 patients with PLONI negative margin and choroidal involvement. These patients did not receive immediate postoperative chemotherapy. Two out of 4 patients with isolated PLONI with positive margin of resection developed metastasis despite adjuvant therapy. Of 12 patients with combined choroid, scleral, or anterior segment and PLONI with positive margin involvement, only 3 of the 7 patients who received full chemotherapy remained event-free, while the rest developed orbital recurrence or metastasis (9 of 12). Of 17 patients with extrascleral involvement and varying degrees of intraocular involvement and optic nerve margin involvement, only 3 of the 9 who received full chemotherapy remained event-free, including two who received an intensive chemotherapy course.

Conclusion: Isolated choroidal and combined choroid and anterior segment involvement had no recurrences or metastasis either with or without adjuvant therapy. Patients with combined choroid and scleral involvement and those with PLONI, negative margin with choroidal involvement had better outcomes with adjuvant therapy than without. Patients with the following features developed events despite adjuvant therapy: positive optic nerve margin combined with any ocular tissue involvement, and extrascleral involvement combined with any other feature. We recommend giving a timely and complete chemotherapy regimen to prevent recurrence or metastasis in combined choroid and scleral involvement, and PLONI negative margin with choroidal involvement. We suggest intensive chemotherapy for patients with positive margin involvement or extrascleral involvement. Further studies are recommended to establish the need for chemotherapy in isolated PLONI. (**Authors' abstract**)

Keywords: *Retinoblastoma, Outcomes, High-risk, Histopathology, Extraocular, Medicine*

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(Filipiniana Analytics)
NP

0451

Outcomes Following Laparoscopic Adrenalectomy as Treatment for Patients with Adrenal Nodules

Ebison, Jr., Andres V. , Isip, Joie Dj Q. , De Guzman, Milldeanna L. , Aragon, Jimmy B. , Prodigalidad, Jose Vicente

Adrenal nodules can either be non functioning or hormone secreting. Once proven functional, adrenalectomy is warranted. Laparoscopic adrenalectomy has been the popular intervention for these nodules. There is no local literature citing the clinical outcomes, particularly on symptom and medication reduction. Considering that these tumors present with hypertension, such condition may be under diagnosed in a population with a hypertension prevalence of 22.3%. This study reviewed the outcomes of the procedure particularly on the improvement of signs and symptoms and medication use. This is a retrospective review describing the post-operative outcomes of patients who underwent

laparoscopic adrenalectomy conducted in a tertiary medical center from 2010 – 2015. Twenty-three (23) patients were categorized according to pathology – primary hyperaldosteronism – (17), pheochromocytoma – four (4) and Cushing's syndrome – two (2). Post-operatively, there was a reduction in the systolic blood pressure of patients with primary hyperaldosteronism ($p = 0.156$). A mean reduction of 20-30 mmHg in the blood pressure was documented in patients who had pheochromocytoma ($p = 0.625$). There was a reduction in the number and dosages of antihypertensive medications (primary hyperaldosteronism $p = <0.001$, pheochromocytoma $p = 0.095$). Potassium levels of patients with primary hyperaldosteronism improved ($p = 0.004$). Patients with Cushing's syndrome had improvement in blood pressure, glycemic profile and cortisol. The mean operative time is four hours with minimal blood loss and no major complication was documented. Discontinuation of antihypertensive medications and potassium supplementation was noted in 13 (56.5%) patients. Median hospital day was four days. There was no morbidity and mortality that occurred during the perioperative and post-operative period (median = 42 days, $r = 30$ -240 days). Laparoscopic adrenalectomy, being employed as treatment for adrenal nodules, is safe and effective. Significant improvement in the signs and symptoms and number of medications in the management of these patients was documented.

Keywords: *Laparoscopic adrenalectomy, adrenal nodules, Medicine*

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0452

Outcomes of Retinopathy of Prematurity Screening at a Tertiary Government Hospital

Mina-Alvarez, Emmeline R., Ventura, Ricardo

Objective: To determine the outcomes of retinopathy of prematurity (ROP) screening at a tertiary government hospital.

Method: Medical records of premature infants who underwent ROP screening at a tertiary government hospital from January 2008 to July 2012 were obtained. Eventual outcomes of the ROP screening were collated and analyzed.

Results: A total of 194 premature infants (388 eyes) were included in the study. Forty six (23.71%) infants developed some form of ROP of which 41 (90.21%) had bilateral disease. Of the 388 eyes, 92 (23.71%) were diagnosed with ROP. Thirty-five eyes (38.08%) with ROP were classified as stage 2, 23 (25.00%) stage 1, and 13 (14.13%) stage 3. Twelve eyes (13.04%) diagnosed with ROP received treatment that included laser therapy in 4 eyes (33.33%), intravitreal bevacizumab injection in 4 eyes (33.33%), cryotherapy in one eye (8.33%), and laser therapy plus intravitreal bevacizumab injection in 3 eyes (25%). Seven eyes (7.60%) required treatment but parents did not comply. Sixteen patients (10.81%) without ROP and 27 patients (57.61%) with ROP had follow-up examinations. Of the 54 eyes with ROP that were followed up, only 26 eyes had refraction. Twelve eyes (46.15%) were hyperopic, 12 (46.15%) myopic, and two (7.69%) emmetropic. Among 16 eyes without ROP with follow-up examination, 14 eyes (87.50%) had hyperopia and two (12.50%) myopia. The follow-up rate for this study was 22.16%.

Conclusion: There was a low follow-up rate for premature babies screened for ROP at a tertiary government center. No association was found between presence of ROP and refractive outcomes, and between refractive outcomes and treatment received. (**Authors' abstract**)

Keywords: Retinopathy of prematurity, Prevalence, Follow up rate, Refractive outcomes, Medicine

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NP

0453

OXYGEN SATURATION (sPO2) LEVELS OF HEALTHY NEWBORNS WITHIN 10 MINUTES OF LIFE

Aquino, Rubelyn F., Salas, Marissa

OBJECTIVE: This study aims to determine the oxygen saturation levels of healthy newborns within 10 minutes of life. To correlate sPO2 with age of gestation, birthweight, and manner of delivery. To determine the time for infants to reach 90% oxygen saturation.

DESIGN: Prospective observational study design.

SETTINGS: Private tertiary hospital

METHODS: Visual screening was conducted in 89 preschool children aged 3 to 5 years. The screening involved two basic procedures; the distant visual acuity test and structural eye exam. Those who failed the examination were referred to an ophthalmologist for further examination.

PARTICIPANTS: All healthy newborns delivered via NSD and CS with APGAR score 7 and above. Infants who received oxygen or any form of resuscitation were excluded.

METHODOLOGY: The spO2 sensor was applied on the right hand (preductal). Upon clamping of the cord, a stopwatch was then started. The spO2 values were recorded within 10 minutes of life or until spO2 reached 90%. Oxygen saturation values were recorded every 1 minute interval. Analysis of variance (ANOVA) was used to determine the differences in O2 saturation at specified time intervals. A p-value <.05 was used as cut-off for significance. Survival analysis using Kaplan-Meier method was used to determine the mean and median time to reach O2 saturation of 90%.

RESULTS: A total of 122 newborns were monitored. It took 5 minutes for infants to reach O2 saturation of 80% and 9 minutes to reach > 90%. No significant difference was noted in the oxygenation status of babies in different age of gestation and birthweight. However, the oxygen saturation of babies was lower for those delivered by CS than those delivered by NSD, the difference was significant (p-value 0.0000) at every minute interval following birth.

CONCLUSION: Results showed increasing oxygen saturation levels minutes after birth even with-out intervention, with oxygen saturation reaching > 90% at 9 minutes of life. (**Authors' abstract**)

Keywords: oxygen saturation, newborn, pulse oximeter, Medicine

Paneth Cells in Colonic Adenomas: Association with Higher Adenoma Burden

Pua, Glenda Lyn, Santiago, Rex M

Introduction. The association of Paneth cells with colorectal neoplasms has been demonstrated in several studies and case reports. The frequency of Paneth cell-containing adenomas ranges from 0.2 to 39% in the various published studies. Although adenomas with Paneth cells have already been recognized before, there are no studies in the Philippines that have been done to evaluate their clinicopathologic features. This study was performed to evaluate the clinicopathologic features of Paneth cell-containing adenomas and their association with adenoma burden.

Methodology. A total of 326 colorectal adenomas from 133 patients diagnosed consecutively from April 2013 to June 2013 at St. Luke's Medical Center, Quezon City, Philippines, were reviewed. These were checked for the presence of Paneth cells within the adenomatous crypts. The differences in gender and location were analyzed using one tail z-test, while the association of Paneth-cell containing adenomas with adenoma burden was analyzed using univariate odds ratio at 95% confidence interval.

Results. The frequency of Paneth cell-containing adenomas in this study of 326 adenomas is 15% (50 of 326 adenomas). There was no statistical significance in the occurrence of the lesion between male and female patients (32% vs. 15%; $p=0.2041$). There was also no statistical difference in their occurrence in the proximal and distal colon (18% vs. 14%; $p=0.1723$). The odds of having multiple adenomas for patients with Paneth cell-containing adenomas are 3.16 times higher than those patients without Paneth cell-containing adenomas (15 patients with one adenoma, 23 patients with more than one adenoma; $p=0.0037$).

Conclusion. This study has demonstrated the increased odds of harboring multiple adenomas in patients with Paneth-cell containing adenomas. This may be attributed in part to the fact that there have been recent studies revolving around Paneth cells that have shown that an established pathway of colorectal tumorigenesis, the APC/Wnt/ β -catenin pathway, regulates differentiation towards this cell lineage. (**Authors' abstract**)

Keywords: *adenoma, Paneth cells, colon, Medicine*

Patients of Different Body Mass Index Classification and its Effect on Tube Current Time Product, Scanner Radiation Output and Image Quality as Applied in Multidetector Computed Tomography of the Whole Abdomen: A Retrospective Study

Dy, Jackson , Fincale, Gi

OBJECTIVE: This study aimed to retrospectively determine if there is significant difference in the tube current-time product (mAs) used and radiation output in patients of different BMI classification undergoing CT study, and how this would affect image quality.

METHODS: This study included 144 adult patients who underwent CT of abdomen. Patients were classified according to their BMI. The mAs is set by the CT machine, adjusted according to patient cross section. Radiation output parameters were collected after each study. Qualitative evaluation of images was done based on image noise and effect on diagnostic accuracy.

RESULTS: Correlation Analysis showed significant increase in mAs and radiation output in groups of patient with higher BMI. There is however no significant difference in image quality between BMI groups, such that there is no significant improvement in image quality when mAs is increased.

CONCLUSION: This study reiterates the need for body size-adapted CT protocol in imaging patients since the radiation dose required in patients of higher BMI is increased to maintain diagnostic quality of images. (**Authors' abstract**)

Keywords: *Body Mass Index, Radiation output, Abdomen, Medicine*

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NP

0456

Pediatric Endocrinology Transition Clinic Profile at the University of Santo Tomas Hospital Outpatient Department – Clinical Division (USTH OPD-CD)

Mercado-Asis, Leilani B. , de Luna, Krist

Structured and well-coordinated transition from pediatric to adult medical care is an integral part of continuous disease management of maturing adolescents. However, the evaluation of the degree of efficiency of transition process is usually taken for granted. The objective of this study was to characterize the pediatric endocrinology transition clinic profiles at the University of Santo Tomas Out-patient Department-Clinical Division (USTH OPD-CD). A descriptive observational study that reviewed the pediatric endocrinology database containing the data of patients who attended the clinic from January 2012 to July 2014 was conducted along with a month-long immersion of the investigator. Patients aged 15 to 19 years old who attended the pediatric endocrinology clinic were included in the study. Variables of interest included were the patients' demographic data, clinical information, follow-up care, physician-patient interaction, and manner of transitioning patients by their healthcare provider.

Twenty patients were included in the analysis. Majority of the patients were female (n=17, 85%) while three (15%) were male. Although all patients had controlled disease, only twenty percent were compliant with follow-up. The most common condition was Graves' disease (45%). Transfer to adult clinic was advised in a 19-year-old patient with type 1 diabetes mellitus, and the process was merely verbal. There was no information whether the patient who was advised this transfer complied. In terms of physician-patient interaction, it was noted that physician readily listened to their patients, after which the former was able to give education and counseling to their patients in order to empower them to have informed decisions. In general, the manner of transitioning patients was done in a purely verbal manner. In conclusion, there is a need to modify the system of transitional care at the USTH OPD-CD primarily in terms of structured and formal collaboration between pediatric and adult services to ensure the continuity of care, and adequacy of disease management. Preparing patients prior to their target age of transition is imperative. Taking measures to improve the patients' compliance with their follow-up and attain the full cooperation of the family is also necessary. Regular evaluation of the transition program is essential. (Authors' abstract)

Keywords: *pediatric endocrinology, transition clinic, outpatient department, Medicine*

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0457

Peripheral ulcerative keratitis in Sweet syndrome

Mejia, Margarita Nahleen N. , Agdeppa, Maria Cecilia Gertrudis , Carbonell, Denise

Objective

To present a case of peripheral ulcerative keratitis (PUK) in a patient with Sweet syndrome (acute febrile neutrophilic dermatosis) and discuss its etiopathogenesis, clinical presentation, course, and management.

Method

This is a case report.

Results A 31-year-old male, diagnosed with Sweet syndrome, was referred for redness, photophobia, and severe, deep, boring pain in the right eye. Visual acuity was 20/20 bilaterally. Inferior sectoral conjunctival and scleral hyperemia were present in the right eye. Initial treatment included topical and oral nonsteroidal antiinflammatory drugs (NSAIDs), a topical immunosuppressive agent, and an antibiotic. One month after treatment, the pain decreased but patient developed peripheral corneal thinning that gradually spread circumferentially and centrally in the right eye. Vision decreased to 20/400. A similar inferior sectoral injection was noted in the left eye. Oral prednisone was started, followed by oral immunosuppressive agent. Resolution of the PUK was noted after 1 month of immunosuppressive treatment with improvement of the vision.

Conclusion

PUK is a potentially blinding disorder that can be seen in Sweet syndrome. With proper knowledge of the underlying disease, close monitoring and management, PUK can be treated and cured.

Keywords: *Acute febrile neutrophilic dermatosis, Conjunctivitis, Ocular inflammation, Peripheral ulcerative keratitis, Sweet syndrome, Medicine*

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NP

0458

Petroleum Jelly Versus Tea Tree Oil and Tea Tree Facial Wash Lid Scrub in Patients with Blepharitis Associated with Above-normal Demodex Count

Reyes, Johann Michael , Tiuseco, Karen Angela L., Iguban, Eleonor B. , Lim Bon Siong, Rub

Purpose: To determine the effectiveness of lid scrub with petroleum jelly versus lid scrub with tea tree oil and tea tree facial wash in patients with symptomatic blepharitis associated with above-normal *Demodex* counts

Methods: Patients with symptomatic anterior blepharitis (AB), meibomian gland dysfunction (MGD), or mixed blepharitis (MB) were recruited into the study. Pertinent data, including ocular symptoms and findings, were recorded. Digital photographs of the lid margins were taken. Lash sampling was done using the modified Coston method for lash epilation. Patients with below-normal *Demodex* counts (DC <5) were excluded while those with DC ≥5 were randomly assigned to one of either treatment regimen: (1) lid scrub with tea tree oil and tea tree facial wash (The Body Wash®, control group), or (2) lid scrub with petroleum jelly (Apollo Pure Petroleum Jelly®, study drug). Lid scrub with the tea tree oil (TTO) or petroleum jelly was administered at the clinic during the initial visit and at 2-week intervals thereafter for 6 weeks. Patients were instructed to apply tea tree (TT) facial wash or petroleum jelly at home on specified intervals daily. DC posttreatment was recorded, and digital photographs of the eyelids were taken at the end of treatment.

Results: Thirteen patients were included in the study; 5 in the TTO and 8 petroleum jelly. In the TTO group, 3 patients had decrease in DC and 2 an increase, but all patients reported decrease in the severity and frequency of ocular symptoms. In the petroleum jelly group, 5 patients had decrease in DC after 6 weeks, while the remaining 3 had opposite results. All reported a general improvement in their symptoms. No adverse reactions were observed in either treatment groups.

Conclusion: Lid scrub with petroleum jelly caused a significant reduction ($p < 0.05$) in *Demodex* counts compared to lid scrub with tea tree oil and tea tree facial wash. Petroleum jelly may have some effect in the eradication of *Demodex* mites in cases of *Demodex*-induced blepharitis. Although lid scrub with petroleum jelly and tea tree oil and tea tree facial wash both produced a decrease in *Demodex* counts and a decrease in the frequency and severity of ocular symptoms after 6 weeks of treatment, the presence of some conflicting results suggests that further studies with more patients should be initiated. **(Authors' abstract)**

Keywords: *Demodex, meibomian gland dysfunction, anterior blepharitis, mixed blepharitis, petroleum jelly, tea tree oil, Medicine*

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A phacoemulsification chopping technique that attacks the posterior plate

Reyes, Maria Cecilia D., Verzosa, Lee G

The study was done to describe a technique for nuclear fragmentation during phacoemulsification that addresses the tough posterior plate in 3+ to 4+ nuclear sclerosis. The technique involved creating a central crater, flipping the nucleus out into the supracapsular space, and creating another crater through the posterior surface that would eventually connect with the anterior crater to produce a central hole. The donut-shaped nucleus is then chopped and the fragments are aspirated with greater ease. The technique was performed successfully in seven eyes of six patients with only minor problems. Phacoemulsification times were longer than usual because of the additional sculpting, but clinical results were not adversely affected. For dense or hard cataracts for which the surgeon anticipates a tough posterior plate, this technique is a safe alternative to the usual chopping techniques. **(Authors' abstract)**

Keywords: *Cataract, Phacoemulsification, Chopping, Nuclear fragmentation, Medicine*

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Philippine Normal Reference Values for Cardiopulmonary Exercise Testing

Maghuyop, Norman , Roa, Jr., Camilo , LLanes-Garcia, Liza , Fernandez,

Performance on cardiopulmonary exercise test (CPET) is influenced by genetic, racial and environmental factors. It is important to establish a set of reference values for the Filipino population. This study aimed to establish the maximum working capacity, peak oxygen uptake (VO₂), peak carbon dioxide output (VCO₂), tidal volume (TV) for normal Filipinos during exercise; determine the median perceived rate of exertion using the Borg Scale; and derive prediction equation models for maximum working capacity, peak VO₂, peak VCO₂ and maximum attained TV. The maximal cardiopulmonary responses were analyzed for 118 healthy sedentary adult Filipino subjects who underwent CPET using a symptom limited incremental progressive cycle ergometer driven protocol. A Vista MiniCPX Model 17670 was used. Models for predicting VO₂ max, VCO₂ peak, TV peak, and work max were derived with height, weight, age and sex being screened for significance as predictors. Linear and non-linear regression analyses were done. The maximum working capacity for males was 154.21+26.6 watts and 93.02+15.57 watts for females while the peak VO₂ for males was 4.90+3.11 and 4.56 2.41 liters/ minute for females. The predictive formulae derived from this study for maximum work capacity, peak VO₂, VCO₂ and tidal volume had acceptable correlation coefficients and performed as well as other published predictive equations based on Caucasian and Asian populations. Differences between races as to performance in exercise testing was confirmed in this study so that it is worthwhile to utilize predictive equations specific for a certain racial population in the accurate interpretation of results. Performance in an exercise test also depends on the exercise protocol used so that the predictive equations in this study can be used only for exercise tests using a similar protocol. Cardiopulmonary exercise testing was performed on a community based, healthy, sedentary Filipino population using a standard maximal incremental cycle ergometry protocol. Predictive equation models were derived for Maximum Working Capacity ($r^2=0.728$), peak VO₂ ($r^2= 0.123$), peak VCO₂ ($r^2=0.648$), and TV ($r^2=0.579$). The derived predictive formulae performed as well as other published predictive equations. **(Authors' abstract)**

Keywords: *cardiopulmonary exercise test, Philippine normal reference values, Medicine*

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NP

0461

A pilot study to compare the effects of Salicylic Acid 16.5% + Lactic Acid 16.5% Solution and Melaleuca Alternifolia (Tea Tree) oil on the Resolution Rates of Verruca Vulgaris
Lavadia, Maria Angela M. , Cuizon-Borromeo, Luisa Cecilia L. , Vicia, Jacqueline Judith , Lombos-Serondo, Maria R

Background: Verruca vulgaris is common in people of all ages and there is no gold standard of treatment at this time. Present treatment options are costly, painful or worse ineffective.

Objective: To establish if Melaleuca alternifolia oil has a value, or not, as a treatment for verruca vulgaris.

Methods: This was a randomized, single-blind, clinical trial wherein twenty patients with verruca vulgaris were included. Ten patients applied salicylic acid 16.5% + lactic acid 16.5% solution and another ten applied Melaleuca alternifolia (tea tree) oil on each lesion nightly. Patients were followed-up weekly for four weeks for assessment of resolution rates and adverse effects.

Results: A mean change in the size of the lesion of 2.90 ± 1.97 and 3.70 ± 5.33 in mm² for the Melaleuca alternifolia oil and salicylic acid + lactic acid solution group, respectively, was observed. These results show that there is no statistically significant difference ($p=0.661$, t-test) between using Melaleuca alternifolia oil or salicylic acid + lactic acid solution for the treatment of verruca vulgaris. On the aspect of adverse reactions to the test substances, there was a statistically significant difference in both groups ($p=0.0230$, Fisher's test).

Conclusion: Melaleuca alternifolia may have a role as an alternative treatment for verruca vulgaris. (**Authors' abstract**)

Keywords: *Melaleuca alternifolia, tea tree, Verruca vulgaris, salicylic acid, lactic acid, Medicine*

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0462

Platelet-Derived Growth Factor Receptor-Alpha D842v Mutation in a Spindle Cell Type Gastrointestinal Stromal Tumor

Andal, Jose Jasper , Dumasis, Arlie Jean Grace , Cabral, Loraine Kay , Chua, Kathleen , ArceÃ±o, Jenissa Amor, Lo, Raymundo , Pua, Glenda Lyn , Ang, Da

Molecular genotyping of gastrointestinal stromal tumors is not yet available in the Philippines. We report a case of a 75-year old male with a gastric submucosal mass, who underwent gastroscopic/laparoscopic wedge resection. Histopathology and subsequent immunohistochemical staining with CD117 (CKIT) and DOG1 revealed diagnosis of gastrointestinal stromal tumor, spindle cell variant. On genotyping, the tumor harbored PDGFRA D842V mutation, a subtype resistant to Imatinib treatment. (**Author's abstract**)

Keywords: *gastrointestinal stromal tumor (GIST), platelet derived growth factor receptor-alpha (PDGFRA), Medicine*

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(Filipiniana Analytics)
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0463

A Post Marketing Surveillance Study To Evaluate the Efficacy and Safety of Fixed Dose Amlodipine - Losartan Potassium for the Treatment of Hypertension in the Philippines

Bongosia, Leandro C., Mendoza, Cristy , Cuenza, Luc

This open label post marketing study was conducted to determine the efficacy and safety of a fixed dose combination of amlodipine - losartan in the treatment of hypertension in Filipino patients. Eight hundred eighteen (818) male and female ambulatory patients aged 18-70 years with mild to moderate hypertension who were initially not responding to monotherapy were enrolled. Patients were prescribed (amlodipine 5mg - losartan potassium 50mg) as therapy. The primary end point was the change from baseline to sixth week in in both systolic and diastolic blood pressure. Details of any adverse event reported or noted during the treatment with the combination were recorded. There were 680 patients eligible for efficacy analysis. Mean age of patients was 53.36 ± 11.3 years. One hundred twenty eight (15.6%) had dyslipidemia, 139 (16.9) had diabetes, while 7.7% had previously diagnosed cardiovascular disease. At baseline, patients had a mean systolic blood pressure (SBP) and diastolic blood pressure (DBP) of 159 ± 18.3 mmHg and 96 ± 10.8 mmHg respectively. There was a statistically significant ($P < 0.001$) mean reduction of 30.87 ± 16.98 mmHg in SBP and 15.10 ± 10.68 mmHg in DBP at the end of follow up. By the 6th week 79.6% of patients achieved adequate SBP control of sat the while 76.6% had optimal diastolic BP. The differences in blood pressure were all statistically significant even when accounting for other comorbidities. Adverse events were noted in 2.9% with headache and peripheral edema being the most common side effects reported. The results demonstrated that a fixed dose combination of amlodipine - losartan provides an effective and generally well-tolerated treatment option for hypertension in Filipino patients especially those with multiple cardiovascular risk factors who are unresponsive to monotherapy. (**Authors' abstract**)

Keywords: *hypertension, losartan, amlodipine, Medicine*

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(Filipiniana Analytics)
NP

Posterior Reversible Encephalopathy Syndrome and Subarachnoid Hemorrhage After Methylprednisolone Pulse Therapy for a Patient with Lupus Nephritis

Sotalbo, Cindy S. , Salido, Evelyn O. , Afos, Ivy Ell

Systemic lupus erythematosus (SLE) is a chronic inflammatory systemic disease that can affect any organ including the central nervous system (CNS). Subarachnoid hemorrhage (SAH) is one of its rare CNS manifestations. Posterior reversible encephalopathy syndrome (PRES), with features of headache, seizures, altered mental status, visual loss, and typical imaging findings, has recently been associated with SLE and immunosuppression, including use of high dose steroids. The patient was seen in University of the Philippines-Philippine General Hospital (UP-PGH), a tertiary training hospital in Manila, Philippines. A 33-year-old female with lupus had PRES and SAH after methylprednisolone pulse therapy (MPPT) for nephritis. She presented with headache, hypertension and seizure. Initial cranial imaging showed hypodense areas in both parietotemporooccipital regions and small acute infarcts. She was intubated and treated with anti-convulsants for seizure; hydrocortisone and mycophenolate mofetil for SLE. She regained awareness on the seventh hospital day and was extubated. On the eleventh hospital day, she had fever, cough and was noted to be drowsy. She had increasing serum creatinine and decrease in urine output. Repeat cranial CT scan showed subarachnoid hemorrhage at the right sylvian fissure and better delineation of the previously described hypodensities (consistent with PRES). She was treated for hospital acquired pneumonia and underwent hemodialysis. Pneumonia was resolved and patient became conscious with no recurrence of neurologic symptoms. Consecutive outpatient visits showed a conscious and less edematous patient. Hemodialysis was eventually discontinued until she had normal creatinine with adequate urine output. Anti-seizure medications were also discontinued. Cranial CT scan a year later revealed normal brain parenchyma indicating resolution of previously noted hypodensities and subarachnoid hemorrhage. There is a need to recognize PRES and differentiate it from irreversible neurologic conditions. With early identification and prompt intervention, permanent neurologic deficits may be prevented. (Authors' abstract)

Keywords: *posterior reversible encephalopathy, systemic lupus erythematosus,, lupus nephritis, subarachnoid hemorrhage, methylprednisolone pulse, Philippines, case report, Medicine*

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NP

A Post-Marketing Surveillance Study to Evaluate the Efficacy and Safety of Sevelamer Carbonate in the Management of Chronic Kidney Disease-Related Hyperphosphatemia in the Philippines

Danguilan,

The study is a prospective, post marketing surveillance study that aimed to determine the efficacy and safety of sevelamer carbonate in hyperphosphatemic chronic kidney disease (CKD) patients in the Philippines. Adult CKD patients with serum phosphorous levels >1.78 mmol/L and whose physician had decided to treat with sevelamer carbonate 800 mg were enrolled in the study and followed-up for a minimum of three visits from baseline within a six-month period. The primary endpoint was the change in serum phosphorous levels from baseline to the sixth month. Adverse events were noted and recorded during the treatment period. There were 233 patients included in the study from five centers in Metro Manila from 2010 to 2013. Of the 233 patients, 199 were on chronic dialysis, 33 were not

on dialysis, and 1 had no data. There was a statistically significant (P-value <0.0001) reduction in serum phosphorous levels from baseline after treatment with sevelamer carbonate. There were 16 patients reported to have adverse drug reactions, 13 of whom had serious adverse events (SAE) and three were non-serious. Of the 13 patients with SAEs, only one was possibly/probably related to sevelamer carbonate and all three non-SAEs were possibly/definitely related to sevelamer carbonate. The results showed sevelamer carbonate to be effective in lowering serum phosphorous levels and the most common adverse events were related to the gastrointestinal tract (1.4%). There were sixteen patients with adverse events, three of which were non-serious, while 13 were reported to be serious adverse events. Only one was probably related to the drug. (**Authors' abstract**)

Keywords: *chronic kidney disease, hyperphosphatemia, sevelamer carbonate, Medicine*

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0466

Post-operative Complications of Trans-Sphenoidal Surgery in a Local Tertiary Hospital During Hospital Stay

Pontillas, Ayezl E. , Cudal, Beinjerinck Ivan B., Montano, Carolyn N. , Baraoidan, Rhoda Zyra

Endoscopic trans-sphenoidal surgeries are mainly the procedure of choice in pituitary adenomas with favorable results and varied outcomes arise from these techniques. The study aims to report the postoperative complications, and if these complications may have an impact on hospital stay. A retrospective cross-sectional study was used in this study. 47 patients were involved ages 19 years old and above who had trans-sphenoidal surgery (TSS) from January 2011 to December 2016. Data collected were focused on preoperative diagnosis and post-operative complications (prolonged intubation, post-operative vomiting, CSF leak, post-operative bleeding, adrenal insufficiency, diabetes insipidus, electrolyte imbalance). Chi-square and independent T-tests were used in this study. Most of the cases reported were nonfunctioning pituitary macroadenoma, prolactinoma and acromegaly. The study showed that the average length of stay of a patient who had undergone TSS is about seven days. Mean age of patients was 47 years old and 59% are males. The five most common complications while at hospital stay were headache (46%), throat irritation (38%), electrolyte imbalance (27%), SIRS (25%), and diabetes insipidus (10%). No sufficient evidence was appreciated with these complications comparing to the length of hospital stay. Headache is the most common complication of post TSS. Comparing post-operative complications, it did not dictate the length of hospital stay. (**Authors' abstract**)

Keywords: *Medicine*

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NP

0467

predictors for failure of primary trabeculectomy

Cruz, Franz Marie O., Khu, Patricia

This study determined the success and failure rates of primary trabeculectomy in a university hospital and identified the factors predictive of failure. Methods A retrospective, nested case-control study was conducted involving primary trabeculectomies done in a university hospital from January 2005 to December 2007 with at least one year of follow-up.

Depending on the outcomes, patients were classified as cases or controls. Cases were those with failed trabeculectomies defined as intraocular pressure (IOP) >21 mm Hg in all patients and >15 mm Hg in advanced glaucoma at 1 year follow-up. Eyes requiring further glaucoma surgery were also considered failure. Controls were those with successful trabeculectomies defined as IOP

Preoperative, intraoperative, and postoperative variables were collected and analyzed by bivariate analyses and multiple logistic regression.
Results

At one-year follow-up, the success rate was 79.8%. Age at the time of surgery, gender, eye laterality, presence of diabetes, history of intraocular surgery, previous laser treatment, maximum IOP, glaucoma diagnosis, and total number and duration of preoperative antiglaucoma medications were not shown to affect outcome of surgery. Variations in the intraoperative technique, including conjunctival flap approach, location and shape of the scleral flap, suturing technique, and surgeon's competency were not associated with outcome. Postoperative IOP at 1 month, 3 months, and 6 months were predictors of successful outcome at 1 year. Postoperative subconjunctival 5FU injection, bleb manipulation, and laser suture lysis did not alter outcome.

Conclusion

Early postoperative IOP at 1 month is already predictive of the outcome of primary trabeculectomy at 1 year.
(Authors' abstract)

Keywords: *Trabeculectomy, Predictors, Risk factors, Glaucoma, Surgery, Postoperative, intraocular pressure, Medicine*

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2009 January to June,
(Filipiniana Analytics)
NP

0468

Predictors of Procedural Success Among Filipino Patients who Underwent Multi-Vessel Percutaneous Coronary Intervention

Tin Hay, Eduardo L. , Ines, Phil

The leading cause of mortality in the country is heart disease with a rate of 94.5 deaths per 100,000 Filipinos. Multi-vessel coronary artery disease (MV-CAD) patients carry an increased procedural risk especially those with increased lesion complexity or unfavorable anatomy. The study aimed to determine the variables that will predict procedural success and clinical outcome among MV-CAD patients undergoing percutaneous coronary intervention. This retrospective cohort study obtained data from the four-year Philippine Heart Center Registry consisting of 1,030 patients who underwent Multi-Vessel Percutaneous Coronary Intervention (MVPCI) from January 2009 to January 2012 at the Cardiac Catheterization Laboratory. Significant predictors for improved procedural success and reduced risk for major cardiovascular events was evident in male patients, those with mild diastolic dysfunction (grade I or II) and patients on statin therapy. The variables with unfavorable procedural and clinical outcome were female patients, those with unstable angina, STEMI, heart failure, COPD, the need for IABP counterpulsation and a left main artery coronary lesion. The results reflected a local "real-life scenario" providing important information on the predictors of outcome among Filipino patients with multi-vessel disease undergoing percutaneous coronary intervention. The information

obtained is clinically relevant for both cardiologist and interventionist providing an important risk stratification and contributing to the holistic delivery of cardiovascular care. (Authors' abstract)

Keywords: multi-vessel disease, procedural success, coronary artery disease, percutaneous coronary intervention, Medicine

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NP

0469

The Predictors of Quality of Life Among Selected Adults with Chronic Kidney Disease on Hemodialysis

Casilan, Jerland S

This study examined the relationship of predictors like age, weight, treatment adherence, social support and educational level on the QOL scores: Physical Composite Score (PCS), Mental Composite Score (MCS), & Kidney Disease Component Summary (KDCS). The respondents, adult CKD patients on hemodialysis in a private tertiary hospital in the Philippines were chosen through convenience sampling. A validated Filipino version of Kidney Disease Quality of Life Short Form Version 1.3 was utilized. Bivariate correlation and multiple linear regression were then used in data analysis. It is concluded that PCS might be predicted by treatment adherence while social support and educational level could be predictors to MCS. It was found out that rare treatment adherence can seemingly have a positive effect with MCS. For KDCS, treatment adherence and social support showed positive correlation, while age shown inverse relationship, unlike with previous studies. Nurses and other healthcare providers should consider the impact of these significant predictors when rendering care for adult HD patients in order to improve their quality of life. (Author's abstract)

Keywords: Quality of life, chronic kidney disease, hemodialysis, Medicine

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NP

0470

PREDICTORS OF RESTENOSIS AFTER PERCUTANEOUS BALLOON MITRAL VALVULOPLASTY

Ang, Alexander , Liberato, Raymund

INTRODUCTION: Restenosis has been an anticipated occurrence after percutaneous transmitral commissurotomy (PTMC). Factors such as sub-optimal valve area after the procedure and the presence of

chronic atrial fibrillation predict a likelihood of restenosis. This study therefore aims to identify the clinical factors that contribute to the development of restenosis, as local studies on adult Filipinos are sparse.

METHODS: This is a 10-year retrospective chart review of patients who underwent PTMC under-taken in a specialized tertiary hospital in the Philippines. A chi-square and t-test were applied to the data to determine the association of each individual factors and multiple logistic regression was applied to determine the independent effect of each factor.

RESULTS: Five Hundred Thirty Five (535) charts were reviewed for 10 years. Of 535 charts, 206 were included in the study. Restenosis rate was computed at 19.42% in 10 years. Among the clinical characteristics, diabetes mellitus was linked with restenosis ($p = 0.021$). Further, the following were linked to restenosis: Wilkins score of >8 ($p = 0.017$), pulmonary hypertension prior to PTMC ($p = 0.017$ for mild, 0.018 for moderate, and 0.029 for severe), heart failure symptoms under NYHA functional class II classification ($p = 0.026$), prior AF ($p = 0.019$), and fusion of the anterolateral commissure ($p = 0.003$). Multiple logistic regression analysis showed relationship with restenosis with age [Odds ratio 1.04, $p = 0.016$ [95% CI (1.00-1.07)] and fusion of the anterolateral commissure [Odds ratio of 3.49 and a $p = 0.012$ [95% CI (1.31-9.24)].

CONCLUSION: There is a high likelihood of restenosis for patients after PTMC if the following are present: increasing age, diabetes mellitus, pulmonary hypertension, high Wilkins score, NYHA functional classification II, atrial fibrillation and fusion of the anterolateral commissures. (Authors' abstract)

Keywords: Mitral restenosis, Percutaneous transmitral commissurotomy (PTMC), Balloon valvotomy, Mitral stenosis, Predictors of Restenosis, Restenosis rate, Medicine

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0471

Pressure Ulcer Prevention in Acute Care using the Pressure Ulcer Bundle of Care

Natnat, Hanna Jean J. , Gillera, Mikka D. , Mendez, Shana Lou M. , Dote, Sheila Mae I. , De Leon, Josephine M., Jose, Ryan Gabriel

A study was conducted to determine the effectiveness of the pressure ulcer bundle of care (PUB) in preventing pressure ulcers among patients in acute care. The pre and post-test quasi-experimental design was utilized to predict a model of preventing pressure ulcer in acute care setting. Thirty acute care patients with moderate risk for pressure ulcers were randomly selected to receive the following five PUB interventions: assessment of pressure ulcer risk, repositioning, head elevation, heel elevation, and frequent diet monitoring. Pressure ulcer risk was assessed using the Braden risk assessment scale before and after PUB interventions. This scale assesses important aspects of ulcer formation according to six subscales: sensory perception, moisture, mobility, physical activity, nutrition, and friction/shear. Profile of the patients according to age, sex, and length of hospital stay was described using frequency and percentage distribution. Bundle compliance, as measured by performance of the five interventions was described using mean scores and standard deviations. The t-test was used to determine the differences in pressure ulcer risk or occurrence between pre- and post-intervention phases. Multiple linear regression analysis was used to determine the relationship of Pressure Ulcer Risk Assessment Scores (PURAS)

to the PUB, and to identify the predictor(s) of PURAS among the four interventions in the PUB. Statistical significance was considered at the .05 level. Pressure ulcer risk scores of patients improved significantly from “mild risk” to “not at risk” post-PUB ($p < 0.001$). Head elevation, heel elevation, and diet monitoring were found to be predictors of pressure ulcer risk scores after PUB interventions. Repositioning was not significantly associated with pressure ulcer risk scores of patients after PUB interventions. The three predictor model revealed the PUB interventions were able to account for 52% of the variance in pressure ulcer risk scores, which indicates a strong significant relationship between patients receiving PUB and their improvement in pressure ulcer risk. In conclusion, the pressure ulcer bundle of care intervention is effective in prevention of pressure ulcers in patients at risk. Nurses should adopt the provision of bundle of care intervention(s) to enhance patient safety and quality of care. (Author's abstract)

Keywords: Bundle of care, Pressure ulcer, Prevention, Acute care, Medicine

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0472

Prevalence and Risk Factors for Depression Among Filipino Adults with Diabetes Mellitus Type 2 at the Makati Medical Center Outpatient Department

Capellan, Maria Leonora D. , Montano, Carolyn N. , Dy Nieva, Stanlee

The study determined the prevalence of depression in Filipino adult patients with type 2 diabetes mellitus (DM) and the risk factors associated in its development. It was carried out using a prospective cross-sectional study. Adult patients (age 19 and above) with type 2 DM being seen at the outpatient department of the Makati Medical Center from January to March 2015 were included, taking into account the following: age, gender, marital status, body mass index, waist circumference, blood pressure, duration of diabetes, presence of other co-morbid illnesses, pill burden, insulin use, educational attainment, employment status, family income, and glycemic status. They were then screened for depression using the standardized PHQ-9 questionnaire. Bivariate analyses through Chi-square Test (for categorical variables) and Analysis of Variance (for interval/ ratio variables) were used to determine which among the risk factors are significant for the development of depression. Significant risk factors were treated for multivariate and univariate analyses through ordinal logistic regression. A total of 110 adult patients with type 2 DM were enrolled in this study. There were no drop-outs. Sixty-nine percent of the patients had none to minimal depression, 24% had mild depression, and 7% had moderate depression. None of the patients had depression that warranted antidepressants or psychotherapy. After step-wise analysis, increased BMI, elevated diastolic blood pressure and uncontrolled blood sugar were found to be associated with higher PHQ-9 scores while unemployment was associated with decreased PHQ-9 score. In conclusion, the prevalence of depression among Filipino type 2 diabetic patients is higher than in non-diabetic patients. Being obese, having an elevated diastolic blood pressure, and the presence of uncontrolled blood sugar were significant predictors and were associated with an increased likelihood of developing major depressive disorder. Being unemployed appears to have the opposite effect. (Authors' abstract)

Keywords: depression, type 2 diabetes mellitus, PHQ-9, Medicine

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NP

Prevalence of Anxiety and Depression Among Filipino Patients with Chronic Obstructive Pulmonary Disease: A Multi-Center Study

Santiaguel, Joel M. , Benedicto, Jubert P. , Tan, Sue Kimbe

One under-explored area in chronic obstructive pulmonary disease (COPD) patients is anxiety and/or depression, which may have negative impact in the patients' condition. This is possibly the first study to possibly assess the burden of anxiety and depression in COPD patients in the Philippines. The study utilized a prospective descriptive survey in three tertiary care hospitals in Manila, Philippines. A total of 204 patients were enrolled in the study with the following inclusion criteria: Filipino patients who are aged more than or equal to 40 years with a diagnosis of COPD (documented post-bronchodilator FEV1/FVC ratio less than 0.7) by a physician seen at the outpatient clinics of three tertiary care hospitals with no primary diagnosis of asthma, no previous lung volume reduction surgery, lung transplantation or pneumonectomy and at least finished Grade 2 education. Exclusion criteria include pregnant patients and patients previously diagnosed to have an anxiety, depression, or on any anti-depressant medications. Descriptive statistics was obtained with frequency and percentages of the demographic and physiologic variables in the study by tabulation and graph. The prevalence of anxiety and depression was determined by calculating the percentage of each patient with a score of 8 or higher on the Hospital Anxiety and Depression Scale (HADS) with validated Tagalog version, respectively. The prevalence of anxiety in Filipino COPD patients is 47.55%. The prevalence of depression in Filipino COPD patients is 31.37%. The prevalence of depression in Filipino COPD patients is comparable to the prevalence of depression from other general medical conditions nationwide according to the study of Batar (31.37% vs. 31%). Anxiety is slightly more prevalent in COPD from other general medical conditions (47.55% vs. 36%). A study on the risk factors of anxiety and depression among Filipino COPD patients is recommended. (Authors' abstract)

Keywords: prevalence, anxiety, depression, COPD, Medicine

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NP

Prevalence of Asthma Among Filipino Adults Based on the National Nutrition and Health Survey (NNHeS)

Kwong, Shirley L. , De Leon, Julia C. , Alava, Hilda Diana A. , Castor, Mary Anne R. , Abong, Jovilia M. , Varona, Li

Prevalence surveys are important to aid in assessing the current burden of diseases, which will impact on the public health agenda as well as preventive interventions and health policies. Three previous local surveys on asthma prevalence of Filipino adults have been carried out. This is the fourth local survey and is also a part of the second NNHeS study, which is carried out every five years. The purpose of the survey is to determine the trend in asthma prevalence and to aid in formulating and evaluating local initiatives. The study was done to determine the prevalence of asthma among Filipino adults. Using a multi-staged cluster sampling methodology, this study evaluated 7,202 adults at least 20 years old, from 3,744 households, 79 provinces and 17 regions. A

pre-validated written questionnaire for wheezing among children based on the International Study of Asthma and Allergies of Childhood (ISAAC) was used as the survey instrument. This instrument was adopted since it has been widely used as a case definition for asthma, which allows for comparison of prevalence outcomes across time and population. The overall prevalence of asthma based on wheezing for the past 12 months was 8.7% (SE 0.4%). Males had a higher prevalence of wheezing for the past 12 months at 9.4% (SE 0.5%) compared to females at 8.2% (SE 0.5%). The overall prevalence of asthma based on wheezing at any time was 14.3% (SE 0.5%). Males had a higher prevalence of wheezing at any time of 14.8% (SE 0.7%) compared to females at 13.8% (SE 0.6%). The prevalence of adult asthma in the rural area was slightly higher than in the urban area (15.3% vs. 13.3%), but the difference was not statistically significant. In conclusion, the overall prevalence of adult asthma in the Philippines based on the second NNHeS is 8.7%. This figure is lower than previous reported local prevalence data. The prevalence of adult asthma in the rural and urban setting is almost similar. (Authors' abstract)

Keywords: asthma, wheezing, survey, prevalence, Philippine asthma prevalence, NNHeS, Medicine

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0475

Prevalence of Cardio-embolic Event Among Patients with Spontaneous Echo Contrast on Transthoracic Echocardiography (SMOCC-Heart Study)

Abelardo, Nelson S. , Vicente, Mark A. , Tumabiene, Kristine D. , Chiong, L

Spontaneous echo contrast (SEC) is a swirling smoke-like image seen inside the heart chambers or in the great vessels. Left Ventricular (LV) dysfunction is known to predispose patients to SEC. The management of SEC is still not as established. Even in patients with atrial fibrillation, SEC does not improve the prediction of cardio-embolic events beyond that of the clinical scoring. Retrospective cross-sectional study was done. The study results included 89 patients with SEC. The mean age was 53.9 ± 14.3 , with 67% males. The underlying cardiac condition were ischemic heart disease in 68%, non-ischemic cardiomyopathy in 19.3%, and rheumatic valvular heart disease in 12.5%. The most common comorbidities were hypertension (54%), renal insufficiency (34%), and diabetes mellitus (34%). Nineteen percent of the patients were in atrial fibrillation. The location of the SEC was in the left ventricle in 90%. The mean ejection fraction was $34.8 \pm 16.3\%$ and the ejection fraction was $< 35\%$ in 64%. Eighty eight percent had segmental to global hypokinesia. The prevalence of cardio-embolic events was 10%, of which 9.0% presented as stroke, while only 1.0% presented with acute limb ischemia. SEC is an imaging phenomenon that is associated with LV dysfunction with 64% of the patients with an EF of $\leq 35\%$. The presence of SEC increases the occurrence of cardioembolic events in this population with a prevalence of 10% compared to the reported incidence of 1.8 - 2.4% incidence among patients with LV systolic dysfunction. Albeit in higher percentages, the most common co-morbid conditions are also the same risk factors that are independently associated with increased cardiovascular events. That is why the association of SEC with cardio-embolic events as well as its management, is still not well established, and recommendations on anticoagulation still depend on established clinical scoring. Further study that would associate the different characteristics and co-morbid conditions of patients with SEC to cardio-embolic event is in order. (Authors' abstract)

Keywords: Spontaneous echo contrast, Rheologic Stasis, Echocardiography, Left ventricular dysfunction, anticoagulant use, Medicine

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Prevalence of Diabetes Mellitus and Pre-Diabetes in the Philippines: A Sub-study of the 7th National Nutrition and Health Survey (2008)

Jasul, Gabriel V. , Duante, Charmaine A. , Matawaran, Bien J. , Kho, Sjoberg A. , Jimeno, Ceci

Diabetes mellitus is rapidly increasing worldwide but the greatest increase is expected in developing countries including the Philippines. It is of public health concern to monitor countrywide prevalence of diabetes as it leads to significant cardiovascular-related mortality as well as significant complications such end stage renal disease, blindness, lower leg amputations and blindness. This is a national survey to estimate the prevalence of diabetes and pre-diabetes using the criteria of the World Health Organization through a stratified multi-stage sampling design representing each of the 17 regions in the country. The national prevalence of diabetes in the year 2008 was 7.2% (6.5-7.9); impaired glucose tolerance 7.0% (6.1-7.8) and impaired fasting glucose was 2.2% (2.2-3.1). There was a greater prevalence of individuals with diabetes in the urban areas at 8.5% (7.5-9.5) compared to the rural areas at 5.7% (4.6-6.8). Diabetes is slightly more preponderant among females at 7.4% (6.4-8.3) compared to males at 7.0% (6.1-8.0). The prevalence of diabetes mellitus in the Philippines is rising with the prevalence in 2008 at 7.2%. The prevalence of pre-diabetes exceeds that of diabetes mellitus at approximately 10.2%. (Authors' abstract)

Keywords: diabetes, pre-diabetes, prevalence, Philippines, Medicine

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NP

Prevalence of diabetic retinopathy among diabetic patients in a tertiary hospital

Fajardo-Gomez, Ma. Florentina, Uy, Harvey

The study determined the prevalence of diabetic retinopathy (DR) among Filipino patients with diabetes mellitus (DM) and determine the risk factors. Two hundred forty-one patients from the diabetes clinic of the University of the Philippines-Philippine General Hospital (UP-PGH) were interviewed using a standard questionnaire. They underwent dilated retinal examination, stereoscopic fundus photography, fluorescein angiography, and laboratory testing. The risk factors studied for the presence of DR were age; sex; duration of DM; medications; family history of DM; smoking; blood glucose, cholesterol, and serum creatinine levels. The clinical and angiographic prevalence of DR were 61.8% and 83.6% respectively. Retinopathy was significantly associated with the duration of DM ($p = 0.02$) and elevation of serum creatinine ($p = 0.05$). Approximately 20% had proliferative disease at the time of screening. There was a high agreement between clinical and angiographic findings ($\kappa = 0.91$, $p = 0.001$). High prevalence of DR was seen among DM patients treated at UP-PGH. Elevated serum creatinine and longer duration of DM were significantly associated with the presence of retinopathy. Retinal screening of all newly diagnosed DM is, therefore, recommended including regular follow-up evaluation. (Authors' abstract)

Keywords: Diabetes mellitus, Retinopathy, Prevalence, Fluorescein angiography, Medicine

Prevalence of Dry Eye Disease in an Urban Community

Lim Bon Siong, Ruben , Covar, Rainier Victor , Panggat, Kevin Matthew Sera

Objective: To determine the prevalence of dry eye disease in an urban community in the Philippines.

Methods: This was a community-based cross-sectional study. Convenience sampling was conducted on residents of Barangay 733, Sampaloc, Manila, Philippines. One hundred fifty-seven participants, 19 years old and above, underwent investigator-led interview using a dry-eye questionnaire, followed by dry-eye examination consisting of fluorescein tear break-up time (TBUT), corneal staining with fluorescein, conjunctival and posterior lid margin staining (PLM) with lissamine green, and Schirmer I test with and without anesthesia.

Results: Of the 157 participants recruited, 148 (94%) fulfilled the inclusion criteria. The mean age was 52.35 years; 95 (64.2%) were females and 53 (35.8%) males. Thirty-four (22.9%) were diagnosed with dry eye disease, and the most common symptom reported was itching (76%). Those with dry eye had significantly higher ocular surface disease index score and subjective grading of ocular discomfort compared with those without the disease. Mean TBUT for those without dry eye was 12.74 seconds compared with 8.84 seconds for the dry eye group. The mean fluorescein corneal staining scores were 2 and 20 for the none and the dry eye groups respectively. The mean lissamine green conjunctival staining scores were 14 and 55 respectively. A positive PLM sign was present in 67.6% with dry eye vs. 5.6% in the none dry eye group. Mean Schirmer I test without anesthesia was 18.53 mm and 17.09 mm in the none and dry eye groups respectively. Mean Schirmer I test with anesthesia was 13.36 mm vs 11.94 mm respectively.

Conclusion: The prevalence rate of dry eye disease in an urban community in Manila was 22.9%. This figure was similar to those reported by neighboring Asian countries. (Authors' abstract)

Keywords: *dry eye disease, dysfunctional tear syndrome, prevalence, tear instability, Medicine*

Prevalence of Elevated TSH and its Association with Dyslipidemia and NAFLD Among Filipino Adult Executive Check-Up Patients in a Tertiary Hospital

Lingad-Sayas, Rochelle C. , Montano, Carolyn N. , Isidro, Maria Jocelyn C.

Objectives: The study examined the prevalence of elevated thyroid stimulating hormone (TSH) and its association with dyslipidemia and non-alcoholic fatty liver disease (NAFLD) among Filipino adults undergoing executive check-up.

Methods: Clinical characteristics such as age, vital signs, anthropometrics, FBS, lipid profile, liver function tests, TSH and hepatobiliary ultrasound were reviewed from the

charts of 580 patients to determine the prevalence of elevated TSH, NAFLD, and dyslipidemia. Binary logistic regression analysis was performed to determine association between TSH levels, NAFLD, and dyslipidemia.

Results: The prevalence of elevated TSH was 3.10%. Patients with increased total cholesterol was approximately 4.18 times as likely (95% CI 1.20 to 14.61%, $p = 0.025$) to have elevated TSH. However, after adjusting for age and sex, we had insufficient evidence to demonstrate an association between NAFLD and lipid levels with elevated TSH levels.

Conclusion: The prevalence of elevated TSH in this group of patients from a highly urbanized area was 3.1%. We had insufficient evidence to demonstrate an association

between NAFLD, lipid levels, and elevated TSH levels after adjusting for age and sex. (Authors' abstract)

Keywords: *thyroid stimulating hormone, dyslipidemia, nonalcoholic fatty liver disease, subclinical hypothyroidism, Medicine*

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0480

Prevalence of Malnutrition Among Patients with Diabetes Mellitus Type 2 Admitted in a Tertiary Hospital

Campos-Cagingin, Ma. Luisa , del Rosario-Capellan, Maria Leonora , Narvacan-Montano, Carolyn , Cabangon,

Malnutrition is a state of deficiency of the proper micro and macronutrients to meet daily nutritional requirement. Hospital malnutrition is associated with higher infection, impaired wound healing, and increased morbidity and mortality, especially in patients with type 2 diabetes mellitus (T2DM). The study was conducted to determine the comprehensive baseline nutrition status of hospitalized patients and the prevalence of malnutrition in patients with T2DM in Makati Medical Center (MMC). A prospective cross-sectional study involving T2DM patients admitted at MMC from October to December 2014 was carried out to this study. Malnutrition risk and status were assessed with Subjective Global Assessment (SGA) and clinical parameters. A total of 150 adults with T2DM were assessed with the Comprehensive Nutrition Assessment Form (CNAF) using SGA. Nutritional risk level showed 37% has moderate risk while 63% has high risk for malnutrition. Nutritional status showed that 55% has mild to moderate malnutrition and 45% of patients have severe

malnutrition. Factors significantly associated with high nutritional risk for malnutrition were SGA C ($P<0.001$), abnormal BMI underweight and obese class 2 ($P<0.001$), lower albumin ($P=0.005$) and lower total lymphocyte count ($P<0.001$). Factors associated to nutritional status were: weight change ($P=0.004$), functional capacity ($P=0.017$), disease and nutritional requirements ($P<0.001$), and presence of edema or ascites ($P=0.012$). Malnutrition is highly prevalent in the acute hospital setting, 37% has moderate risk while 63% has high risk for malnutrition. While 55% has mild to moderate malnutrition and 45% of patients has severe malnutrition. Significant factors associated with malnutrition were SGA C, abnormal BMI, low albumin and low total lymphocyte count. Factors associated with severity of malnutrition were weight change, functional capacity, disease and nutritional requirements and presence of edema or ascites. (Authors' abstract)

Keywords: *Malnutrition, Comprehensive Nutrition Assessment Form, Subjective Global Assessment, Diabetes Mellitus type 2, Medicine*

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0481

Prevalence of Metabolic Syndrome in Filipino Patients with Gout in a Tertiary Hospital

Salido, Evelyn O. , Dianongco, Maria Lucilla G., Magbitang, Angeline-Therese

The aim of the study was to determine the prevalence of metabolic syndrome (MS) in Filipino patients with gout and know the specific component that is predominant in this population. Patients who are diagnosed with gout based on the American College of Rheumatology (ACR) criteria, at least 20 years old, attending the outpatient rheumatology clinic of a tertiary hospital from March 2012 to December 2012 and willing to sign written informed consent were included in the study. The following information was collected: demographic and disease characteristics, blood pressure, body mass index, waist circumference, triglycerides, HDL, and fasting blood sugar. MS was defined according to the revised NCEP/ATP III criteria using the WHO Asia-Pacific obesity criteria. Results were reported in means and proportion. Sixty-three patients were included in the study. The mean age of onset and at time of diagnosis of gout were 47.3 years and 52.9 years, respectively. At the time of the study, the average duration of gout was five to 10 years. The male to female ratio was 6:1. The prevalence of MS was 47.6% (30/63) with male to female ratio of 5:1. The prevalence of abdominal obesity was 39.7%, hypertension 36.5%, low HDL 31.7%, high triglycerides 30.2%, and diabetes mellitus 14.3%. The prevalence of MS in this subset of Filipino patients with gout was 47.6%. Its most common component was abdominal obesity found in 39.7% of cases. This is an area of intervention that needs to be addressed in the care of these patients. (Authors' abstract)

Keywords: *gout, gouty arthritis, metabolic syndrome, Asian, Filipino, clinical profile, demographics, Medicine*

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0482

The Prevalence of Potentially Inappropriate Medications Prescribed in Elderly Patients Admitted in a Tertiary Teaching Hospital: A Retrospective Cross-Sectional Study

Cortez Rossana M. , Iturralde, Har

The number of elderly people (aged 60 years or over) is expected to double in the next 35 years as a result of decreasing mortality and declining fertility worldwide. The elderly population is at increased risk of being prescribed potentially inappropriate medications (PIM). The study was carried out to determine the prevalence of PIM prescribed among the geriatric patients admitted in a tertiary teaching hospital in Valenzuela City in 2014. It used a retrospective cross-sectional study on patients who are 65 years and older admitted under Internal Medicine between January 2014 to December 2014. Medical records were reviewed for PIM prescription according to the updated 2012 Beers Criteria. PIMs were noted in 303 out of 618 patients. The most common PIMs were insulin sliding scale, digoxin, orphenadrine, ipratropium, ketorolac, clonazepam, clonidine, hydroxyzine, amiodarone and spironolactone. The prevalence of PIM prescription is 49% among geriatric patients admitted in a tertiary teaching hospital in Valenzuela City in 2014. It was recommended to determine prevalence of PIM use in other geriatric care settings, the predictors for PIM use, and the economic burden of PIM use. (Authors' abstract)

Keywords: potentially inappropriate medications, PIM prescription, geriatric patients, Medicine

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0483

Priapism as a Rare Presentation of Chronic Myelogenous Leukemia

Boongaling, Mary Ervie DC, Deala, Rosalinda P. , Mortel, Sharon Rose

Priapism is a rare complication seen in one to five percent of adult leukemic patients. The word 'Priapism' is related to Priapus, the Greek and Roman God of procreation whose symbol was an erect phallus. The patient is a 22-year-old male with no known co-morbidities presenting with one month intermittent, unstimulated, painful penile erection with no other associated symptoms which resolves spontaneously, until nine hours prior to admission when symptoms recurred and persisted. Patient had no history of trauma and no drug intake. Patient was awake, in pain and tachycardic. There was note of pallor and splenomegaly. The penis was erect, firm, swollen and tender with superficial venous engorgement. The rest of the physical examination was unremarkable. Complete blood count showed anemia and leukocytosis. Peripheral blood smear revealed markedly increased white blood cells with predominance of mature and immature cells belonging to granulocytic series. There was splenomegaly on ultrasound. Genetic testing showed an abnormal male karyotype of 46 chromosomes including translocation (9;22). Corpora cavernosa aspiration was done. Terbutaline was given. Patient was started and maintained on hydroxyurea and presently enrolled in Imatinib study. There was resolution of priapism after the corpus cavernosa aspiration and initiation of hydroxyurea and the white blood cell count had decreased after initiation of hydroxyurea. (Authors' abstract)

Keywords: Priapism, Low-Flow Priapism, High-Flow Priapism, Chronic Myelogenous Leukemia, Medicine

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Proficiency Testing of Clinical Laboratories for Bacteriology in the Philippines, 2009–2015

Capeding, Maria Rosario , Sombrero, Lydia , Macalalad, Noel , Sadiasa, Alexander , Esparar, Grace , Kapawan, Ma. Theresa , Almonia, Daryl Joy , Yap, Kristine Jeanne , Navarro, Rafael , Aguinaldo, Razaele , Bugayong, Mark Philip , Rapanut, Julius Matt , Mondoy, Melisa, Lupisan, Soco

Introduction. The National External Quality Assessment Scheme (NEQAS) has been established by the Department of Health–Philippines (DOH) to provide DOH-approved external quality assessment programs, including the Proficiency Test (PT) for Bacteriology to clinical laboratories. The PT for Bacteriology aims to monitor and evaluate laboratory capabilities in the identification of clinically important pathogens through proficiency testing. Since then, participation in the NEQAS has been a requirement for clinical laboratories to obtain a license to operate from the DOH–Health Facilities and Services Regulatory Bureau (HFSRB).

Objective. The objective of this report is to summarize and examine the results of the PT for Bacteriology from 2009 to 2015 and the performances of participating clinical laboratories throughout the Philippines.

Methodology. The Research Institute for Tropical Medicine National Reference Laboratory (RITM-NRL) conducted orientation seminars between 2008 and 2009 to introduce clinical laboratories to the NEQAS. Laboratories submitted their accomplished enrolment forms to RITM–NRL and paid the fees to enroll in the

PT. Participating laboratories were required to identify three analytes and perform antimicrobial susceptibility test (AST) on one assigned analyte.

Results. A total of 468 laboratories participated over the seven-year period. The number of participating laboratories obtaining a passing score of 80% and above had significantly increased from 2009 to 2015. Out of the 144 laboratories consistently enrolled over the seven-year period, the proportion of participants with scores of 80% and above had increased. Of the 468 participating laboratories throughout 2009 to 2015, 33.3% were good performers; 6.6% were fair performers; and 60.0% were poor performers.

Conclusion. The increasing number of participating laboratories obtaining passing scores over the years suggests overall improvement of the performance of clinical laboratories in bacteriology. Corrective actions are still needed to address the situation regarding the poor performing laboratories. The assessments done in 2008 and 2013 found that poorly performing laboratories lack trained personnel, resources, and implementation of quality assurance procedures for bacteriological testing. (Authors' abstract)

Keywords: laboratory proficiency testing, bacterial identification, antibiotic susceptibility testing, Medicine

The Profile of Acute Encephalitis Cases Admitted at the Philippine Children's Medical Center from 2008-2012: A 5 Year Retrospective Study

Rabanal, Teresita N. , Pasco, Paul , Lee, Lillian V. , Ortiz, Marilyn H. , Antonio, Cherry

BACKGROUND: The common etiologies of encephalitis are Japanese B encephalitis and Herpes simplex virus encephalitis and also autoimmune mediated causes like the anti-N-Methyl D-Aspartate receptor (NMDAR) encephalitis. These are known for their propensity to cause severe neurologic complications.

OBJECTIVES: 1.To determine the incidence of acute encephalitis among pediatric patients admitted in a tertiary hospital from 2008-2012 based on: demographic, socio-economic and clinical profile; 2. To determine other variables related with the incidence of encephalitis such as presence of non-specific signs and symptoms, presence of Neurologic signs and symptoms and the diagnostics used like Cerebrospinal fluid, Electroencephalogram and neuroimaging; 3.To determine the different hospital epidemiological indices of encephalitis among pediatric patients.

METHODOLOGY: We reviewed the medical records of all encephalitis cases admitted in a tertiary hospital from January 2008 to December 2012. Viral studies on the serum and CSF were obtained from the Philippine Research Institute of Tropical Medicine while specimen for Anti-NMDAR were sent to Dalmau Laboratory in Barcelona, Spain and to Oxford Radcliffe Hospitals, Pathology Laboratory in UK.

RESULTS: Among the 109 cases reviewed, only 19 (18%) cases were subsequently verified as to etiology. Most of the cases were Japanese B encephalitis (68%). Majority belongs to 5-9 age group with male preponderance.

CONCLUSION: Most of the cases (66%) had no neurologic deficit upon discharge with only 4.5% mortality rate. (Authors' abstract)

Keywords: Viral Encephalitis, Anti N-Methyl D Aspartate receptor encephalitis, Japanese B encephalitis, Herpes Simplex virus encephalitis, choreoathetoid, orofacial dyskinesias, Medicine

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0486

Profile of childhood cataract cases at the Philippine General Hospital

Santiago, Alvina Pauline D. , Tecson, III, J

The study determined the major causes of childhood cataract among patients seen at the pediatric ophthalmology clinic of the University of the Philippines-Philippine General Hospital (UP-PGH). Case records of all patients seen at the pediatric ophthalmology clinic of UP-PGH from January 1, 2000 to August 31, 2003 were reviewed. Included were patients less than 21 years old diagnosed with cataract not associated with trauma. Cases were classified as to presumptive etiology: idiopathic, familial, or secondary to a systemic or an ocular disorder. The cause of cataract was identified in 37.6% of the 218 cases reviewed. Rubella was the leading cause (20.5%), followed by suspected rubella infection (8.2%). There were 2 cases of varicella and 1

case of cytomegalovirus (CMV) infections. Down syndrome and Lowe syndrome had one case each. Three cases (1.4%) were familial. Cataract was idiopathic in 133 cases (61.0%). The pattern of childhood cataract in this study is typical of a developing country where rubella infection is the major cause. (Authors' abstract)

Keywords: Cataract, Congenital, Blindness, Rubella, Medicine

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NP

0487

Profile of glaucoma cases seen at a tertiary referral hospital

Khu, Patricia M. , Joaquin-Quino, Raquel , Silva, Paolo Antonio S. , FlorCruz, II Nilo Vince

The study determined the demographic and clinical profile of glaucoma cases seen at a tertiary government hospital. Clinical charts of glaucoma patients seen at the University of the Philippines Philippine General Hospital (UP-PGH) from 2000 to 2002 were reviewed. Demographic, clinical, and initial-treatment data of all patients were entered into a standardized data-collection form, statistically analyzed, and compared. Eight hundred thirty-six patients were included in the study with nearly equal number of males and females. Primary angle-closure glaucoma (PACG), primary open-angle glaucoma (POAG), and lens-induced glaucoma were the three most common types of glaucoma. Most were seen in the late stages of the disease with loss of vision. Patients with PACG were older, mostly females, had poorer vision, higher intraocular pressures, and higher percentage of no light perception. Surgery was the most common initial treatment for PACG while medical therapy was the most common for POAG. PACG and POAG were the two most common types of glaucoma seen at the UP-PGH, a tertiary referral hospital. (Authors' abstract)

Keywords: Primary open-angle glaucoma, Primary angle-closure glaucoma, Lens-induced glaucoma, Epidemiology, Medicine

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0488

Prognostic Features, Treatment Outcomes and Survival of Hepatocellular Carcinoma Patients in National Kidney and Transplant Institute

Prieto, Rei Joseph , Jamias, Jade

Hepatocellular carcinoma (HCC) is a primary tumor of the liver, which develops in the setting of chronic liver disease. In the Philippines, despite being the third leading site of cancer, there are limited studies on prognostic factors, treatment outcomes and survival. This study aimed to investigate prognostic features, treatment outcomes and survival of HCC patients in our institution. The retrospective cohort study was employed. All consecutive patients diagnosed with HCC in our institution from January 2008 to December 2014 were included. Demographic data, tumor characteristics, risk factors and treatment outcomes were retrieved through review of medical records. Cox regression and KaplanMeier survival analyses were used to identify

prognostic factors and estimate survival, respectively. Statistical analyses were performed with STATA v13. A total of 346 patients were included. Mean age was 61.47±13.08 years. 55.78% had hepatitis B virus (HBV) infection, 65.15% had cirrhosis solitary nodule (55.08%) was the dominant tumor pattern, mostly involving the right lobe (51.85%) and >3cm (85.48%) in diameter. 43.5% were barcelona clinic liver cancer (BCLC) stage B and 43.81% had advanced stage on presentation (BCLC C/D). Majority did not have portal vein thrombosis (PVT) and distant metastasis. Overall median survival was 13.17 months (range, < one month - 92 months). Those who had locoregional therapy had the longest median survival (30.33 months), followed by systemic chemotherapy (26.67 months) then surgery (13.17 months). Among HCC patients In our institution, chronic hepatitis B was found to be the primary risk factor for its development. Median survival was 13.17 months with longest median survival among those who received locoregional treatment. Child-Turcotte-Pugh C (CTP C), BCLC stages C and D were independent predictors of mortality. (Authors' abstract)

Keywords: retrospective, hepatocellular carcinoma, survival, Medicine

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0489

Prognostic Impact of Coronary Collaterals in Acute Coronary Syndrome (PICC-ACS): A Meta-analysis of Observational Studies

Tiongco, Richard Henry P. , Punzalan, Felix Eduardo R. , Vicente, Mark A. , Chiong, Lowe L. , Aherrera, Jaime Alfonso M. , Ramos, John Dan

The coronary collateral circulation (CCC) is an alternative source of blood supply in coronary artery disease (CAD). The prognostic value of the presence of CCC at the time of acute coronary syndrome (ACS) is undefined with regards to hard outcomes, particularly reduction in mortality. The study's aim is to determine if the presence of CCC demonstrated by coronary angiography during an ACS is associated with a reduction in mortality. The researchers conducted a systematic search of studies using MEDLINE, EMBASE, ScienceDirect, Scopus, and Cochrane Central Register of Controlled Trials databases in all languages and examined reference lists of studies. The inclusion criteria were 1) observational; 2) population included adults >19 years old with an acute coronary syndrome; 3) reported data on mortality in association with the presence or absence of CCC on angiography; and 4) should have controlled for confounders by using logistic regression analysis. Study quality was assessed using the Newcastle-Ottawa Quality Assessment Scale for observational studies. The outcome of interest was reduction in all-cause mortality, assessed using Mantel-Haenzel analysis of random effects to compute for risk ratios.

Pooled analysis from 11 identified trials with 8,370 subjects showed that among patients with ACS who underwent coronary angiography, the presence of CCC showed a trend towards benefit in terms of mortality, but was not statistically different from those without CCC [RR 0.65, (95% CI 0.38 to 1.12), $p < 0.0001$, $I^2 = 74\%$]. In those ACS patients with CCC treated with PCI, a significant reduction in mortality was found [RR 0.43, (95% CI 0.29 to 0.64), $p < 0.0001$, $I^2 = 0\%$]. The presence of CCC during ACS showed a trend towards mortality reduction. Further, among patients treated with PCI, those with CCC had an incrementally significant reduction in mortality compared to those without CCC. (Authors' abstract)

Keywords: coronary collaterals, acute coronary syndrome, Medicine

Proposed New Retinopathy of Prematurity Screening Criteria: Evidence for Including Older and Heavier Filipino Premature Babies

Retinopathy of Prematurity Working Group , Reandelar, Jr., Macario , Ventura, Ricardo , Anzures, Rachelle , Bascuna, Rena Ivy , Jimenez, IV, Jose Melvin , Corpus, Kr

Objective: (1) To determine if preterm babies with ROP are missed with the existing Philippine Pediatric Society/Philippine Academy of Ophthalmology 2005 screening criteria of ≤ 32 weeks gestational age (GA) and $\leq 1,500$ grams birth weight (BW), (2) to determine the incidence (missed-out rate) of these babies with ROP (>32 weeks GA, $>1,500$ grams BW), (3) to describe their profile, and (4) to determine the appropriate upper limit for GA and BW that can provide safe and efficient screening for severe ROP.

Methods: This is a multicenter, retrospective cohort, observational study using data on ROP screening from the medical records of preterm babies from 4 institutions. All babies born ≤ 36 weeks GA, regardless of BW, who previously underwent ROP screening in 2011-2013, were included. Outcome measures were: (1) missed-out rate, (2) profile of missed babies with ROP (GA, BW, and risk factors), and (3) the proposed new criteria.

Results: Of the 762 babies screened, 105 (13.8%) had ROP. Of these, 13 (12%) had severe ROP, 28 (27%) was born at 33-36 weeks GA, and 32 (30%) with $>1,500$ grams BW. The oldest and heaviest of these missed babies with type 1 ROP was almost consistently reported at <35 weeks GA and $<2,000$ grams BW. Associated significant risk factors seen among missed babies were sepsis, respiratory distress syndrome (RDS), oxygen supplementation, and blood transfusion. There were 45 babies (43%) with ROP but with no risk factors. Among these were babies with GA >32 weeks and BW >1500 grams with ROP. The incidences of ROP, with and without risk factors, in the 4 institutions were not statistically significant. Seventeen (16.2%) preterm babies were missed with the existing criteria. Two of these had no risk factors but had type 1 and type 2 ROP. When <35 weeks GA and $<2,000$ grams BW as the new criteria were applied, the missed-out rate was reduced to 2% and was further reduced to zero with the inclusion of risk factors.

Conclusion: The existing ROP screening criteria of ≤ 32 weeks GA and ≤ 1500 grams BW missed babies with severe ROP and need to be modified. We recommend screening Filipino babies: (1) <35 weeks GA and/or $<2,000$ grams BW, and (2) ≥ 35 weeks GA or $\geq 2,000$ grams BW with risk factors. (Authors' abstract)

Keywords: ROP, Retinopathy of prematurity, Screening, Premature babies, Medicine

A prospective, randomized clinical trial comparing the effects of three viscoelastics on the corneal endothelium after cataract surgery

Chan, Pik Sha , Ang, Robert Edward , Bacsal, Kristine E. , Flores, John D.G. , Uy, Har

The study was investigated to compare the effects of Amvisc Plus (AP), Duovisc (DV), and Viscoat (VC) on the corneal endothelium of patients who have undergone uncomplicated phacoemulsification cataract surgery. This is a prospective, randomized trial that involved 60 eyes of 48 patients with age-related cataracts. The eyes were randomly assigned to receive AP, DV, or VC during phacoemulsification. The main outcome measures were postoperative intraocular pressure (IOP), endothelial cell counts, and corneal thickness. The mean postoperative IOP were 15.13 ± 2.99 mmHg in the AP group, 15.42 ± 2.35 mmHg in the DV group, and 14.86 ± 5.56 mmHg in the VC group. The average postoperative endothelial cell counts were 2531 ± 420 cells/mm² in the AP group, 2330 ± 674 cells/mm² in the DV group, and 2678 ± 471 cells/mm² in the VC group. The mean postoperative corneal thickness measurements were 566 ± 49 μ m for the AP group, 561 ± 21 μ m for the DV group, and 552 ± 27 μ m for the VC group. No significant differences in all parameters were noted among the three groups. The results of this study suggested that AP, DV, and VC may be comparable in terms of their ability to protect the corneal endothelium during phacoemulsification. (Authors' abstract)

Keywords: Amvisc Plus (AP), Duovisc (DV), Viscoat (VC), corneal endothelium, cataract surgery, Medicine

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0492

A prospective, randomized comparison of Nd:YAG and sequential argon-YAG laser iridotomy in Filipino eyes

Agulto, Manuel B., Bacsal, Kristine Margaret E. , Lat-Luna, Ma. Margarita

This study compared Nd:YAG laser alone versus sequential argon-Nd:YAG laser iridotomy in terms of success in attaining patency, differences in visual acuity and intraocular pressure, and rate of complications in dark irides of Filipinos. A prospective, randomized, controlled trial was performed involving patients requiring laser iridotomy who were randomized either to Nd:YAG laser or sequential argon-Nd:YAG laser iridotomy. Iris-perforation success rate, the average number of laser shots and amount of laser energy used, the intraocular pressure (IOP) after laser treatment, and the rate of complications were compared. The prelaser pupil size was correlated with the iris perforation success rate. Forty-one eyes underwent laser iridotomy (23 Nd:YAG and 18 sequential). All eyes had patent iridotomies. There was no difference between the two groups in terms of the number of Nd:YAG laser shots delivered ($p = 0.97$) and amount of Nd:YAG energy used ($p = 0.64$). The total amount of laser energy used was higher in the sequential group ($p = 0.003$). There was no significant difference in the IOP and complication rates after treatment. A positive correlation was seen between prelaser pupil size and number of Nd:YAG shots needed to enlarge ($r = 0.38$, $p = 0.01$). Nd:YAG laser alone and sequential argon-Nd:YAG have comparable success in attaining patency of laser iridotomy, IOP control, and rate of complications in dark irides of Filipinos. (Authors' abstract)

Keywords: Glaucoma, Laser iridotomy, Nd, YAG laser,, Argon laser, Medicine

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Psychological Profile of Patients with Central Serous Retinopathy

Siguan, Christine S., Aguilar, Romulo

Objective: To determine the psychological profile of Filipino patients diagnosed with central serous retinopathy (CSR).

Methodology: Patients seen at the Philippine General Hospital and diagnosed with CSR were included in the study after undergoing an eye evaluation. They completed a data collection form and the Minnesota Multiphasic Personality Inventory (MMPI) questionnaire that was administered by a psychologist. The results of the MMPI were analyzed against an available normative scale. The socio-demographic data and patients' psychological profile were determined.

Results: The study population (N=12) included 10 males (83%) and 2 females (17%), with a mean age of 38 ± 8.58 years. Eighty three percent (83%) of the patients lived at home with their families. All (100%) had some formal education; 58% attended or completed high school. The majority (75%) worked in non-professional roles (cooks, drivers, seaman, salesman) and 25% were not working. Most (67%) had no other medical illnesses. In the MMPI, the CSR patients showed tendencies to schizophrenia (84%), hysteria (83%), depression (75%), psychopathic deviate (67%), and hypochondriasis (58%).

Conclusion: The socio-demographic data confirmed that CSR is an ailment largely affecting middle-aged men. The sample population of Filipino CSR patients have the tendency to demonstrate schizophrenia (84%), hysteria (83%), depression (75%), and psychopathic deviate (67%), and 33% showed type A personality. (Authors' abstract)

Keywords: *Central serous retinopathy, Central serous chorioretinopathy, Psychological profile, Minnesota Multiphasic Personality Inventory, Medicine*

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Pulmonary Arterial Aneurysm with Thrombus Formation and Atrial Septal Defect with Pulmonary Hypertension

Fernandez, Sime Raymond B., Orcasitas, Jessie

Introduction: Pulmonary arterial aneurysm (PAA) is a rare condition with varying symptomatology. Patients are often referred due to incidental finding of intrathoracic mass on chest radiograph. Common causes include structural cardiac and vascular abnormality, pulmonary hypertension, infection, vasculitis, connective tissue disease, and trauma.

Case presentation: A 37-year-old female came in due to shortness of breath associated with easy fatigability, exertional dyspnea, orthopnea, and occasional palpitations. Workup revealed 2D echocardiography findings of atrial septal defect (ASD) with left to right shunt; dilated right atrium and right ventricle; severe pulmonary hypertension; dilated main pulmonary artery. Contrast-enhanced computed tomography (CT) angiography showed PAA in the right main trunk, left and right pulmonary artery with thrombus formation. Cardiac catheterization and hemodynamic study were intended prior to definitive surgical treatment however patient did not opt to proceed. She was managed with warfarin, bisoprolol, digoxin, and trimetazidine. In spite of symptom relief, the patient still needs regular follow-up for reassessment to monitor disease progression.

Discussion: Pulmonary arterial aneurysm (PAA) is a rare complication of ASD, a common congenital heart disease. In this case, it presented as a mediastinal mass with nonspecific symptoms diagnosed after routine chest x-ray, verified through echocardiogram. Contrast-enhanced CT angiography ruled out aortic aneurysm and provided additional information of the extent of thrombus formation. However, pulmonary angiography still remains the diagnostic gold standard. Due to the rarity of the disease, optimal treatment of PAA is still uncertain. It is reasonable, however,

to treat conservatively for asymptomatic patient with no significant pulmonary hypertension. A more aggressive surgical approach has been advocated for patients with complications.

Conclusion: It is important to emphasize that PAA can present with non-specific manifestations thus high index of suspicion is critical for the diagnosis. It is also vital for early detection of the aneurysm and correction of the etiology to prevent disease morbidity and mortality. (Authors' abstract)

Keywords: *pulmonary artery aneurysm, thrombus, atrial septal defect, Medicine*

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0495

Pulmonary Endarteritis in a Patient with Patent Ductus Arteriosus and a Bicuspid Aortic Valve

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Infective endarteritis of the pulmonary artery is an unusual event. While congenital heart disease (CHD) is a risk factor, pulmonary endarteritis as a complication is a rare occurrence especially in the era of antibiotic therapy. The researchers presented a case of a 43-year-old female who initially sought consultation due to fever. Physical examination revealed a continuous murmur at the second intercostal space left parasternal border. There was no petechiae or any other skin lesions noted. Transthoracic two dimensional echocardiogram showed eccentric left ventricular hypertrophy with an ejection fraction of 65%. She had a patent ductus arteriosus as well as a bicuspid aortic valve. Further interrogation revealed a vegetation at the main pulmonary artery. Patient was initially started on ceftriaxone and gentamycin. Blood cultures were positive for coagulase negative *Staphylococcus aureus*. Ceftriaxone was then shifted to vancomycin, which was completed for 28 days. Clinical improvement was accompanied by the disappearance of the vegetation and negative blood cultures. Patient was maintained on enalapril and advised closure of the patent ductus arteriosus. She opted medical management for the time being and was discharged stable and improved. Pulmonary endarteritis is an

uncommon complication of CHD. A high index of suspicion must prompt careful evaluation, combining clinical, laboratory and echocardiographic modalities in order to provide early diagnosis and effective treatment.(Authors' abstract)

Keywords: Patent ductus arteriosus, pulmonary endarteritis, bicuspid aortic valve, Medicine

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0496

The Quality of Life in Patients with Non-Surgical and Surgical Presbyopic Corrections

Vizconde, Dennis C. , Martinez, Gladness Henna A. , Panganiban, Abigail O. , Toledo-Ramirez, Ma. Melizza Theresa , Ang, Robert Edw

Objective: To compare the quality of life using the National Eye Institute Refractive Error Quality of Life (NEIRQL) instrument in 40-60 year-old patients with reading glasses and presbyopic LASIK correction and in 60-80 year-old patients with monofocal and multifocal intraocular lenses (IOLs).

Methods: Patients aged 40-80 years old with reading glasses (group 1a) or presbyopic LASIK treatment (group 1b) and bilateral pseudophakia with monofocal (group 2a) or multifocal IOLs (group 2b) were recruited. All patients answered the NEI-RQL questionnaire. The responses in the self-administered questionnaires were collated, analyzed, and compared between the subgroups.

Results: One hundred fifty patients (median age 60 years, range 41-80 years) completed the NEI-RQL questionnaire. Subjects (age 41-59 years) who underwent presbyopic LASIK correction had a higher mean NEI-RQL ($p=0.19$) and higher subscale score for satisfaction ($p=0.42$) than those wearing reading glasses. However, the differences were not statistically significant.

Conclusion: Presbyopic LASIK improved uncorrected near visual acuity and provided spectacle independence in presbyopes; however, patient satisfaction was similar to those with reading glasses. Multifocal IOLs significantly improved uncorrected near visual acuity and spectacle independence in pseudophakic patients with high patient satisfaction. (Authors' abstract)

Keywords: presbyopia, quality of life, NEI-RQL instrument, presyopic LASIK, multifocal intraocular lens, spectacle independence, Medicine

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0497

Radioactive Iodine Remnant Ablation and Disease Recurrence in Filipinos With Low-risk Papillary Thyroid Microcarcinoma

Joven, Mark Henry , Kasala, Ruben , Lazaro, Ka

Low-risk papillary thyroid microcarcinomas (PTMC) have an indolent course and favorable prognosis. In the Philippines, radioactive iodine (RAI) remnant ablation is frequently given to patients with low-risk PTMC because of studies showing that Filipinos have more aggressive thyroid cancers. This study aimed to determine if RAI remnant ablation prevents thyroid cancer recurrence among Filipino patients with low-risk PTMC who underwent thyroidectomy at a tertiary hospital in the Philippines. A retrospective cohort study was conducted among adult patients with low-risk PTMC who underwent total thyroidectomy from 2006 to 2016. Outcomes were classified as positive or negative for disease recurrence based on imaging results and serum thyroglobulin levels during each follow-up visit. Recurrence-free curves were estimated using Kaplan-Meier method and compared using Cox regression analysis. A total of 90 cases of low-risk PTMC were included in the analysis with a mean follow-up duration of 41.88 months (range, 12-129 months). Forty eight patients (53.33%) underwent RAI remnant ablation (RAI group) and 42 patients (46.67%) did not (No RAI group). Six patients (6.67%) had disease recurrence at a median of 18 months (range, 12-70 months). The recurrence rates in the No RAI group were 2.8% at one year and 10.84% in five years and the recurrence rates in the RAI group were 0% at one year and 9.84% at five years. (HR, 5.34; 95% CI, 0.86 to 33.02; P=0.07). This study did not provide sufficient evidence that RAI remnant ablation prevents disease recurrence in Filipino patients with low-risk PTMC. Future randomized, prospective trials involving larger sample sizes and longer follow-up duration are necessary to confirm our findings. (Authors' abstract)

Keywords: papillary thyroid micorcarcinoma, thyroid neoplasm, thyroid cancer, papillary, Medicine

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0498

RANDOMIZED DOUBLE BLIND PLACEBO-CONTROLLED CLINICAL ON THE EFFICACY AND SAFETY OF MORINGA OLEIFERA (MALUNGGAY) 1% CREAM IN THE TREATMENT OF TINEA CORPORIS: A PILOT STUDY

Calderon, Maria Jesusa C. , Prieto, Elizabeth P. , , Rebosa, Catherine B. , De Guzman-Castro, Charo Fio

BACKGROUND: All parts of the Moringa tree are edible and have long been consumed by humans. Moringa preparations have been cited in the scientific literature as having antibiotic, antitrypano-somal, hypotensive, antispasmodic, antiulcer, anti-inflammatory, hypocholesterolemic, and hypoglycemic activities as well as having considerable efficacy in water purification.

Tinea corporis is one of the top 10 new cases seen in the Department of Dermatology, out-patient department of East Avenue Medical Center. Tinea corporis refers to dermatophyte infections of the trunk, legs, arms, and/or neck, excluding feet, hands and groin. It is commonly caused by *Trichophyton rubrum*, *T. mentagrophytes* and *Microsporum canis*. There has been no reported or published clinical trial on the efficacy of either antimicrobial or anti-fungal properties of *Moringa oleifera*. This prompted the investigator to pursue this study.

OBJECTIVE: To determine the efficacy and safety of *Moringa oleifera* (Malunggay) in the treatment of tinea corporis infection among patients at East Avenue Medical Center Department of Dermatology.

METHODOLOGY: A total of 40 patients were randomly assigned to 2 groups, Group A (placebo group) had 20 patients and Group B (Moringa) had 20 patients. Thirty-four patients completed the study period, 16 for placebo group and 18 for Moringa group. Clinical parameters (erythema, pruritus and scaling) were followed-up in terms of improvement. Mycologic cure in terms of KOH smear was also noted at the end of the study. Adverse reactions were noted as well.

RESULTS: There was no significant clinical improvement in terms of erythema, pruritus and scaling observed at the end of the study. Mycological cure rates showed 37.5% for the placebo group and 72.2% in the Moringa group. Among groups, mycologic cure rates using KOH smear showed no significant difference. Minimal pruritus at week one was observed which spontaneously improved at the end of the treatment.

CONCLUSION: *Moringa oleifera* cream at 1% is not effective in the treatment of tinea corporis. (Authors' abstract)

Keywords: Moringa oleifera, Malunggay, Trichophyton rubrum, T. mentagrophytes, Microsporum canis, Medicine

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0499

A Randomized Double-Blind Comparison of Fixed Versus Calculated Radioiodine Dose in the Treatment of Graves' Hyperthyroidism

Milo, Mario , Mercado-Asis, Leilani B., Monzon, Orestes P. , San Luis, Teofilo , Torres, Juan F. , Kho, Sjoberg A. , Marcelo, Millicent , Cunanan, Elaine C. , Miranda-Padua, Maria L

Radioactive iodine (I131) therapy is an established definitive treatment for Graves' hyperthyroidism. However, the optimal method of determining the radioiodine treatment dose remains controversial. The study was conducted to compare the efficacy of fixed dose versus calculated dose regimen in the treatment of Graves' hyperthyroidism among Filipinos. Diagnosed Graves' disease patients underwent thyroid ultrasound to estimate thyroid size. Patients were randomized to either fixed or calculated dose of radioiodine treatment. For fixed dose group, the WHO goiter grading was utilized: Grade 0 (5mCi), Grade 1 (7mCi), Grade2 (10mCi), Grade 3 (15mCi). For calculated dose group the following formula was used: $\text{Dose(mCi)} = 160 \mu\text{Ci/g thyroid} \times \text{thyroid gland weight in grams} \times 100 \text{ 24-hour RAIU (\%)}.$ Thyroid function test (TSH, FT4) was monitored every three months for one year. Of the 60 patients enrolled, 45 (fixed dose; n= 27, calculated dose; n= 18) completed the six months follow-up study. Analysis was done by application of the intention-to-treat principle. The percentage failure rate at third month in the fixed vs. calculated dose group was: 26 v. 28% with a relative risk (RR) value of 0.93. At six months post-therapy, there was a noted reduction in the failure rates for both study groups (11 vs. 22%, respectively), with a further reduction in the relative risk value (0.67), favoring the fixed dose group. Fixed dose radioiodine therapy for Graves' disease is observed to have a lower risk of treatment failure (persistent hyperthyroidism) at three and six months post-therapy compared to the calculated dose. (Authors abstract)

Keywords: radioiodine on Graves disease, RAI therapy, hyperthyroidism, Medicine

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0500

A Rare Case of an Intracardiac Hemangioma Causing Significant Right Ventricular Outflow Tract Obstruction

Abrahan, IV, Lauro L. , Obillos, Stephanie Martha O. , Aherrera, Jaime Alfonso M. , Taquiso, Jezreel , Magno, Jose Donato , Uy-Agbayani, Celia Catherine , Abelardo, Nelson S. , Uy, Angelique Bea , King, Rich Ericson , Descallar-Mata, Kathleen Rose

Cardiac hemangiomas are rare benign primary tumors. We present the successful management of a patient with a hemangioma causing significant right ventricular outflow tract (RVOT) obstruction. A 54-year-old female with no comorbidities presented with progressive right-sided heart failure symptoms. Examination revealed a prominent right ventricular heave, irregular cardiac rhythm, murmurs consistent with pulmonic stenosis and tricuspid regurgitation, ascites, and bipedal edema. Given the echo features of the mass and the patient's clinical course, the researchers favored a benign cardiac tumor over malignancy. Differentials included myxoma, fibroma, and papillary fibroelastoma. Medical management included enoxaparin and carvedilol as anticoagulation and rate control for the atrial flutter, respectively. Surgical treatment consisted of tumor excision and tricuspid valve annuloplasty. Intra-operatively, the result showed that the stalk was indeed attached to the RV free wall. Histopathology was consistent with primary cardiac hemangioma. The patient's post-operative course was complicated by pneumonia, acute kidney injury, and tracheostomy, but she was eventually discharged improved after a month in the ICU. This report highlights a rare primary cardiac tumor in an unusual location. While there have been several reports in the world literature on cardiac hemangiomas, less than ten cases have been shown to have significant RVOT obstruction as in the patient. In conclusion, cardiac hemangiomas should be part of the differential diagnosis for an intracardiac mass in the right ventricle. Meticulous echocardiography can be a noninvasive and inexpensive aid to diagnosis and pre-operative planning. (Authors' abstract)

Keywords: cardiac hemangiomas, right ventricular outflow tract obstruction, RVOT, Medicine

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0501

A RARE CASE OF PARATHYROID CARCINOMA MANIFESTING AS RECURRENT NEPHROLITHIASIS

Villalon, Ma. Melizza S., Ureta, Celso

OBJECTIVES: To present a very rare case of Primary Parathyroid Carcinoma in a 54 year old female
: To discuss the clinical findings and management of Primary Parathyroid Carcinoma

METHODS:

Study Design: Case Report

Setting: Tertiary Hospital

Patient: One

RESULTS: A 54 year old female presented with a 3-year history of recurrent nephrolithiasis despite several shock wave lithotripsy. She had persistent hypercalcemia and parathyroid hormone level was noted to be elevated. Neck ultrasound showed a hypoechoic solid nodule measuring approximately 1.7x1.6cm in the lateral inferoposterior aspect of the left thyroid lobe. Parathyroid scintigraphy revealed a focal uptake on the left lower thyroidal bed. Patient underwent inferior parathyroidectomy, left with subtotal thyroidectomy, left and isthmusectomy. Frozen section reported a parathyroid tumor and the final histopathologic results revealed a parathyroid carcinoma.

CONCLUSION: A very rare case of parathyroid carcinoma is presented, manifesting with recurrent nephrolithiasis. Elevated serum calcium and intact parathyroid hormone (iPTH) confirm a primary hyperparathyroid problem. Neck ultrasound and parathyroid scintigraphy help in the localization of a parathyroid tumor. Only final histopathologic result can confirm the diagnosis of parathyroid carcinoma. Complete surgical excision is the treatment of choice and offers a good prognosis. (Authors' abstract)

Keywords: Parathyroid Carcinoma, Primary Hyperparathyroidism, Medicine

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0502

A Rare Case of Pemphigus Vulgaris, Mucocutaneous Type in a 26-year Old Female

Peña-Dumdum, Aileen I., Gabriel, Ma. Teresita

Pemphigus is an autoimmune blistering disease of the skin, mucous membrane, or both. There are two main categories: pemphigus foliaceus (PF) and pemphigus vulgaris (PV) based on clinical, histopathologic and serologic features. PV The mean age of onset of the disease is approximately 40 to 60 years of age. We report a case that clinically showed blisters and erosions in the skin and mucous membrane in a 26 years old female patient. Histologic examination of the cutaneous lesions demonstrated suprabasilar acantholysis. Direct immunofluorescence showed intercellular deposition of IgG (+2) and C3 (+2). Prednisone and a steroid sparing agent- Azathioprine were given and significant improvement was observed after just three weeks. (Author's abstract)

Keywords: Pemphigus Vulgaris, pemphigus foliaceus, mucous membrane, skin, Medicine

Rare Mammary Lesions: A Radiologic-Pathologic Correlation *Buenaflor, Ma. T*

Appearances can be deceiving and this pictorial essay illustrates the imaging appearance of breast lesions which may or may not appear as classic for malignancy. These cases are considered unusual, interesting and uncommonly encountered, thus providing an avenue for better collaboration and as a teaching point for both radiologists and pathologists. (Author's abstract)

Keywords: breast neoplasms, angiosarcoma pseudoangiomatous stromal hyperplasia, granulomatous mastitis, Medicine

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NP

Real-World Effectiveness and Safety of Single-pill Combination of Amlodipine/Valsartan or Amlodipine/Valsartan/Hydrochlorothiazide in Patients with Hypertension from the Philippines *Francisco, Shari G. , Sison, Jo*

The EXforge Clinical evaluation of amlodipine and valsartan in hypertension (EXCITE) study was designed to evaluate the real-world effectiveness and safety of amlodipine/valsartan (Aml/Val) and amlodipine/valsartan/hydrochlorothiazide (Aml/Val/HCTZ) single-pill combination (SPC) in patients with hypertension. This 26-week observational, multicenter, prospective, open-label study included patients aged ≥ 18 years of age with established diagnosis of hypertension. The change in mean sitting systolic BP (msSBP), diastolic BP (msDBP) from baseline to Week 26, proportion of patients achieving BP goal (msSBP/msDBP $< 130/80$ mmHg and $< 140/90$ mmHg for patients with and without diabetes, respectively) at endpoint, and safety were monitored. Here, we report the data of patients from the Philippines. Of the total 1,054 patients in the full analysis set (Aml/Val, $n = 928$; Aml/Val/HCTZ, $n = 126$), 923 (87.6%) patients completed the study. The baseline BP was 158.5/96.5 and 167.0/99.5 mmHg in the Aml/Val and Aml/Val/HCTZ groups, respectively. Significant reductions in msSBP and msDBP from baseline to week 26 were observed with both Aml/Val ($-31.9/-16.8$ mmHg) and Aml/Val/HCTZ ($-36.1/-19.2$ mmHg). Adverse events were reported by 8.8% of the patients. The Aml/Val and Aml/Val/HCTZ SPCs were effective in controlling BP and were generally well tolerated in patients with hypertension from the Philippines. (Authors' abstract)

Keywords: amlodipine, blood pressure, combination therapy, efficacy, hydrochlorothiazide, real-life, safety, valsartan, single-pill combination, Medicine

Reference Intervals in Thyroid Function Tests in the Third Trimester in Pregnant Filipino Women

Lim-Abrahan, Mary Anne , Domingo, Efren , Antonio, Mark Q. , Jimeno, Cecilia , Acampado, Laura , Bautista, Ail

Pregnancy has been associated with differences in thyroid function. Maternal thyroid dysfunction has been shown to be associated with fetal and obstetric complications and prompt management is of importance. It has thus been recommended by the British and American Thyroid Association that trimester-specific thyroid function test reference ranges be used in the assessment of thyroid dysfunction. Normative values across the trimesters of pregnancy have been conducted in several countries and in the Philippines. Reference ranges in the first and second trimesters of pregnancy were conducted by Patal and Hamin *et al.* which showed values of TSH 0.14-3.84 uIU/mL, FT4 10.44-21.58 pmol/L, FT3 2.4-5.82 pmol/L in the first trimester and TSH 0.10-4.30 uIU/mL, FT4 9.10-19.40 pmol/L, FT3 2.70- 5.190 pmol/L in the second trimester, respectively. The objective of the study was to establish third trimester reference intervals for free thyroid hormones (free triiodothyronine [FT3], free thyroxine [FT4]) and thyrotropin [TSH] from thyroid peroxidase antibody [TPOAb]-negative Filipino pregnant women. This was a prospective, cross-sectional study which included consecutive 200 healthy third-trimester pregnant Filipino women attending Philippine General Hospital (PGH) out-patient services. Serum TSH, FT4, FT3, and TPOAb were measured. Reference intervals are based on 2.5th and 97.5th percentiles for TSH, FT4, and FT3 among TPOAb-negative third-trimester pregnant Filipino patients. All numerical data were entered in MS Excel and analyzed using STATA 12. FT3, FT4 and TSH were expressed as mean \pm SD, range at 2.5th to 97.5th percentiles. The reference ranges for TSH, FT4 and FT3 in TPOAb-negative third-trimester pregnant population are as follows: TSH= 0.2-3.0 uIU/mL; FT4 = 9.16-18.64 pmol/L and FT3= 2.09-3.7 pmol/L. Reference ranges for thyroid function tests for the third trimester of TPOAb-negative pregnant Filipino women were determined in this study and are as follows: TSH= 0.2-3.0uIU/mL; FT4 = 9.16-18.64pmol/L and FT3= 2.09-3.7pmol/L. (Authors' abstract)

Keywords: *pregnant, thyroid function test, third trimester, Filipino, Medicine*

Refractive and Visual Outcomes of Surgical Treatments for High Myopia

Reyes, Rosalie Mae M. , Dela Cruz, Albert G. , Cruz, Emmerson M. , Solis, Maria Luisa Patricia C. , Solis, Maria Rachelle Katrina C. , Ang, Robert Edw

Objective: To present the refractive and visual outcomes of refractive surgical treatment options in high myopia.

Methods: This was a retrospective review of patients diagnosed with high myopia (manifest refractive spherical equivalent [MRSE] $\geq -6.00\text{D}$) who underwent one of the following procedures: laser-in-situ keratomileusis (LASIK), photorefractive keratectomy (PRK), phakic IOL implantation with the Staar Implantable Collamer Lens (ICL), or Alcon Cachet Phakic IOL. Eyes with best corrected distance vision of less than 20/30 due to amblyopia or other eye pathologies were excluded.

Results: This study evaluated 145 eyes of 77 patients: 86 eyes underwent LASIK, 37 eyes PRK, 16 eyes implanted with the ICL, and 6 eyes with Cachet lens. Preoperatively, the mean MRSE was -7.44D , -7.71D , -9.82D , and -12.08D for the LASIK, PRK, ICL, and Cachet groups respectively. At 1 year postoperatively, the mean MRSE was -0.22D , $+0.23\text{D}$, -0.40D , and -0.28D , respectively. The mean uncorrected distance vision (UDVA) at 1 year follow-up was 20/20 in the LASIK and PRK groups, 20/25 in the ICL and 20/30 in the Cachet, while the best corrected distance vision (BDVA) was 20/20 in all groups. An increase in spherical aberration (SA) and total higher-order aberration (HOA) was observed in LASIK (SA $p=0.00$; HOA $p=0.00$) and PRK (SA $p=0.00$; HOA $p=0.00$) but not in the ICL (SA $p=0.11$; HOA $p=0.69$) and Cachet (SA $p=0.95$; HOA $p=0.25$) groups.

Conclusion: The four refractive treatment options were effective at reducing the myopic refractive error and achieving good uncorrected distance vision. Laser refractive treatments caused an increase in spherical and higher order aberrations not seen in the phakic IOL treatments. (Authors' abstract)

Keywords: *Laser-in-situ Keratomileusis (LASIK), Photorefractive Keratectomy (PRK), Implantable Collamer Lens (ICL), Acrysof Cachet Phakic IOL, High Myopia, Medicine*

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NP

0507

REHABILITATION OF A DIGITAL VIDEOSTROBOSCOPY SYSTEM: A PRACTICAL SOLUTION TO AN INOPERABLE AND UNSERVICEABLE DIGITAL VIDEOSTROBOSCOPY UNIT

Pangilinan, Jeffrey A., Ureta, Celso

OBJECTIVES: The objectives of this paper are to present a rehabilitated and functional videolaryngostroboscopy system from an old, unserviceable digital videolaryngostroboscopy unit adapted and fitted with readily available digital hardwares and software; and to present the examination results of patients using the rehabilitated videolaryngostroboscopy system.

METHODS:

Study Design: Surgical Instrumentation

Setting: Tertiary Hospital

Patient: Veteran patients or their dependents presenting with dysphonia

RESULTS: The newly installed videolaryngostroboscopy system was successfully rehabilitated and yielded satisfactory performance in detecting laryngeal observations comparable with the old videolaryngostroboscopy unit. The new system has performed more than fifty videolaryngostroboscopic tests with successful results.

CONCLUSION: This study presents a rehabilitated and functional videolaryngostroboscopy system from an old, unserviceable digital videolaryngostroboscopy unit adapted and fitted with readily-available digital hardwares and software. The results of videolaryngostroboscopic study among patients using the rehabilitated videolaryngostroboscopy unit shows comparable results with the old videolaryngostroboscopy unit. (Authors' abstract)

Keywords: Videostroboscopy, videolaryngostroboscopy, laryngeal stroboscopy, videostroboscopy rehabilitation, Kay-Elementrics stroboscopy rehabilitation, Medicine

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2014 - 2015,
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NP

0508

The Relationship Between Hypothyroidism and Color Vision Deficiency Among Filipino Adults Seen at the Makati Medical Center

Montano, Carolyn N. , Litonjua, Augusto D. , Umali, Aria

The study was done to determine the relationship between hypothyroidism and color vision deficiency among Filipinos ages 20-60 years. A cross-sectional study was performed on 91 biochemically hypothyroid and euthyroid patients seen at the Makati Medical Center from July to December 2013. All subjects underwent the Ishihara color test, followed by the Farnsworth-Munsell D15 test if this was positive. The patient who tested positive in the Farnsworth-Munsell D15 test was referred to an ophthalmologist to rule out any anatomic problem, and was excluded from the study if found to have any. Fisher's exact test assessed the significant correlation between hypothyroidism and color vision deficiency. A p-value less than 0.05 was considered significant. Of the 91 patients that were included in the study, the average age was 42 years, majority (87%) were females, and 41% were biochemically hypothyroid. All euthyroid patients (100%) had normal color vision, while one hypothyroid patient (3.0%) tested positive for color vision deficiency (p-value 0.407). Based on this study, the hypothyroid state of the patients had no effect on their color vision, unlike those seen in rodents, probably because mature human cones are not as easily affected by changes in thyroid hormone levels. (Authors' abstract)

Keywords: hypothyroidism, color vision deficiency, Filipinos, Medicine

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(Filipiniana Analytics)

Relationship Between Level of Readiness for Self-directed Learning and Learning Styles of CEU Nursing Students

Cuevas, Pearl Ed G. , Manarang, Vincent R

This study aimed to assess the level of readiness of student nurses for self-directed learning and their learning styles. It also determined the relationship between the two factors and the relationship of each factor to the respondents' demographic profile. This descriptive- correlational study utilized the Autonomous Learner Index of Abu-Moghli, Khalaf, Halabi & Wardam (2005) to assess the students' level of readiness in self-directed learning, and the Learning Style Inventory of Kolb & Kolb (2005) to assess their learning style type. No sampling technique was used because total population was included covering all 103 regular nursing students of Centro Escolar University for First semester of academic year 2016-2017. The study underwent Ethics Review Board Approval before it was implemented. Results of the study revealed that most of the nursing students were independent learners (52%). There were no dependent learners but since there were several respondents who were uncertain (48%), it is the role of nurse educators to develop their independence in learning. Moreover, all the four types of learning styles namely: Accommodative, Convergent, Assimilative and Divergent; were present showing the variation in learning styles of nursing students. But it was found out that they mostly prefer the Convergent learning style, especially the junior and senior students. The study concluded that there was no relationship between the variables: demographic profile, self-directed learning readiness and learning style. However, the scores of convergent learning style were higher than that of divergent and accommodative in their self-directed learning readiness. (Author's abstract)

Keywords: Self-directed Learning, Learning Styles, Nursing Education, Active Learning, Readiness for Self-directed Learning, Medicine

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NP

Relationship of Average Daily Glycemic Index and Glycemic Load with Body Mass Index among Filipinos in the Rural Setting

Jalique, Jundelle Romulo , Paz-Pacheco, Elizabeth , Sandoval, Mark Anthony S. , Arellano, Hderb

While the relationship between obesity and caloric intake is widely accepted, the role of glycemic index (GI) and glycemic load (GL) to body mass index (BMI) remains equivocal. This study seeks to determine the daily glycemic index (GI) and glycemic load (GL) of usual diet of rural-dwelling Filipinos, and their relationship with body mass index (BMI). The study was carried out using a cross-sectional study reviewing the data of 139 adults from San Juan, Batangas. Average daily GI and GL were calculated from two-day food recall questionnaires.

Spearman's rank test was used to determine correlation of daily GI and GL with BMI; the mean BMI was compared among GI and GL tertiles using one-way ANOVA. Partial least squares regression was used to determine the contribution of food items to daily GI and GL. No overall correlation was observed between daily GI or GL and BMI using Spearman's rank. However, BMI was higher with increasing GI tertiles ($p<0.0001$) and GL tertiles ($p=0.0108$) among the males, but not females. Bread, coffeemix and sweets were major contributors to daily GI, while rice, bread/pastries and sweetened beverages were to daily GL. Leafy vegetables negatively contributed to both. There was a positive relationship observed between daily GI and BMI, and daily GL and BMI among the men, but not women, in this population. Staple food with high GI like bread/pastries and sweetened beverages contributed most to both daily GI and GL, with the addition of rice for daily GL. Among Filipinos with marginal daily caloric intake, optimizing carbohydrate quality (low GI or GL) rather than limiting its quantity may be more appropriate. Future studies of prospective design and using objective methods of food intake reporting are recommended. (Authors' abstract)

Keywords: glycemic index, glycemic load, body mass index, obesity, Medicine

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NP

0511

Relationship of Diabetic Retinopathy with Ankle Brachial Index and Microalbuminuria in Type 2 Diabetics

Aguinod-Cheng, Patricia J. , Doria-Del Castillo, Jennifer , Cruz-Anacleto, Maria Angela S. , Yutangco, Ronald A. , Molina, Emerson

Objective: This study investigated the relationship of diabetic retinopathy with ankle/brachial (ABI) scores and the presence of microalbuminuria in type 2 diabetic patients.

Methods: A prospective cross-sectional study of type 2 diabetic patients, aged 40-85 years, were recruited from the outpatient department of a tertiary hospital. Ankle/brachial index scores and the presence of microalbuminuria were determined. The presence and stage of diabetic retinopathy were assessed through contact lens biomicroscopy.

Results: There were 49 patients who participated in the study. Significant associations between severe diabetic retinopathy and abnormal ABI scores ($p = 0.01$) and the presence of microalbuminuria ($p=0.01$) were found.

Conclusion: Patients with severe diabetic retinopathy were more likely to have abnormal ankle/brachial index scores and microalbuminuria. Thus, those presenting with severe diabetic retinopathy were not only at risk of losing their sight but also at higher risk of developing life-threatening systemic vascular and renal complications of diabetes. (Authors' abstract)

Keywords: Diabetic retinopathy, Diabetes mellitus, Ankle/brachial index, Peripheral arterial disease, Microalbuminuria, Medicine

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2014 January to June,

Reliability analyses of the GDx nerve-fiber analyzer

Agulto, Manuel B. , Cordero, Cynthia P. , Tinio, Lawrence , Dorotheo, Edgardo U. , Khu, Patri

The scanning laser polarimetry, exemplified by the GDx 400 (Laser Diagnostic Technologies, San Diego, CA, USA) nerve-fiber analyzer, allows noninvasive quantitative assessment of the retinal nerve-fiber layer. This study determined the reliability of the GDx 400 in taking repeat measurements by different operators and at different sessions in a sample of normal and glaucoma patients. Patients with and without glaucoma underwent a complete eye evaluation, automated achromatic perimetry, scanning laser polarimetry, and optic-disc photography. Retinal nerve-fiber layer (RNFL) measurements were obtained for each group of patients by two trained operators who were masked as to the status of the study eye. Four measurements were obtained for each study eye in the same session and in another session. Reliability measures using intraclass correlation coefficient of five preselected GDx parameters were obtained. The study recruited 355 patients (171 normal, 184 glaucomatous) ages 30 to 78 years. Intraclass correlation coefficients within operator same session (0.84-0.95), within operator different sessions (0.78-0.93), between operators same session (0.79-0.94), and between operators different sessions (0.80-0.94) were excellent. The reliability measures for the second session (0.79-0.94) were higher than for the first session (0.79-0.87) even for measurements taken by the same operator. The GDx 400 nerve-fiber analyzer has good reliability measures and can be used to monitor changes in the RNFL thickness over time. Change in measurements exceeding 20% from baseline should be considered as possible progression. (Authors' abstract)

Keywords: Glaucoma, Retinal nerve-fiber layer, Nerve-fiber analyzer, Scanning laser polarimetry, Medicine

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NP

Renal Function of Patients with Gout on Initial Visit at a Rheumatology Clinic

Salido, Evelyn O. , Penserga, Ester , Hernandez, Ana Teresa S., Tee, Kenneth D

Gout is an inflammatory arthritis involving the deposition of uric crystals. It has been known to cause renal disease in the form of acute or chronic urate nephropathy, or urolithiasis. Numerous studies have been published worldwide, defining proper handling and management of such cases. Despite such recommendations, the renal function of these patients complicates the management. Administration of the properly-adjusted medications and referrals to appropriate services are delayed because of lack of data at the patient's initial visit. This study therefore aimed to describe the renal function at index consult of Filipino patients with gout, and identify the factors that correlate with a depressed kidney function in such patients. This study is a retrospective descriptive study involving gout patients seen in four rheumatology clinics. A total of 485 patients were identified. Records of the patients' index consult, were reviewed. Demographic and disease characteristics were noted. Renal function was identified using the Cockcroft-Gault equation for estimated glomerular filtration rate. Univariate analysis was done, characteristics of patients with good and poor renal function were compared. A total of 485 patients were studied. Most were males with presenting with a monoarticular joint

involvement, with attacks occurring more than three times a year. Tophi were present in 28.2% of patients at the initial consult. The most commonly reported comorbidity was hypertension. At index consult, the average serum creatinine and uric acid are 1.7mg/dL and 9.1 mg/ dL, respectively. The average creatinine clearance is 65.0±34.1 mL/min, and 51.3% presented with an eGFR of <60 mL/min at index consult. Poor renal function (eGFR <60mL/min) was associated with late onset (p<.0001) and prolonged disease duration (p<.0001), higher serum uric acid (p<.0001), a history of urolithiasis (p<.035), frequent attacks (p<.0001), with coexisting hypertension (p<.0001) or diabetes mellitus (p<.013). Interestingly, results also showed that females tend to have poorer renal function at index consult compared to males (p<.0001). In this cohort of 485 Filipino patients with gout, 51.3% have eGFR<60 ml/min on first consultation. The clinical findings with significant associations with poor renal function should alert Filipino physicians to the high probability of renal disease among Filipino patients with gout and make the necessary adjustments in treatment plans. (Authors' abstract)

Keywords: gout, renal disease, chronic kidney disease, hyperuricemia, renal function, initial visit, Medicine

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NP

0514

Retinal Dysplasia

Espiritu, Romeo B. , Sy, Mary El

This is a case report of retinal dysplasia, the first documented case seen at the University of the Philippines-Philippine General Hospital (UP-PGH). A three-month-old female presented with bilateral leukocoria and an intraocular mass in the right eye. The right eyeball was enucleated and histopathology results revealed retinal dysplasia. Ocular ultrasonographic and cranial computerized tomography are helpful in the diagnosis of suspected retinal dysplasia. (Authors' abstract)

Keywords: Retinal Dysplasia, bilateral leukocoria, cranial computerized tomography, Ocular ultrasonographic, Medicine

Philippine Journal of Ophthalmology, Volume No. 29 Issue No. 3, 1-3
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(Filipiniana Analytics)
NP

0515

Retinal Nerve Fiber Layer Measurements in Myopia Using Optical Coherence Tomography

del Rosario, Dennis L., Yatco, Mario

Objective: To evaluate the relationship between retinal nerve fiber layer (RNFL) thickness measured by optical coherence tomography (OCT) and the degree of myopia.

Methods: A total of 28 eyes of 14 healthy subjects with myopia, 9 eyes with low myopia (spherical equivalent [SE] between -0.75 D and -3.00 D) and 19 eyes with moderate to high myopia (SE >-3.0 D), were included. Total average and mean quadrant RNFL thicknesses were measured by Stratus OCT. Associations between RNFL measurements and spherical equivalent refraction were evaluated by linear regression analysis.

Results: Twenty two out of 28 eyes were classified as below normal limits with reference to the normative database of the RNFL thickness. There was a significant correlation between refraction and average RNFL thickness ($p=0.04$), indicating that for every decrease of 1.00 D in refraction (more myopic), there was a 2.86 μm decrease in the average RNFL thickness. The most frequently abnormal sector was at the nasal quadrant, where 78% of myopic eyes were below normal limits. A significant correlation was seen between refraction and nasal RNFL thickness ($p=0.02$), showing a decrease of 3.37 μm in the nasal RNFL thickness for every 1.00 D decrease. There was also a significant correlation between refraction and inferior RNFL thickness ($p=0.007$). For every decrease of 1.00 D in refraction, there was a decrease of 6.27 μm in the inferior RNFL thickness. There were no significant correlations between the refraction and the superior and temporal RNFL thickness ($p = 0.12$ and 0.64 , respectively).

Conclusion: There was a decrease in the average RNFL thickness as the refractive error became more myopic, suggesting the need for the Stratus OCT RNFL normative database to have corrective factors for refractive error among myopic patients. Although both the nasal and inferior quadrants positively correlated with myopia, majority of the nasal quadrant showed below normal thickness based on the Stratus OCT normative database. A careful interpretation of RNFL measurements, especially the nasal quadrant, should be done among myopic subjects to avoid mislabeling them as glaucoma suspects. (Authors' abstract)

Keywords: *Myopia, Retinal nerve fiber layer, Optical coherence tomography, Stratus OCT, Refractive error, Medicine*

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0516

A Retrospective Descriptive Study of Frequency of Electroencephalographic Abnormalities and Its Correlation with White Matter Subcortical Lesions in Magnetic Resonance Imaging of the Brain in Acute Migraine Attack in a Tertiary Hospital

Perez, Martesio C. , Macasaet, Joyce Ann D.C., Gosiengfiao-Perez, Katerina Ta

The neuropathological processes believed to underlie migraine were still widely debated in the literature. This paper reviewed two ancillary procedures, the scalp electroencephalogram (EEG) and magnetic resonance imaging (MRI) of brain for physiological and anatomical characteristics of the syndrome that may be identified which may aid in the demonstration of the pathogenesis and pathophysiology of migraine. In this study, we determined the frequency of abnormal scalp electroencephalographic findings during acute (within 24 hours) migraine attack, and correlate it with MRI white matter lesions.

This was a retrospective descriptive study among migraine patients admitted at a tertiary hospital over a five-year period was done. Patients included were aged 10 to 70 years, both male and female, diagnosed with migraine according to IHS Criteria who underwent both EEG and MRI. Three hundred twelve patients were

included in the study. Patients with both EEG and MRI whose results showed abnormalities in both were collected (n=11). Further analyses of correlation of abnormal EEG and white matter lesion on MRI using SPSS software and phi-coefficient statistical tool was used to provide measures of association in terms of lateralization, lobar distribution. Results showed insufficient evidence to make any correlation between laterality or lesions (pvalue 0.292) and lobar distribution (p-value 0.016). There was a positive but weak relationship among patients with abnormal EEG having an abnormal MRI (Odds Ratio= 2.475).

In conclusion, abnormalities in EEG and MRI findings may be seen during the acute attack (<24 hours EEG, < 3days MRI). Abnormal EEG patterns, specifically focal slowing of background activity and epileptiform discharges in multiple lobes in 37% percent of migraineurs was documented. A trend towards a positive correlation between the presence of abnormalities on MRI and abnormalities on EEG, this was not statistically significant. Evidence was insufficient because of the very limited sample size. (Authors' abstract)

Keywords: *Migraine, Electroencephalography (EEG), Magnetic Resonance Imaging (MRI), Computerised Tomography (CT) scan, T2WI/FLAIR Hyperintensities, Medicine*

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NP

0517

A retrospective review of autologous scleral flap versus donor scleral graft

Jonathan Rivera, Edgar Leuenberger, Ma. Imelda Yap-Veloso, , Jonathan Rivera, Edgar Leuenberger, Ma. Imelda Yap-V

Objective

This study determined the rates of tube erosion and associated complications among patients implanted with the Ahmed glaucoma valve (AGV) using autologous scleral flap versus donor scleral graft.

Methods

The clinical records of consecutive patients who underwent AGV implantation using either autologous scleral flap or donor scleral graft between August 2001 and April 2006 with a minimum follow-up of four months were reviewed. Data were collected using a standardized form and subjected to statistical analyses.

Results

A total of 25 eyes of 25 consecutive patients who underwent AGV implantation were included. Fourteen received donor scleral grafts and 11 autologous scleral flaps. There were no tube erosions in the autologous scleral group. Transconjunctival erosion was seen in 71% of eyes in the donor scleral group, half of them occurring during the first 3 months postoperatively. Two eyes with erosion developed endophthalmitis.

Conclusion

The use of autologous scleral flap in AGV implantation appears to be an effective technique in preventing transconjunctival tube erosions. Exposure of the tube is a major risk factor in the development of endophthalmitis. (Authors' abstract)

Keywords: Glaucoma drainage device, Ahmed glaucoma valve, Autologous scleral flap, Donor scleral patch, Glaucoma, Medicine

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2008 January to June,
(Filipiniana Analytics)
NP

0518

A Review Article on Neuroretinitis

Cruz, Franz Marie, Arcinue, Cheryl

Neuroretinitis is an inflammatory optic neuropathy with a classic fundoscopic appearance of optic disc swelling and hard exudates on the macula in a star formation. It can be a manifestation of systemic, infectious or autoimmune disease. In nearly half of cases, the etiology is idiopathic. This review aims to summarize the clinical presentation, fundoscopic mimics, etiologies, investigation, and treatment of neuroretinitis. Cat-scratch disease, the most common cause of infectious neuroretinitis, and recurrent idiopathic neuroretinitis, which can cause ocular morbidity, are discussed in detail. (Author's abstract)

Keywords: neuroretinitis, cat-scratch disease, idiopathic neuroretinitis, Medicine

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NP

0519

Right Atrial Thrombus in an Acute Hemorrhagic Stroke Patient: A Case Report

Pasia, Arnold T. , Gaspar, Ca

Right atrial thrombus is very rare. Prognosis is poor regardless of intervention in those with severe pulmonary embolism. The researchers presented an unusual case of right atrial thrombus in a patient who was initially admitted for intracranial hemorrhage. A 54-year-old male, who had a one month history of exertional dyspnea, was admitted for slurring of speech and left sided weakness. His cranial CT scan revealed acute right thalamocapsular bleed. On his second hospital day, he had worsening of dyspnea with associated elevated jugular venous pressure and bilateral crackles on examination. Transthoracic 2D-echocardiography revealed right atrial mass measuring 3.0x1.8 cm protruding to the right ventricle during diastole, most probably myxoma. The patient and his family were apprised of the need for surgery and the risk of expansion of the intracerebral bleed. The patient underwent surgery under cardiopulmonary bypass. Upon opening of the right atrium, a mass attached to a right atrial band was found and both were excised. Histopathologic examination of the specimen revealed thrombus attached to a band of fibrotic tissue. One month after the operation, the patient had no recurrence of exertional dyspnea. Likewise, there was improvement in motor strength of upper and lower extremities. Thrombus could present as an intracardiac mass on echocardiography such as in this

patient. It may appear as an echodense mass attached to the endocardium. Intracardiac thrombosis occurs in conditions that promote hemostasis and in this patient's case, the right atrial band might have promoted its formation. Therapeutic alternatives for patients who have right atrial thrombus include systemic heparinization, systemic or local thrombolysis, and surgical removal. In this patient, the presence of intracranial bleed posed a challenge. After careful evaluation of the risks and benefits, the patient underwent surgery. Right atrial thrombus may be asymptomatic for a long time then present as severe pulmonary embolism or it may present unusually, as in the case of our patient, a separate problem from what he was initially admitted for. Therapeutic intervention should be tailored to individual patients, especially when there is risk for significant morbidity or mortality, such as in this case, expansion of the patient's intracranial bleed. (Authors' abstract)

Keywords: thrombosis, intracranial hemorrhage, congenital heart defect, case report, Medicine

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NP

0520

Risk Factors Associated with Repeat Radioactive Iodine Therapy for Differentiated Thyroid Cancer in a Tertiary Care Center in the Philippines: A Retrospective Cohort Study

Lagula-Bilocura, Imelda, Lim-Cuizon, Waynila

Thyroid carcinoma remains the most common endocrine malignancy and incidence has increased due to improved diagnosis. Most Differentiated Thyroid Cancers (DTC) are indolent and easily cured with surgery, radioactive iodine (RAI) therapy and TSH suppression. However, persistent and recurrent disease is not uncommon among Filipinos. RAI therapy is being used more frequently even for low risk patients due to this observed aggressiveness of DTC in our population. This study sought to identify factors that are associated with failure of initial RAI for DTC, leading to repeat doses. The study was a single-center, retrospective cohort study conducted in the Nuclear Medicine Department of a tertiary care center in the Philippines, involving 325 patients who underwent RAI from 2006-2016. Out of 570 patients who underwent RAI therapy for DTC, only 325 were included. Majority (n=280, 86%) had PTC and the rest had FTC (n=45, 14%). Twenty four percent (n=67) of the PTC group and 31% (n=14) of the FTC had subsequent RAI therapy after initial therapy due to either persistent or recurrent disease, with a mean interval of 21-22 months. Distant metastasis at presentation (M1), uptake in distant tissues on the initial post-therapy whole body scan (WBS) and TNM stage 4 were predictive for repeat RAI for FTC. A negative post-therapy WBS was found to be associated with no need for repeat RAI. On the other hand, the initial RAI dose of 150 mCi or higher was noted to be associated with repetition of RAI for PTC. Other risk factors noted were the presence of lymph nodes and distant metastasis at presentation and loco-regional uptake on the posttherapy WBS. Conversely, a negative post-treatment scan appeared to be protective against repeat RAI, as in FTC. However, multivariate analysis of risk factors showed that only metastasis at presentation (LN or distant) was associated with repeat RAI therapy. The only risk factor associated with failure of initial RAI for patients with PTC and FTC in this study was distant metastasis at presentation. Nodal involvement at presentation was noted to be a significant factor for among those with PTC. (Authors' abstract)

Keywords: papillary thyroid cancer, follicular thyroid cancer, recurrence, RAI, Medicine

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Risk Factors for Conjunctival Tube Erosion in Eyes Implanted with Ahmed® Glaucoma Valve in a Private Eye Institution in the Philippines

Leuenberger, Edgar U. , Veloso, Ma. Imelda Y. , Peregrino, Jovell

Objective: To identify the risk factors for conjunctival tube erosion (CTE) in eyes implanted with Ahmed® glaucoma valve (AGV) device.

Method: This is a retrospective study conducted at a private eye institution. Medical records of patients who underwent AGV implantation surgery from January 2004 to December 2013 were reviewed. Eyes with at least 24 months of follow-up and complete records were included. Several variables from the pre-, intra-, and postoperative periods were collected. The primary outcome was development of CTE after AGV surgery. Univariable logistic regression and multivariable analysis were employed.

Results: Forty-six (46) eyes of 45 patients were included in the study. The mean follow-up was 50.2 months (range: 24-140 months). Eight (8) eyes developed CTE (17.4%). Univariable logistic regression analysis identified female gender ($P=0.064$), presence of diabetes ($P=0.083$), prior intraocular surgeries ($P=0.09$), and postoperative use of antiglaucoma medications ($P=0.086$) to be marginally significant risk factors for CTE. On multivariable analysis, only female gender ($OR=15.4$, $P=0.033$) and diabetes ($OR=14.1$, $P=0.031$) were found to be significantly associated with CTE.

Conclusion: Risk factors for CTE following AGV implantation include female gender and presence of diabetes. (Authors' abstract)

Keywords: *conjunctival tube erosion, Ahmed® glaucoma valve, glaucoma drainage device, glaucoma, autologous scleral flap, Medicine*

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Risk Factors for Locoregional Metastasis, Distant Metastasis and Persistent Disease in Micropapillary Thyroid Cancer Among Filipinos

Santos, Kevin Carl , Labitag, Armand Rosaurus A., Aquino, Eduardo Thomas , Ramos, Marjor

Micropapillary Thyroid Cancer (MPTC) is defined as papillary thyroid cancer measuring less than one centimeter in size. Although there have been many studies involving MPTC, there is still a gap in the understanding of the behavior of MPTC in the Filipino population. This study aimed to determine risk factors and prevalence of locoregional and distant metastasis upon diagnosis and the risk factors for persistent disease

after thyroidectomy among patients with MPTC. This is a retrospective study that included all patients with histopathology result of MPTC from January 1, 2004 to December 31, 2012. Patients who had accompanying well differentiated thyroid tumors other than MPTC and those patients with a diagnosis of MPTC with no follow up after the surgery were excluded. A total of 109 patients were eligible for the study. The mean age was 46.06 years with majority being female (96.3%). The average tumor size was 0.502 cm. Seventy-five (68.81%) received Radioactive Iodine Therapy (RAI) after thyroidectomy. Nineteen patients (17.92%) had multifocal disease while 11 (10.09%) had multicentric disease. Fifteen patients (13.76%) had locoregional metastasis while eight (7.34%) had distant metastasis on diagnosis. Out of the 91 patients included for analysis of persistent disease, eight patients (8.79%) had persistent disease. Exact logistic regression showed that locoregional metastasis ($p=0.0044$) is a risk factor for distant metastasis at diagnosis. Age, sex, tumor size, multifocality, multicentricity, RAI, and extent of surgery did not reach statistical significance as independent risk factor for locoregional, distant metastasis on diagnosis, and persistent disease. Although MPTC is considered an indolent type of well differentiated thyroid cancer, there are certain patients who may present with metastasis at diagnosis. The data showed that locoregional metastasis is a risk factor for distant metastasis on diagnosis in patients having MPTC. (Authors' abstract)

Keywords: Risk Factors, Metastasis, Micropapillary Thyroid Cancer, Medicine

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0523

Risk factors for primary open-angle glaucoma in Filipinos

Lat-Luna, Ma. Margarita L. , Sta Romana, Antonina T. , Dorotheo, Edgardo U. , Khu, Patri

This study determined the risk factors for primary open-angle glaucoma (POAG) among Filipinos. This is a case-control study of POAG cases and controls recruited from the University of the Philippines-Philippine General Hospital (UP-PGH). All underwent a comprehensive eye examination consisting of best-corrected visual acuity, applanation tonometry, slitlamp biomicroscopy, gonioscopy, fundus evaluation, automated perimetry, optic-disc photography, and a standardized questionnaire interview of medical history and family history of glaucoma and other systemic diseases. Visual-field results and optic-disc photos were graded by 2 glaucoma experts as to the presence or absence of glaucomatous optic neuropathy. Risk factors studied were subjected to multiple logistic regression. A total of 365 participants (164 males, 201 females), mean age of 58.7 years, were subdivided into 193 controls (no glaucoma) and 172 POAG cases. The participants with glaucoma were older, had poorer visual acuity, larger optic cupping, and worse global indices in the visual field. Those 60 years and over had an increased risk of POAG. There was a threefold increased association with POAG for each unit decrease in visual acuity. Enlarged vertical cupping of the optic disc (0.7 or greater) showed 5 times increased risk of developing POAG. There was a 29% and 45% increased risk for POAG for every decibel increase in mean defect and pattern standard deviation respectively. Of the systemic diseases studied, including family history of major medical conditions, only family history of hypertension was strongly associated with POAG, with 2.5 odds of increased association with glaucoma. The causes of POAG are multiple and complex. Older age, poorer visual acuity, large vertical disc cupping, worse visual-field global indices, and family history of hypertension were associated with POAG in this study. (Authors' abstract)

Keywords: Primary open-angle glaucoma, Risk factors, Optic-disc cupping, Visual field, Visual acuity, Medicine

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RISK FACTORS IN DEVELOPING RETINOPATHY OF PREMATURITY IN A NEWBORN

Meollo, Arejenald U., Salas, Maris

I. OBJECTIVE: To identify the risk factors which predispose to retinopathy of prematurity.

II. DATA SOURCES: The population of this study consists of infants born premature admitted at the Neonatal Unit of a private tertiary institution. The medical records of 124 premature infants born from January 2011 to January 2013 were gathered. Presence of known and possible risk factors in developing Retinopathy of Prematurity (ROP) were evaluated using these medical records.

III. REVIEW METHOD: Data were analyzed using Stata version 10 software. Frequency tables were generated to show the distribution of prematures according to maternal obstetrical factors, neonatal factors, course of hospital stay and occurrence of ROP. To determine differences between those who developed and those who did not develop ROP, chi square test and Fishers exact test when applicable were utilized for qualitative variables and independent t-test for quantitative variables. Crude analysis was done to determine the association of selected factors independently with the development of ROP.

IV. RESULTS: Mothers had a mean age of 31 years. Majority had no pre-partum illnesses like preeclampsia, maternal pyrexia and PROM. Most delivered via caesarian section with preeclampsia as the most common indication. Majority of the preterms were 35-36 weeks AOG and weighed between 1500 to less than 2500 grams. Most had Apgar scores of 8 and 9 at 1 and 5 minutes of life, respectively. Almost equal distribution of males and females. Majority did not develop jaundice. The mean length of stay at the NICU was 19 days. For those needing oxygenation, it was given for 8 days on the average. Majority did not require mechanical ventilation. The maximum level of FiO₂ (100%) was used in 26% of cases. Out of 124 preterm neonates, 31 (25%) developed ROP. The mean age at detection was 30 days.

V. CONCLUSION: Maternal age was older, duration of PROM was longer, and the proportion of those delivered by caesarian section was higher among those who had ROP. Gestational age was earlier, birthweight was lower and 1-minute Apgar scores were also lower among those who developed ROP. NICU stay and duration of O₂ therapy was longer, level of FiO₂ was higher and a greater proportion placed on mechanical ventilation was seen among those who developed ROP. The final regression model for factors associated with the development of ROP showed birthweight and FiO₂ to be significantly associated with developing ROP. (Authors' abstract)

Keywords: prematurity, retinopathy of prematurity, risk factors, Medicine

Risk of visual loss in advanced glaucoma after trabeculectomy and combined cataract surgery

Sarol, Jesus N. , Florcruz, Nilo Vincent Dg. , Joaquin-Quino, Raquel M., Khu, Patricia M.

This study determined the risk of postoperative visual loss and the factors affecting the decrease in visual acuity in patients with advanced glaucoma who underwent trabeculectomy or combined cataract surgery. Charts of patients with advanced glaucoma who underwent trabeculectomy or combined cataract surgery were reviewed for the following parameters: visual acuity (VA), intraocular pressure (IOP), and visual-field indices of the Humphrey perimetry. Eyes that lost 2 or more Snellen lines or worsened one category two months after surgery were identified. Central vision was lost (wipeout) when best corrected VA was less than 20/200, characterized as a sudden, permanent, and unexplained visual loss within 2 months postoperatively. Analysis of variance (ANOVA) determined the differences between groups and logistic regression analyzed the factors affecting the decrease in visual acuity postoperatively. Ninety-eight eyes of 92 patients aged 18 years and older were included in the study. The incidence of postoperative visual loss 2 months after surgery was 20% (20/98), of which 3% (3/98) was considered "wipeout." Factors affecting the decrease in VA postoperatively include the presence of surgical complications ($p=0.04$) and increase in postoperative IOP at two months ($p=0.05$). The incidence of wipeout among patients with advanced glaucoma who underwent trabeculectomy or combined cataract surgery is low and generally occurs in patients with central-splitting fixation. Surgical complications play a major role in causing postoperative decrease in VA. (Authors' abstract)

Keywords: Wipeout, Snuffout, Advanced glaucoma, Postoperative visual loss, Medicine

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NP

Rituximab for Refractory Anemia and Thrombocytopenia in a Patient with Systemic Lupus Erythematosus

Recto, Rhona L. , Masbang, Armin , Cruz-Bermudez, Charito C.

Hematologic manifestations of Systemic Lupus Erythematosus (SLE) such as hemolytic anemia, leucopenia and thrombocytopenia are among the common causes of morbidity and hospitalization among patients. The study was a case report of a patient presenting with refractory cytopenias. The patient is a 42-year-old female, diagnosed with SLE, having met the Systemic Lupus Erythematosus International Collaboration Clinics Criteria for diagnosis Persistent serositis (pleural effusion and ascites) and worsening of anemia prompted treatment with oral corticosteroid (prednisone 1.0 mg per kg per day) which showed improvement of shortness of breath and pleural effusion. Cytopenias persisted despite increasing IV pulse steroid to 6.0 mkg prednisone then further to 13 mkg prednisone. Rituximab given as 1.0 g infusion once every two weeks for two doses which resulted to improvement of anemia, thrombocytopenia and serositis. In conclusion, hematologic manifestations might present as life threatening complications of lupus. Most cases were responsive to corticosteroid therapy, however, in a few refractory cases, less used conventional treatment such as rituximab, might provide significant response. (Authors' abstract)

Keywords: systemic lupus erythematosus, ANA, ritumixab, Medicine

The Role of Prophylactic Renin-angiotensin System Inhibitors for the Prevention of Anthracycline-induced Cardiotoxicity Among Adult Cancer Patients: A Meta-analysis

Punzalan, Felix Eduardo R. , Abrahan, IV, Lauro L. , Real, Irisyl O. , Sacdalan, Danielle Benedict L. , Velasquez, Jhoanna Rose H. , Mondragon, Karen Anj

Anthracycline is a cornerstone in the treatment of various cancers. One major limitation to its use is cardiotoxicity. Renin angiotensin system (RAS) inhibitors have been shown to attenuate myocardial injury, initial data is promising in its use as prophylaxis for anthracycline-induced cardiotoxicity. The aim of the study is to determine effectiveness of prophylactic RAS inhibitors in preventing anthracycline-induced cardiotoxicity and adverse cardiac events among adult cancer patients. Systematic search of databases PUBMED, MEDLINE, EMBASE, and CENTRAL was done. Selection criteria were: 1) randomized controlled trials (RCT) 2) adult cancer patients with normal ejection fraction and without heart failure symptoms 3) RAS inhibitors as prophylaxis versus placebo 4) development of cardiac events, all-cause mortality and left ventricular ejection fraction (LVEF) reduction as outcomes. Two reviewers independently assessed the trials. Disagreements were resolved with a third reviewer. Test for effect of intervention, heterogeneity, trial quality and risk of bias were assessed using the Cochrane Review Manager Software version 5.3.

Five RCTs involving 530 adult patients, with average age of $50 \pm$ two years old, and average follow-up from six months to three years were included. Combined clinical outcomes of heart failure, cardiac events and all-cause mortality showed an RR of 0.27[95%CI 0.18, 0.40], $p < 0.00001$, in favor of RAS inhibitors. There is same benefit in LVEF preservation with mean difference of 4.37%[95%CI 1.20, 7.55; $p = 0.007$]. Exploratory subgroup analysis showed significant benefit in LVEF preservation with combined RAS inhibitor and beta-blocker, with mean difference of 2.45%[95%CI 1.27, 3.63]. There is overall significant heterogeneity ($I^2 = 95\%$). Excluding one article with high-risk population, after sensitivity analysis, showed same benefit but reduced heterogeneity. Renin angiotensin system (RAS) inhibitors may be used as prophylaxis for cardiotoxicity. As prophylaxis, it reduced the clinical outcome of cardiac events, heart failure, and all-cause mortality among cancer patients needing anthracycline. Combined RAS inhibitor and betablocker limits LVEF reduction. (Authors' abstract)

Keywords: renin-angiotensin system, anthracyclin-induced cardiotoxicity, Medicine

Rosacea

Dy Liacco, Jacinto U. , Jacob, Ka

Objective

To report an interesting case of rosacea in a 16-year-old Filipino female.

Methods

This is a case report.

Results

A 16-year-old Filipino female consulted for recurrent bilateral eye and facial redness. Ocular findings included swollen lids, matting of the lashes, lid-margin erythema and crusting, blocked meibomian glands, diffuse papillary conjunctival reaction, extensive corneal scar with peripheral neovascularization involving the inferior two-thirds of the cornea in both eyes. Skin lesions included papules and pustules on the forehead, cheek, and chin, and bulbous characteristic of the nose. Incision biopsy on the left cheek revealed histopathologic findings consistent with rosacea. Treatment included doxycycline 100 mg BID, metronidazole 0.75% gel applied to the face twice daily, and tobramycin + dexamethasone lid scrub HS.

Conclusion

Increased awareness of cutaneous lesions associated with ocular findings leads to earlier diagnosis and treatment of rosacea and prevents permanent eye impairment. (Authors' abstract)

Keywords: Rosacea, Skin disease, Meibomian-gland dysfunction, Keratitis, Medicine

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0529

Safety and Effectiveness of Insulin Lispro Mix 25/75 Among Filipino Patients with Type 1 or Type 2 Diabetes Mellitus: A Post-Marketing Surveillance Study

Chen, Steve C , Edralin, Diana M. , Chen, Yun , Cruz, Cecille , Roa, Ma

Diabetes mellitus (DM) is a major cause of morbidity and mortality in the Philippines. Improvement in hemoglobin A1c (HbA1c) remains below recommended targets for Filipino patients. Safe and effective therapies are needed for this population. The study was conducted to investigate treatment-emergent adverse events (TEAEs) and change in HbA1c among Filipino patients with DM treated with insulin lispro mix 25/75 in a real-world setting. This was a prospective, non-interventional, post-marketing surveillance study among 459 Filipinos aged 18 years or older with type 1 or 2 DM. Patients were treated with insulin lispro mix 25/75 according to the approved label, as prescribed by the investigators, and observed for 12 weeks. Occurrence of all TEAEs and change in HbA1c from baseline to final visit were reported. Mean (SD) treatment duration was 12.93 (5.7) weeks, and mean total daily dose was 0.62 (0.29) units/kg. Eighteen patients (3.9%) experienced 23 TEAEs, the majority of which were mild. None were reported to be related to treatment. No serious TEAEs or hypoglycemic episodes were reported. Mean (95% confidence interval) HbA1c was significantly reduced by -2.03% (-2.19%, -1.87%), and 36.3% of patients achieved HbA1c <7.0% at 12 weeks. In this observational study, no treatment-related safety signals using insulin lispro mix 25/75 were detected among Filipino diabetic patients. HbA1c was significantly reduced in Filipino patients with DM at 12 weeks.(Authors abstract)

Keywords: diabetes mellitus, insulin lispro, Philippines, post-marketing product surveillance, Medicine

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0530

Safety and Efficacy of Cefpirome Among Filipino Patients

Benedicto, Jub

Infectious diseases remain a significant cause of morbidity and mortality. Cefpirome, a fourth generation Cephalosporin, is a potent antibiotic against a wide variety of organisms that may be used alone or in combination with other antimicrobials to combat various infections. This is a post-marketing surveillance study documenting the safety and efficacy of cefpirome among Filipino patients. The study was a multicenter, open-label, noncomparative study involving 402 patients who received at least one dose of cefpirome. Safety and efficacy data were gathered. Cefpirome was used as monotherapy in majority of the cases. Pneumonia (76%) was the most frequent indication for the use of this drug. The most commonly utilized dosage regimen was 2.0 grams every 12 hours for a mean of 4.2 days. This was associated with a successful clinical outcome in almost 90% of cases. There was almost negligible side effect reported. The use of cefpirome was shown to be safe and well-tolerated with associated successful clinical outcomes among Filipino patients.(Authors' abstract)

Keywords: cefpirome, efficacy, Filipino, Medicine

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0531

Safety and efficacy of intracameral triamcinolone in postcataract inflammation

Coronel, Ma. Catherina G., Co, George

Objective

To evaluate the efficacy and safety of intracameral triamcinolone on postcataract surgery inflammation compared with topical 1% prednisolone acetate.

Methods

Eighteen eyes of 18 patients underwent phacoemulsification with intraocular-lens implantation. They were randomly assigned to 2 treatment groups: the control group received 1% prednisolone acetate postoperatively for 1 month; the triamcinolone group received 0.4 mg in 0.1 ml solution of triamcinolone acetate intraoperatively. Main outcome measures were anterior-chamber (AC) cells, conjunctival hyperemia, corneal edema, and intraocular pressure (IOP).

Results

Significant difference in preoperative and postoperative AC cells in both the control ($p < 0.001$) and triamcinolone ($p = 0.001$) groups was seen, but no difference postoperatively between the 2 groups (0.98 vs. 0.94 respectively). No difference in postoperative conjunctival hyperemia or increase in IOP was seen in both groups. Snow-globe effect and pseudohypopyon were transiently observed in the triamcinolone group.

Conclusion

Intracameral triamcinolone is a safe alternative to topical 1% prednisolone acetate in controlling postoperative inflammation. (Authors' abstract)

Keywords: *Triamcinolone, Postoperative inflammation, Intracameral, Cataract surgery, Steroids, Medicine*

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0532

Safety and Efficacy of the Fixed-dose Combination Of Glimepiride-Metformin in Treating Type II Diabetes Mellitus (GLMET_L_05632): A Real World Experience

Perez, III, Marcos , Oliva, Raymond V. , Panelo, A

Diabetes in the Philippines is a major and growing health issue. From its prevalence of 2.8 million in 2000, it was projected by the World Health Organization to reach 7.8 million by 2030. Glimepiride has been found to be effective and well-tolerated, as monotherapy and in combination with metformin, in managing glycemic levels among type II diabetes mellitus (T2DM) patients. This study aimed to assess the safety and efficacy of a sustained release (SR) fixed-dose combination (FDC) preparation of glimepiride and metformin in the treatment of Filipino patients with T2DM. This open-label, observational, multicenter, post-marketing study, conducted from April 2012 to December 2013, included 20 to 75-year-old patients with T2DM, presenting with 7% to 11% HbA1c or 110-250 mg/dL fasting blood sugar, insulin-naïve, and in consideration for management with a glimepiride-metformin FDC. Baseline data were collected. Patients were prescribed with glimepiride-metformin FDC SR 2/500 mg/tab for a six-month treatment period. Follow-up data were collected on the third and the sixth month of treatment. Patients who missed one follow-up were included in population for safety analysis. Patients who completed both follow-up schedules make up the per-protocol population for efficacy analysis. Adverse events (AEs) were reported in frequencies and percentages. Repeated measures analysis of variance (ANOVA) was used for efficacy analysis on HbA1c and FBG data. From 1,052 enrollees, 795 patients had sufficiently filled data forms and attended at least one follow-up schedule; this is the population whose data was analyzed for this study. Fifty-nine AEs were reported; only 21 incidents of hypoglycemia were assessed to be definitely, probably, or possibly related to the study drug. Repeated measure ANOVA showed that the mean \pm SD HbA1c at month three ($7.15 \pm 1.22\%$) and month six ($6.80 \pm 1.17\%$) were significantly lower than baseline ($8.67 \pm 1.10\%$). The mean \pm SD FBG at month three (133.20 ± 35.46 mg/dL) and month six (122.47 ± 29.34 mg/dL) were also significantly lower than baseline (176.85 ± 41.24 mg/dL). The differences in HbA1c and FBG changes between those with concomitant OAD and those without were non-significant. Fixed-dose combination of glimepiridemetformin is a drug with a tolerable profile and favorable benefits in treating patients with T2DM. (Authors' abstract)

Keywords: *glimepiride, metformin, diabetes, Medicine*

Safety and Immunogenicity of Purified Vero Cell Rabies Vaccine Versus Purified Chick Embryo Cell Rabies Vaccine Using Pre-Exposure and Post Exposure Regimen Among Healthy Volunteers in San Lazaro Hospital

Manalo, Minda A. , Suquila, Jason T. , Lacuesta, Talitha Lea V. , Miranda, Edna A., Dimaano, Efren M

This is a prospective, randomized open-labeled clinical study to demonstrate the safety and immunogenicity of Purified Vero Cell Rabies Vaccine (PVRV) Freeze-Dried using pre-exposure and post-exposure regimen utilizing Modified Thai Red Cross schedule (Modified TRC) in comparison with Purified Chick Embryo Cell (PCEC) Rabies Vaccine among healthy volunteers in San Lazaro Hospital. A total of 189 healthy Filipino volunteers were randomized into three groups: Group A received PVRV 0.1 ml intradermally (ID) using the pre-exposure regimen (Day 0, 7, 28). Group B and Group C were given PVRV 0.1 ml ID and PCEC 0.1 ml ID, respectively, using the Modified TRC on days 0, 3, 7 and 30. The statistical tables and graphs were generated using Microsoft Excel 2010. SPSS version 13 for Windows was used for descriptive statistics (geometric mean, arithmetic mean, standard deviation and percentages) and inferential statistics (X^2 test, one-way ANOVA and two-way mixed factorial ANOVA). The results revealed that the percentage seroconversion of both PRVR and PCEC post-exposure groups in this clinical study were 100% on days 14 and 90. The PRVR pre-exposure group achieved 96% seroconversion on Day 28 with Geometric Mean titers (GMT) of 1.96 IU/ml (95% CI: 1.45 - 2.65), which is comparable to other similar studies on pre-exposure rabies vaccination. There was no overall difference in all three groups for the whole duration of the study ($p = 1.000$). The geometric mean titers (GMT) for post-exposure PRVR and PCEC groups on days 14, 30 and 90 were all above 0.5 IU/ml. There was no significant difference between these two post-exposure groups ($p = 0.052$). The proportion of the subjects in the three groups who experienced local (pain and tenderness at the injection sites, erythema and itching) or systemic reactions (low grade fever, dizziness and headache) during follow-up period were not significantly different ($p = 0.134$). There were no serious adverse events (SAEs) reported during the follow-up period. The Asian manufactured PVRV is safe, tolerable, immunogenic and comparable with PCEC and therefore, the Asian manufactured PVRV can be an economical alternative for rabies post-exposure treatment using the modified TRC regimen and for pre-exposure prophylaxis. (Authors' abstract)

Keywords: Speeda, Rabipur, rabies, vaccine, PVRV, PCEC, safety, immunogenicity, Modified Thai Red Cross, clinical study, San Lazaro Hospital, Medicine

Safety and Tolerability Assessment of Insulin Glulisine as Part of an Insulin Regimen in the Management of Filipino Diabetics

Oliva, Raymond V. , Pastor, Pauline Joy A. , Lelis, Marievi A. , Chua, Maria Pamela S. , Panelo, Arac

Insulin glulisine is a new rapid-acting insulin analogue. Currently, few data are available on its safety and tolerability among patients in the Asia-Pacific region. The study was conducted to assess the safety and tolerability of insulin glulisine as part of an insulin treatment regimen in Filipinos with diabetes. It also aimed to compare the change in glycosylated hemoglobin (HbA1c), fasting blood glucose (FBG) and post-prandial blood glucose (PPBG) levels at baseline and after three and six months on an insulin treatment regimen with insulin glulisine; and to measure patients' level of satisfaction in using the Insulin glulisine pen. This was a multicenter, observational, post-marketing surveillance study of adult patients (18 to <75 years old) with type 1 or type 2 diabetes mellitus who were prescribed with insulin glulisine as part of their diabetes treatment regimen, and signed a data release consent form. Patients who were pregnant and had known allergy to insulin glulisine and any of its excipients were excluded. Patients were followed up for treatment duration of six months inclusive of a baseline visit and two follow up evaluations falling at third month and sixth months of treatment. The incidence of hypoglycemia and other adverse events was determined. Changes in baseline levels of HbA1c, FBG and PPBG were measured during follow-up visits at third and sixth months. Patient satisfaction with the Insulin glulisine pen was quantified using a five-point scale questionnaire. Among 1,805 patients included, 132 (7.31%) experienced hypoglycemia. The overall incidence of adverse events other than hypoglycemia was 0.78%. There was a significant reduction in baseline levels of HbA1c, FBG and PPBG during the follow-up visits at third and sixth months (all $p < 0.0001$). Patient satisfaction with using the pen was good to excellent. This post-marketing surveillance study demonstrates the safety and tolerability of insulin glulisine when used as part of an insulin regimen in an actual clinical setting for the management of diabetes among Filipino patients. Insulin glulisine as part of a diabetes treatment regimen was effective in improving glycemic parameters. The glulisine pen was also well tolerated and accepted by patients. Trial Registration Number: APIDR_L_03772. (Authors' abstract)

Keywords: *insulin glulisine, diabetes mellitus, safety, hypoglycemia, Medicine*

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NP

0535

Safety Culture and Safety Attitudes of Nurses in the National University Hospital *Pajarillo, Edmund J. Y. , Paguio, Jenni*

Purpose: Patient safety issues pose a great burden worldwide. However, there is still inadequate data on the burden of Patient Safety issues in the Philippines to specifically address institutional and national concerns through directed programs, policies, and interventions. This current study aims to describe the safety culture and attitudes of nurses of the National University Hospital in Manila, Philippines.

Design: This study used a non-experimental design that assessed the safety culture and safety attitudes of nurses from the general units of the National University Hospital (NUH) using two assessment tools: the Agency for Healthcare Research and Quality Hospital Survey on Patient Safety Culture (AHRQ-HSOPS) and the Safety Attitudes Questionnaire- Short Form (SAQ). Ethical approval was granted from both the university and the hospital ethics review boards.

Methods: Stratified random sampling was used to ensure representation of staff nurses and nurse administrators. A self-administered survey that included the two tools was translated to Filipino and administered to 200 nurses. Percent of positive responses were obtained to describe the safety culture and attitudes as prescribed by toolkits of AHRQ-HSOPS and SAQ.

Findings:The overall survey response rate yielded 86.77%. Nurses from the National University Hospital displayed both positive Safety Culture and Safety Attitudes based on AHRQ-HSOPS and SAQ. Dimensions that garnered the highest positive perceptions in Safety Culture were Organizational Learning and Teamwork while the lowest were Hospital Handoffs and Non-Punitive Response to Error. On the other hand, dimensions on Safety Awareness that received the highest positive perceptions were Teamwork and Safety Climate while the lowest was Stress Recognition. Perceptions of nurses also varied significantly across ranks in position titles and work settings.

Conclusions: There are identifiable dimensions that can be improved in both Safety Culture and Safety Attitude that can have a positive impact on nurses and potentially impact nurse-patient and hospital-sensitive outcomes through hospital-wide improvement programs. (Authors' abstract)

Keywords: *patient safety, safety culture, safety attitudes, nurses, work environment, job satisfaction, stress recognition, Philippines, Medicine*

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0536

Safety of Fluticasone Furoate Nasal Spray Among Filipino Patients with Allergic Rhinitis: A Post-Marketing Surveillance Study

Barangan, Giovell P. , Chua, Sheila C. , Javier, Josel

Allergic rhinitis (AR) is a highly prevalent chronic disease affecting up to 30% of the population worldwide. Although AR is not life-threatening, it greatly impacts patients' health-related quality of life and furthermore, if left untreated, it may be complicated by other respiratory co-morbidities. Intranasal corticosteroids are one of the several classes of medications recommended to manage AR. Fluticasone furoate nasal spray is a novel enhanced affinity glucocorticoid for the management of AR. This study assessed the safety profile of Fluticasone furoate nasal spray in the treatment of Filipino patients with AR. This is a multicenter, prospective, post-marketing surveillance study aimed at documenting adverse events, their frequency and severity as assessed by the investigators among Filipino patients with AR administered with Fluticasone furoate nasal spray from August 2010 to January 2013. Four hundred thirty-nine (439) patients were enrolled in the study. Among these, 421 patients were included in the safety analysis population. Eighteen patients were excluded from the safety analysis population due to protocol violation and lack of post-baseline safety assessment. Of the total eligible population, 10 patients (2.4%) experienced adverse events (AEs) with a total of 10 and no serious adverse events (SAEs) were reported. Eight of these 10 AEs resolved while two AEs had unknown outcome. One patient (0.2%) experienced an AE suspected to be related to study medication. The most common AE occurring in eight patients was respiratory-related which were nasal dryness (3 events), rhinorrhea (2 events), epistaxis (1 event), nasal discomfort (1 event) and rhinalgia (1 event). Fluticasone furoate nasal spray, among indicated patients with AR showed AEs which approximate AE of other similar post-marketing studies with incidence of less than 1% for each event. Neither SAEs nor drug-related deaths were reported throughout the study. (Authors' abstract)

Keywords: *fluticasone furoate nasal spray, allergic rhinitis, filipino, Medicine*

Safety of Intracameral Moxifloxacin/ Dexamethasone Fixed-Dose Formulation on the Corneal Endothelium in a Rabbit Model

Vicencio, Jay Marianito , Lim Bon Siong, Ruben , Tumbocon, Joseph Anthony , Tan, Reginald

Objective: To determine the safety of intracamerally injected preservative-free 0.5% moxifloxacin/0.1% dexamethasone fixed-dose combination on the corneal endothelium in a rabbit model and compare it to intracamerally injected preservative-free 0.5% moxifloxacin.

Methods: This experimental study included twenty eyes from ten albino rabbits. The eyes were assessed for baseline corneal clarity and anterior chamber (AC) inflammation using slit-lamp biomicroscopy. A specular microscope measured the corneal endothelial cell density (ECC) and corneal thickness (CT). Intracameral injections of 0.1 mL 0.5% moxifloxacin ophthalmic solution were administered to the 10 right eyes (IPFM group) and 0.1 mL of 0.5% moxifloxacin/0.1% dexamethasone fixed-dose preparation were administered to the 10 left eyes (IPFMDex group). In both groups, ECC, CT, corneal clarity, and AC inflammation at Day 1 (one day post-injection) and Day 7 (seven days post-injection) were compared with Day 0 (baseline). The IPFMDex group was also compared with the IPFM group at Days 0, 1, and 7. The endothelial cells of harvested corneas from both groups at Day 1 and 7 were stained with trypan blue and alizarin red, and compared for endothelial cell damage (ECD). Data were analyzed using paired and independent sample t-tests.

Results: In both the IPFM and IPFMDex groups, ECC and CT at Day 1 (IPFM: ECC $p=0.07$, CT $p=0.76$; IPFMDex: ECC $p=0.41$, CT $p=0.94$) and Day 7 (IPFM: ECC $p=0.95$, CT $p=0.28$; IPFMDex: ECC $p=0.29$, CT $p=0.34$) were not different from Day 0 (baseline). No significant difference in ECC, CT, and ECD were found between the IPFM and IPFMDex groups at Day 1 (ECC $p=0.82$, CT $p=0.36$, ECD $p=0.96$) and Day 7 (ECC $p=0.95$, CT $p=0.22$, ECD $p=0.61$). Throughout the study, the cornea in both groups were clear and showed no signs of AC inflammation.

Conclusion: Intracameral injection of preservative-free moxifloxacin/dexamethasone fixed-dose formulation was safe on the rabbit corneal endothelium and was no different from preservative-free moxifloxacin. (Authors' abstract)

Keywords: *intracameral, moxifloxacin, dexamethasone, corneal endothelium, endothelial cell count, corneal thickness, Medicine*

Safety of intravitreal linezolid injection: electroretinographic and histopathologic studies in rabbits

Paredes, Ian P. , Antipolo, Arvin Ro

This study evaluated the safety of linezolid as an alternative intravitreal drug for the treatment of bacterial endophthalmitis. Eight albino rabbits were divided randomly into 2 equal groups: the right eyes were injected intravitreally with linezolid (100 mcg/0.10mL in Group 1 and 200 mcg/0.10mL in Group 2) and the left eyes were injected with 0.10mL balanced salt solution. Indirect ophthalmoscopy before and after intravitreal injections determined the presence of any precipitates in the vitreous. Electroretinography (ERG) and histopathology evaluated the effects in the retina. No vitreous precipitates were found in all groups. Scotopic ERG showed a decrease in b-wave amplitude ($p < 0.05$) in Group 2 between 3 hours and 2 days and between 3 hours and 7 days after injection. Histopathology showed minimal inflammatory cells (<3 cells/hpf) in Group 2 and controls, trace vacuolizations in the ganglion-cell layer and partial loss of photoreceptor outer segment in Group 1 and in controls, and minimal decrease in the outer-nuclearcell density in all groups. Intravitreal injection of up to 200 mcg linezolid is safe and well tolerated in rabbit eyes and may be used in the treatment of human bacterial endophthalmitis following further studies. (Authors' abstract)

Keywords: Endophthalmitis, Intravitreal drug, Linezolid, Electroretinography, Retinal toxicity, Medicine

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Screening for Diabetes Mellitus in Patients Diagnosed with Pulmonary Tuberculosis

Perez, Violeta M. , Benedicto, Jubert P. , Benedicto, Ma. Teresa Julieta U. , Pablo-Villamor, Maria Ph

The epidemic of diabetes mellitus (DM) poses a threat for global tuberculosis (TB) control. This study attempted to assess the value of screening for diabetes in patients with pulmonary tuberculosis and reviewed the disease burden, clinical and radiographic manifestations, rates of sputum smear positivity and time to conversion, treatment outcomes and fatality rates, in the local setting. This is a prospective observational cohort study involving adults diagnosed with pulmonary tuberculosis at the PTSI TB DOTS out-patient clinic, regardless of sputum-smear status, from July 2011-November 2012. A diabetes screening tool was used and patients were screened for presence of DM. Treatment outcomes were also determined. Of the 38 patients enrolled, seven (18.4%, 95% confidence interval 7.7-34.3) were diagnosed with DM. This is higher than the estimated 12.9% in 2010 and 14.4% projected estimate in 2030 in our country by a report of WHO as well as in reported prevalence of DM among patients with PTB in large studies done in China (12.4%) and India (13%). There was no significant difference noted in the basic profile, clinical and radiographic presentation, sputum conversion and treatment outcomes among patients with DM and without DM who were being treated for PTB. This study demonstrated the value and feasibility of screening for DM among patients with PTB. Although the findings of this study are consistent with most of previous similar studies, the estimate on the true prevalence of DM may not be very accurate because of the small sample size. Hence, a multi-center study with a larger sample size must be conducted to more accurately measure the true prevalence of DM among patients with TB and to determine associations of various clinical and radiographic presentations and clinical outcomes. (Authors' abstract)

Keywords: diabetes mellitus, pulmonary tuberculosis, screening, Medicine

Second-Line Treatment of Filipino Patients With Rheumatoid Arthritis Included in the Rheumatoid Arthritis Database and Registry (RADAR) of the Philippine General Hospital From 1996-2010 A 2011 Preliminary Report
Penserga, Ester G. , Lladoc-Natividad, Therese Eil

Treatment of rheumatoid arthritis (RA) has evolved over the past 20 years, aiming at remission with the use of disease modifying drugs (DMARDs) and recently with biologic agents. Treatment of Filipino patients with RA has so far, not been described in literature. The University of the Philippines-Philippine General Hospital (UP-PGH) Rheumatology Section established the rheumatoid arthritis database and registry (RADAR) to better understand RA as it affects the Filipino patient. The study was done to describe the treatment received by a cohort of Filipino patients with RA seen in the UP-PGH and entered in the RADAR over three time periods from 1996 to 2000. This is a review of data on treatment of all cases entered into the RADAR diagnosed with rheumatoid arthritis by the 1987 ACR Criteria, between 1996 to 2010. Cases were grouped into three five-year periods: 1996-2000 (Period 1), 2001-2005 (Period 2), and 2006-2010 (Period 3) based on initial prescription of the drugs. DMARDs given were listed and trend in the rate of use was extracted. These were then compared across the three time periods. Descriptive statistics using ratios and proportions was employed on the data. Two-hundred-twenty-four (224) cases were entered into the RADAR at the time of this study and all received DMARDs. Methotrexate (MTX) was the most common DMARD used (89%). Of these, 75% were on MTX monotherapy. Hydroxychloroquine was given in 25%, with 11% on HCQ monotherapy. Combination treatment with MTX and HCQ was used in 14% of cases. There was an increasing rate of MTX use across Periods 1-3 (87%, 89% and 90%, respectively). On the other hand, a decreasing rate in the use of HCQ was noted (43% in Period 1, 24% in Period 2, and 21% in Period 3). Only 9% of patients received biologic agents in combination with MTX. This study reported the use of DMARDs in a cohort of patients entered in the UP-PGH RADAR. Methotrexate monotherapy was the most common treatment used, and this increase continued over the three observation time periods. Hydroxychloroquin was used in one fourth of patients, and its use declined over the three time periods. Biologic DMARDS was rarely used, and when given, it was combined with MTX. (Authors' abstract)

Keywords: *disease modifying antirheumatic drugs (DMARDs), synthetic DMARDs, biologic DMARDs, rheumatoid arthritis, Medicine*

Serial endothelial-cell-density and corneal-thickness measurements in corneas preserved in Optisol GS

Concepcion, Ma. Elizabeth T. , Sibayan, Santiago Antonio B. , Martires, Melville M., Padilla, Ma. Dominga

Objective

This study determined the daily rate of change of endothelial-cell density (ECD) and corneal thickness (CT) in donor eyes stored in Optisol GS corneal storage medium. Correlation between ECD and CT was also determined.

Methods

Twenty-eight corneas from 15 donors (mean age, 38 ± 13.78 years; range, 4 to 78 years) were harvested and preserved in Optisol GS. The corneas were serially examined for ECD and CT using a Konan keratoanalyzer. Readings were performed upon harvest and then daily on the first to fourth postharvest days. Statistical analyses included student's t-test and Pearson's correlation.

Results

There were no statistically significant changes in ECD compared with baseline (all p values > 0.05) up to the fourth postharvest day. There were statistically significant decreases in CT in all readings compared with baseline (all p values < 0.05). There was a weak negative relationship between CT and ECD ($r = -0.15$).

Conclusions

ECD appeared to be stable in donor corneas stored for up to 4 days in Optisol GS. The corneas also became significantly thinner. Definite correlation between CT and ECD could not be established. (Authors' abstract)

Keywords: *Optisol GS, Corneal endothelial-cell density, Corneal thickness, Medicine*

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0542

Serotype Distribution and Antimicrobial Resistance of *Streptococcus pneumoniae* in the Philippines, 2004-2011

Masim, Melissa , Sepulveda, Ma. Theresa , Ealdama, Joselle , Lagrada, Marietta , Hufano, Ma. Charmian , Carlos, Celia , Sia,

Objective. Scarcity of data on the serotype composition and antibiotic resistance of invasive pneumococci from developing countries has been noted.¹³ We describe in this study the serogroup distribution and antimicrobial resistance patterns of *Streptococcus pneumoniae* in the Philippines from 2004-2011.

Methodology. *S. pneumoniae* isolated from patients with invasive pneumococcal disease (IPD) were referred to the Antimicrobial Resistance Surveillance Reference Laboratory from 2004 to 2011. Typing of isolates was done through slide agglutination and antimicrobial susceptibility was determined following CLSI methods.

Results. The penicillin-resistant meningitis isolates were of serotypes 1, 5 and 14 which are covered by PCV10 and 13. The erythromycin resistant isolates were serotype 9 while cotrimoxazole resistant isolates were serotypes 1, 5, 6, 12 and 14. Forty-one percent of the cotrimoxazole resistant isolates are covered by PCV7, and 88% are covered by both PCV10 and PCV13. Levofloxacin resistant isolates were of serotypes 5 and 23 with PCV7 coverage of 50% and PCV10 and PCV13 coverages of 100%.

Conclusions. *S. pneumoniae* serotypes causing IPD in the country is largely similar to the dominant IPD serotypes worldwide. The serotype distribution in the Philippines remained stable from 2004 to 2011 and antimicrobial resistance among the isolates remained low. The serotypes of antibiotic resistant *S. pneumoniae* in this study were not similar with known serotype resistance profiles in other Asian countries. With the

inclusion of PCV in the free national immunization program of the country beginning 2013, continued surveillance of prevailing pneumococcal serotypes should be done to monitor any shift in the prevalence of PCV associated serotypes to guide disease control measures including control of emergence of resistant pneumococcal isolates. (Authors' abstract)

Keywords: Streptococcus pneumoniae, antimicrobial resistance, serotype, ARSP, Medicine

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0543

Serpiginous choroidopathy

Fortuna, Egidio Jose , Atienza, Jr., Narciso , Bijasa, Andrew , Corpus, Kr

Objective

To describe a case of serpiginous choroidopathy.

Methods

This is a case report.

Results

A 61-year-old female with a 22-year history of gradual blurring of vision in the left eye sought consultation. Ten months prior, her left vision worsened, described as central scotoma that progressed inferiorly. Best-corrected vision was 20/20 (right) and counting fingers at 1 foot (left). Inferior hemifield scotoma was documented on Amsler grid testing of the left eye. Anteriorsegment findings were unremarkable. Retinal examination through a clear media revealed multiple contiguous hypopigmented patches radiating from the peripapillary area extending to the periphery in both eyes with extension to the superior fovea on the left. Fluorescein angiogram showed progressive faint hypofluorescence of the hypopigmented patches in both eyes with involvement of the superior fovea on the left. No active vessel leakage was noted. No treatment was given and regular Amsler monitoring was advised. Follow-up 3 and 6 months after revealed stable visual acuity and fluorescein angiogram (FA) findings.

Conclusions

This is a case of serpiginous choroidopathy with inactive pattern. There was unilateral decrease in central vision, scotoma, and retinal pigment epithelial atrophy in a serpentine pattern originating from the disc with macular involvement in one eye. FA aids in the diagnosis and monitoring of inflammatory activity as the presence of active leakage on the borders. Goals of management include monitoring, prevention of recurrences and progression, and rapid control of sequela with potential use of immunosuppressive therapy. (Authors' abstract)

Keywords: *Serpiginous choroidopathy, Serpiginous choroiditis, Geographic peripapillary choroidopathy, White-dot syndromes, Uveitis, Medicine*

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0544

Short Wavelength Automated Perimetry and Peripapillary Retinal Nerve Fiber Layer in Early Diabetes

Corpus, Kristine D. , Tumbocon, Joseph Anthony J. , Aguilar, Romulo N. , Tamesis-Villalon, Pearl M. , Angbue Te, Nikki Dor

Objective: To investigate the significance of short wavelength automated perimetry (SWAP) in detecting retinal functional impairment in early diabetic patients without retinopathy and with mild non-proliferative diabetic retinopathy (NPDR).

Materials and Methods: This is a prospective, cross-sectional study of 37 eyes of early diabetics which were divided into 2 groups: no DR with 18 subjects and mild NPDR with 19. All subjects underwent HBA1C, SWAP, peripapillary RNFL thickness measurement and fundus photo. Visual field indices: MD and PSD as well as average RNFL thickness were compared among the 2 groups. Correlation of MD with RNFL thickness and HBA1C were also analyzed.

Results: There was no statistically significant difference in the MD (-4.46 ± 3.03 vs -2.94 ± 2.21 ; $p=0.09$), PSD (3.08 ± 1.28 vs 2.69 ± 0.47 ; $p=0.23$) and average peripapillary RNFL thickness (98.47 ± 6.89 vs 98.72 ± 11.01 ; $p=0.93$) among early diabetics with mild NPDR and no signs of DR. There is no correlation between MD and RNFL thickness in the no DR group ($R^2 = 0.017$) and the mild DR group ($R^2 = 0.000$). There was a weak correlation between MD and HBA1C in the no DR group ($R^2 = 0.137$), while no correlation was seen in the mild NPDR group ($R^2 = 0.000$).

Conclusion: SWAP does not appear to be a sensitive measure of worsening retinopathy in older individuals with early diabetes. The usefulness of SWAP and peripapillary RNFL thickness in the early stages of retinopathy are inconclusive. (Authors' abstract)

Keywords: *SWAP, perimetry, RNFL, diabetes, retinopathy, sensitivity, Medicine*

Silicone-oil removal using a 20-gauge infusion cannula *Uy, Har*

The study described a new technique using a self-retaining, easily available, 20-gauge infusion cannula to passively drain silicone oil in 10 consecutive phakic or pseudophakic eyes. This is a report of 10 cases of phakic or pseudophakic eyes that underwent removal of low-viscosity silicone oil. The mean duration of surgery was 29.6 ± 4.9 minutes (range, 24 to 35). Postoperative silicone-oil-related floaters were reported by 4 of 10 (40%) patients. No significant complications were observed. The mean follow-up duration was 12.0 ± 5.7 months (range, 6 to 23). Low-viscosity silicone oil can be easily, efficiently, and safely removed using this inexpensive technique. (Authors' abstract)

Keywords: Silicone oil, Cannula, Phakic eyes, Pseudophakic eyes, Surgery, Medicine

A Simplified Xeroscope for the Noninvasive Measurement of Tear Break-up Time *Tinio, Bernard Gil O. , Gaw, Dar*

Objective: To develop and validate a noninvasive method for measuring tear break-up time (NIBUT) using readily available materials and comparing it to the standard fluorescein tear break-up time (TBUT) assessment.

Methods: A prototype xeroscope was made from an ordinary round plastic lid. At its inner lining, a fluorescent green sticker paper printed with black circular concentric grid pattern was fixed to simulate modified placido rings on the precorneal reflection. A central rectangular cut-out measuring 2 cm x 1 cm was made into the base frame serving as the viewfinder for the device through which the precorneal grid reflection was observed. A 30-LED blue light strip was fixed in the inner rim of the lid using a double-sided adhesive tape and was powered by a multivoltage AC-DC power adapter set at 6-volts at 350mA (2 watts). The prototype device was tested on fifty (50) patients (100 eyes), aged 21 to 65 years old, with no apparent ocular surface disorders and eyelid abnormalities. Measurement of NIBUT was done on both eyes using the prototype xeroscope followed by fluorescein TBUT measurement. The two values were compared and their correlation determined by linear-regression.

Results: Fifty (50) patients (100 eyes) were enrolled into the study. The mean age was 48.52 years (range 21 to 62 years). The mean NIBUT for both eyes was 20.10 secs, ranging from 11.56 to 36.17 secs, and the mean TBUT

was 18.70 secs, ranging from 10.20 to 30.40 secs. The mean difference between NIBUT and TBUT was 1.40 sec. Regression analysis revealed a strong positive linear correlation between the 2 measurements with a computed Rsquared value of 0.9697.

Conclusion: The noninvasive technique using the prototype device provided a good alternative approach for measuring tear film stability without disturbing normal tear physiology and dynamics at a fraction of the cost of current commercially-available xeroscopes and tearsopes. (Authors' abstract)

Keywords: *tear break-up time, noninvasive tear break-up time, tear film, xeroscope, tearscope, dry eye syndrome, Medicine*

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0547

Single-setting treatment protocol for diode-laser transscleral cyclophotocoagulation

Reyes, Rigo Daniel , League, Jay , Altuna, Jesus , lirio, John Patrick M., Martinez, Jose M

The study was done to determine the efficacy of diode-laser transscleral cyclophotocoagulation (TSCPC) using a standard treatment protocol in the treatment of Asian patients with refractory glaucoma. This is a prospective, noncomparative, interventional case series involving 35 eyes of 35 patients with refractory glaucoma and no previous cycloablation. After clinical examination and intraocular-pressure (IOP) measurements, diode laser TSCPC was performed using a standard protocol (30 shots over 270o at 1500 mW x 1500 msec). Patients were followed up at one day postoperatively, weekly for the first month, then every four weeks for 48 weeks. Complete success was defined as IOP less than 22mm Hg or an IOP reduction of at least 30% from pretreatment level. The pre- and posttreatment IOPs were analyzed by paired student t-test and the probability of success at different follow-up periods was determined by Kaplan-Meier survival analysis. Mean pretreatment IOP was 50.9 ± 12.8 mm Hg. Mean posttreatment IOP was 26.9 ± 10.7 mm Hg (45% reduction) at 24 weeks and 27.8 ± 10.9 mm Hg (40% reduction) at 48 weeks. The cumulative success rate was 80% at 24 weeks and 77% at 48 weeks. Twelve eyes (34 %) were retreated. Medications were reduced from a mean of 1.8 pretreatment to 0.4 at the end of the study period. Among the 28 patients who completed the 48-week follow-up period, visualacuity score remained stable in 18 (64%) and deteriorated in 9 (32%). One patient experienced a 1-Snellen line improvement. Treatment complications included hyphema, tilting of an intraocular lens, severe inflammation, and conjunctival chemosis. No cases of phthisis, hypotony, or sympathetic ophthalmia were encountered. The diode-laser treatment protocol using fixed settings (30 shots over 270o at 1500 mW x 1500 msec) was effective in controlling IOP in patients with refractory glaucoma. There was minimal risk of hypotony. (Authors' abstract)

Keywords: *Glaucoma, Diode laser, Transscleral cyclophotocoagulation, Intraocular pressure, Medicine*

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Splenic Actinomycosis Mimicking Malignant Lymphoma - A Rare Case of Abdominal Actinomycosis

Lo, Tom Edward N., Berba, Regin

Splenic Actinomycosis is a rare entity which usually presents as a difficult diagnostic case. It is a chronic granulomatous infectious disease, caused by *Actinomyces* which is commonly associated with history of abdominal surgery and manipulation. Majority of cases would present as an enlarging abdominal mass often mimicking malignant tumors. This paper presented a rare case of splenic actinomycosis in a 24-year-old Filipino female presenting as multiple splenic abscesses leading to gradual progressive ascites initially thought to be due to a malignant lymphoma. On physical examination, massive ascites and splenomegaly were the only abnormality appreciated. Initial radiologic imaging (x-ray, ultrasound, CT scan) revealed presence of multiple splenic nodules associated with extensive mediastinal and retroperitoneal lymphadenopathy as well as peritoneal extension/carcinomatosis. Splenic biopsy revealed presence of actinomyces. Patient was started on amoxicillin 2.0 g per day for 24 months which led to a significant resolution of her massive ascites. Subsequent abdominal ultrasound showed gradual reduction in the hepatic and splenic size with resolution of splenic foci. Patient is currently on frequent follow-up. Splenic actinomycosis although extremely rare should be included as a differential diagnosis when presented with an unusual splenic mass or abscess on CT scan. Majority would mimic different forms of malignancy hence early histologic biopsy is usually needed to prevent unnecessary extensive and invasive surgical procedures. Radiologic and biochemical test are usually non-specific and not helpful with the establishment of the diagnosis. Although surgery remains to be the cornerstone for its management, prolonged antibiotic therapy might show promising results due to intensive closer follow up and accessibility to monitoring modalities for treatment response. (Authors' abstract)

Keywords: actinomycosis, splenic abscess, splenic actinomycosis, Medicine

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Staff Nurses' Competency and Patients' Satisfaction in an Accredited Maternity Hospital: Basis for Enhancement Program

Santos, Maurice

This paper centers on the staff nurses' level of competency and patients' level of satisfaction. Descriptive comparative design was utilized covering 32 staff nurses and 37 maternity patients from an accredited government maternity hospital. Purposive sampling was used to select the respondents. The questionnaires that were employed came from the Department of Health's Philippine Nurse Certification Program Self Assessment Tool for Level 3 Certification in Maternal and Child Nursing. The profile of staff nurses includes gender, length of experience, and educational attainment. On the other hand, gravidity, parity, and age are the patients' profile. Informed consent was given to all respondents. Statistical tools that were used includes: frequency and percentage, mean, standard deviation, independent sample t-Test, one way analysis of variance, and Pearson's correlation. The result concluded that there was no significant difference in the staff nurses' level of competency and patients' level of satisfaction when their profiles were considered. Moreover, it can be elucidated that there was no significant

relationship between the level of competency and level of satisfaction. It can be interpreted that staff nurses are highly competent and patients are highly satisfied in terms of Client Care, Management and Leadership, and Research. However, there were statements with moderately competent results namely assess degree of laceration and actively participates in the collection of data research process to improve Maternal and Child Nursing practice in work setting with a mean of 2.50 and 2.28 respectively. The researcher suggests enhancement program in the form of the following trainings: internal external suturing in coordination with Association of Nursing Service Administrators of the Philippines and Research Process in coordination with Philippine Nursing Research Society. (Author's abstract)

Keywords: Competency, Level of Satisfaction, Medicine

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0550

Stage III Eumycetoma successfully treated with Ketoconazole and Surgical Debulking

Gabriel, Ma. Teresita G. , Ledesma, Therese Giannine V. , Banate-Gulfan, Geraldine O. , Peña-Dumdum, Aileene I., Senador, Leilani

Mycetoma is a chronic, debilitating, granulomatous disease affecting the subcutaneous tissue, fascia, muscle, bone and adjacent organs characterised by triad of tumefaction, draining sinus, and grains. Ten-year incidence at our institution is 3/81,015. We present a 33-year old male with a 9-year history of painless nodules with draining sinuses on the left foot unresponsive to oral antibiotics and topical antifungals. Biopsy of the nodule was consistent with mycetoma. Fungal culture revealed *Madurella mycetomatis* growth. Xray of the left foot showed poorly marginated lucencies on the calcaneus. Ultrasound of the left foot revealed mixed hyper reflective echoes and multiple small cavities. Diagnosis was Stage III Eumycetoma. Ketoconazole 200mg twice daily was given for 9 months achieving 50-60% decrease in lesion size. Surgical debulking was done and Ketoconazole continued for 9 months. There was good granulation tissue formation and no appearance of new lesions. (Author's abstract)

Keywords: Mycetoma, Eumycetoma, Biopsy, Xray, Medicine

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0551

Steroid-Responsive Miller-Fisher Variant of Guillain-Barré Syndrome in a 25-year Old Male: A Case Report

Morales, Shayne Ju

Miller Fisher syndrome (MFS) is a variant of Guillain-Barré syndrome (GBS) characterized by an immunemediated polyneuropathy. Diagnosis is largely clinical and spontaneous recovery is observed in most cases. Treatment options such as IVIg, plasmapheresis, and steroids have been studied as options to shorten

the disease course, but with inconclusive results. A 25-year-old male complained of sudden onset diplopia, gait instability and hand paresthesia. Diagnosis of MFS was done clinically; chest CT scan, nerve conduction studies, and MRI of brain and orbits were unremarkable. Anti-GQ1b determination was not performed. Low dose oral corticosteroid was initiated with gradual recovery of symptoms noted over two weeks and full recovery in two months. Miller Fisher syndrome (MFS) is a rare entity and the least common of the GBS variants. Its incidence as a proportion of GBS accounts for one to five percent in Western countries. Most patients have evidence of an upper respiratory tract infection one to three weeks before symptom onset. MFS is largely considered to be a self-limiting condition, but case series have shown that patients return to normal activities approximately six months after neurological onset. The patient in this report was treated with low dose steroids, with gradual taper over two months. Significant improvement of symptoms was noted over two months, which is shorter than the six months recovery in literature. Worldwide incidence of MFS can be underestimated as it is often overlooked during the initial work-up of the disease. The risks of treatment, therefore, should be weighed against the likelihood of spontaneous recovery. Although use of steroids in this case report have noticeably caused a shorter course of the disease, prospective studies are suggested to look into the role of low dose oral corticosteroids in shortening the onset-to-recovery course of this illness. (Authors' abstract)

Keywords: miller-fisher syndrome, miller fisher variant, guillainbarre syndrome, diplopia, steroids, Medicine

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0552

***Streptococcus suis*: Bacteremia Presenting with Fever, Rashes, Arthritis and Neurologic Deficits**

Itable, Jill, Domado, Ah

Streptococcus suis (*S. suis*) is a Gram positive cocci acquired through exposure to infected swine. The most common clinical manifestation is meningitis often accompanied by bacteremia. *S. suis* is an emerging pathogen with significant complications, but remains to be underreported. Only 1,584 cases of *S. suis* infection have been reported worldwide with most of the cases concentrated in Southeast Asia where swine quantity is high. The researchers reported a case of a 52-year-old male who came in due to fever, generalized violaceous purpuric rash, headache, and nuchal rigidity. Patient was diagnosed with meningitis clinically. Patient consumed a diseased swine five days prior to admission. Blood culture was positive for *S. suis* II and clinical improvement was achieved with antibiotic treatment and administration of Dexamethasone. On follow-up check; however, patient had residual deafness on bilateral ears, which prompted referral to ENT service for further work-up and management. The patient is the second Filipino and the first documented case to be diagnosed in the Philippines. Despite a booming hog industry in the Philippines and increasing prevalence in its neighboring countries, *S. suis* infection remains unreported in our country due to either lack of available diagnostics or misdiagnoses; therefore, a good clinical skills and high index of suspicion are warranted in the initial diagnosis of patients infected with *S. suis*. In order to prevent epidemic outbreak in the future, simple preventive measures like handwashing and wearing gloves after handling raw pork meat should always be practiced. With an increased awareness among clinicians and microbiologists and vigilance among high-risk individuals, we will promote early diagnosis of this pathogen and prevention of its sequelae. (Authors' abstract)

Keywords: streptococcus suis, meningitis, suis, Medicine

ST-Segment Elevation in Acute Cholecystitis with Uncontrolled Hyperthyroidism

Ordonia-Miranda, Joanavi Montesclaros , Mortel, Sharon Rose , Jarcia, Daisy Angeles

A variety of non-cardiac conditions have been reported to present with ischemic heart disease clinically and electrocardiographically like cholecystitis which leads to nonspecific T-wave inversions or ST-segment depressions, rarely it leads to ST-segment elevation. The researchers reported a case of a 58-year-old, male, hypertensive, diabetic, and with hyperthyroidism on medication. The patient presents with two weeks history of epigastric pain associated with nausea and vomiting. Symptoms spontaneously resolved until one day prior to admission patient developed persistent abdominal pain. The patient was seen at a local hospital wherein work-up was done which showed leukocytosis on CBC, hydrops of gallbladder on ultrasound. Further work-up were anteroseptal wall ST elevation on ECG with negative cardiac enzymes. The patient was advised transfer to our institution. After, the patient was subject to Pertinent Physical exam, includes tachycardia, epigastric tenderness and positive Murphy's sign. During the course, patient developed fever and jaundice. Repeat CBC still showed leukocytosis with neutrophilia. Repeat electrocardiogram showed anteroseptal wall ST elevation with negative Troponin. Echocardiogram showed adequate ejection fraction and adequate wall motion contractility. Thyroid function test showed increased FT4 and decreased TSH. Patient was initially started with acute coronary syndrome regimen. Antibiotics were initiated and antithyroid and anti-diabetes drugs were adjusted accordingly. There was noted progressive abdominal pain; hence, patient was referred to surgery. Patient was cardiopulmonary and endocrinologically prepared and cleared for the procedure. Patient tolerated the procedure. Patient was discharged improved with noted improvement of the electrocardiogram. (Authors' abstract)

Keywords: Cholecystitis, ST-segment elevation, impending thyroid storm, cholecystectomy, Medicine

A Study Protocol on the Situational Analysis on the Current Practice of Screening and Treatment of Retinopathy of Prematurity (ROP)

Santiago, Alvina Pauline D. , Mueller, Andreas , Tamesis-Villalon, Pearl , Lim, Jane Melissa L. , Merca, Theresa Gladiola B. , De Sagun-Bella, Karina Q., Cubillan, Leo D.P

Objective: The study protocol aims to provide an overview of the current practice of screening and treatment of ROP in the selected, to estimate the proportion of childhood blindness due to ROP and assess the number of premature babies at risk for ROP.

Methods: The study protocol is a descriptive, cross sectional study design using survey questionnaire to be sent out to pediatric ophthalmologists, vitreo-retina specialists and division heads of the neonatal intensive care units of different hospitals in a selected area. Student records and medical abstracts from local schools for the blind will be obtained and will be reviewed. All qualitative data will be reported by frequency distribution and percentages. Extrapolation on the proportion of ROP in the area will be done.

Conclusion: Results from the study can show an overview of the current situation of ROP in a selected area and provide the framework for recommendations for programs aimed providing criteria for timely screening and treatment of ROP to prevent complications such as childhood visual impairment and blindness in the country. (Authors' abstract)

Keywords: *ROP, retinopathy of prematurity, retrolental fibroplasia, ischemic retinopathy, childhood blindness, Medicine*

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NP

0555

Submandibular Extraskkeletal Osteosarcoma: A Case Report

Tagal, Christian Joseph Z., Chavez, Lorelei

Extraskkeletal Osteosarcoma (ESOS) is an extremely rare subtype of osteosarcoma account-ing for about 1% of all soft tissue sarcomas¹. It is a malignancy capable of osteoid, bone, or chondroid matrix production, located in the soft tissues, and does not have any attachment to bone or perio-steum. As a rare entity, there have only been three cases reported to be found in the submandibular area.^{7,9,10} Review of literature did not reveal any reported cases of head and neck ESOS in the Phil-ippines. We report a case of 70/M diagnosed with ESOS presenting with a gradually enlarging right submandibular mass. He was initially managed by the Otorhinolaryngology and Head and Neck Sur-gery Service. They performed wide excision of the said mass, the largest dimension of which was ap-proximately 7.5 cm. Histopathology report re-vealed ESOS with close margins, with no perineural nor lymphovascular space invasion seen. On the basis of its size, its close margins, and its high-grade histology, we irradiated the face and neck (fascio-cervical field) of the patient to 44 Gy, then cone-down to 50 Gy to the low-risk areas, then boost to the gross tumor volume (GTV) with 2 cm margins all around to reach 66 Gy. Expected radia-tion therapy toxicities such as xerostomia and der-matitis were seen in the patient and managed ac-cordingly. We plan to follow the patient up every three to six months for the next two years, and annually thereafter. (Author's abstract)

Keywords: *Extraskkeletal Osteosarcoma (ESOS), Otorhinolaryngology and Head and Neck Sur-gery Service, bone, Medicine*

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NP

Successful Reduction in Thyroid and Nodule Volumes in Large Solitary and Multinodular Goiters with Serial ¹³¹Iodine Therapy

Mercado-Asis, Leilani B. , Matawaran, Bien J. , Kho, Sjoberg A. , Abcede, April Mel

¹³¹Iodine therapy is effective in nodular nontoxic goiter with enhanced effects using recombinant thyroid stimulating hormone (rTSH). The eventual fibrosis of the thyroid tissue and blood vessels ligates the vascular supply of the nodule. The study aimed to show the successful reduction of thyroid and nodule volumes in large solitary and multinodular goiters using serial low dose ¹³¹iodine therapy (10mCi) at three to six months interval. A retrospective analytical study was done from January 2010 to December 2012 and included twenty three patients with enlarged solitary and multinodular (nodule/s ≥ 2 cm) non-toxic goiter (females: age range 35-65yrs) given serial ¹³¹iodine therapy (eight to 10mCi) at three to six-month interval. Before each course, serum thyroid stimulating hormone (TSH) was done to document hypothyroidism while thyroid gland and nodule sizes were monitored by ultrasonographic measurements serially with each ¹³¹iodine therapy. Relief of compressive symptoms was monitored on follow-up at clinic.

Thyroid size reduced by 38-40% from baseline after first radioactive iodine (RAI) and by 33-39% after the second RAI. Thyroid nodules reduced by 63-69% and 11-25% serially. Significant reduction was noted after the first RAI. One subject underwent third RAI with 80-85% overall reduction in nodule size. All patients developed post-RAI hypothyroidism and overall had greater than 50% increase in levothyroxine replacement dose after the last RAI. Significant relief of compressive symptoms was noted by 91% post-therapy. Four thyroid nodules disappeared which resulted in reduced total number of thyroid nodules from 29 to 25 nodules post serial RAI. Serial ¹³¹iodine therapy proved to have thyroid and nodule size reduction by more than 70% in this study. Among patients who do not consent or have contraindications to surgery, serial ¹³¹iodine therapy may be considered a safe and effective non-surgical alternative. (Authors' abstract)

Keywords: serial RAI, large multinodular goiter, solitary nodular goiter education, Medicine

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NP

Successful Treatment of Thrombotic Thrombocytopenic Purpura with a Month-long Therapeutic Plasma Exchange and Immunosuppressive Agents

Castillo, Ma Rosario Irene D. , Valmoria, Nemuel , Mancio, Pamela Rose , Aquino, Joy, Zapata-Mesina, Flordelu

The study was conducted to describe the clinical course and treatment response of a case of thrombotic thrombocytopenic purpura (TTP) after a month of the therapeutic plasma exchange (TPE) and immunosuppressive agents and to review related published literature regarding TTP and its response to TPE and immunosuppressive agents. A 64-year-old female presented with fever, bicytopenia, change in sensorium, and seizure of one day duration. Metabolic panel showed normal electrolytes with normal brain imaging. Hematologic work-up showed anemia, thrombocytopenia and leukocytosis with normal differential count. Reticulocyte was elevated. Peripheral smear showed significant schistocytes with nucleated red blood cells and marked thrombocytopenia. Thrombotic thrombocytopenic purpura was the initial consideration with the fulfilment of four out of the pentad of TTP, namely: microangiopathic hemolytic anemia, thrombocytopenia,

fever and neurologic symptoms. Therapeutic plasma exchange was immediately initiated with daily platelet count and Lactate dehydrogenase (LDH) determination to assess response. However, despite daily plasma exchanges and continuous plasma infusion, there was inadequate response. In this light, immunosuppressive agents were started in the following order: high dose methylprednisolone, weekly rituximab and intravenous cyclophosphamide. On the 31st hospital day, after daily TPE and combined immunosuppression, she achieved complete response with a platelet count of $170 \times 10^9/L$ to $250 \times 10^9/L$ (baseline- $14 \times 10^9/L$) and LDH 227U/L (baseline-1,191 U/L). In conclusion, this study presented a challenging case of TTP which was successfully treated with the standard of care together with the available adjunctive treatment options. (Authors' abstract)

Keywords: thrombotic thrombocytopenic purpura, therapeutic plasma exchange, Medicine

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NP

0558

Superior Mesenteric Artery Syndrome: A Rare and Unusual Cause of Gastrointestinal Obstruction

Inductivo-Yu, Ira , Medrano, Ana Beatriz , Yap, Emi

Superior mesenteric artery (SMA) syndrome is a rare and unusual acquired cause of functional duodenal obstruction whose diagnosis can be easily missed without knowledge of this condition. The researchers reported a case of a 27-year-old female, presenting with post-prandial vomiting, early satiety, bloatedness and weight loss for about 10 months. Vital signs were stable. She was grossly underweight with a BMI of 11.72 kg/m² (height=1.6m, weight=30kg). Physical examination was unremarkable. Gastrointestinal series revealed a narrowing in the third portion of the duodenum likely secondary to extrinsic compression. Contrast-enhanced CT scan of the whole abdomen was performed with 3D reconstruction. There were no definite signs of gastrointestinal obstruction. However, a narrow/acute aorto-mesenteric angle of 13 degrees compressing the third part of the duodenum was noted. Superior mesenteric syndrome was considered, prompting further work-up. Primary hyperthyroidism was the root cause of the patient's weight loss that lead to this condition. Patient was given nutritional support, parenterally and enterally. She was discharged improved after oral feeding was tolerated and patient started to gain weight. Superior mesenteric artery (SMA) syndrome is an uncommon medical condition brought about by a decrease in the aortomesenteric angle from the usual 45° to less than 15° resulting in vascular compression of the third part of the duodenum leading to gastrointestinal obstruction. A high index of suspicion is needed to prevent the diagnosis from being missed which may in turn lead to unnecessary testing and treatment. If recognized early, the condition may be managed conservatively. Surgical management is only required when conservative methods fail. (Authors' abstract)

Keywords: superior mesenteric artery syndrome, gastrointestinal obstruction, Medicine

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NP

0559

Surgical Technique and Preliminary Results of Transcanalicular Endoscopic Lacrimal Duct Recanalization and Balloon Dacryoplasty with Silicone Intubation in Filipino Patients with Complete Nasolacrimal Duct Obstruction

Roxas, Jomael Leandro T. , Javate, Reyna

Objective: To describe the surgical technique of transcanalicular endoscopic lacrimal duct recanalization (TELDR) with balloon dacryoplasty and silicone intubation in patients with complete nasolacrimal duct obstruction and assess their effectivity.

Methods: Ten lacrimal systems from eight patients diagnosed with complete nasolacrimal duct obstruction (NLDO) underwent TELDR and balloon dacryoplasty with silicone intubation.

Results: All 10 lacrimal systems from eight patients who underwent TELDR and balloon dacryoplasty with silicone intubation had 100% anatomical and functional patency.

Conclusion: TELDR and balloon dacryoplasty with silicone intubation represents an alternative, minimally invasive technique in the management of complete nasolacrimal duct obstruction. (Authors' abstract)

Keywords: *endoscopic lacrimal surgery, balloon dacryoplasty, silicone intubation, Medicine*

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NP

0560

Surgically induced necrotizing scleritis after a routine extracapsular cataract extraction

Guevara, Glenn , Brucelas, Archival G. , Eltanal-Pascual,

The study was to report a case of necrotizing scleritis in an elderly diabetic patient who underwent unevenful extracapsular cataract extraction. This is an observational case report of a 79-year-old diabetic female who had undergone extracapsular lens extraction consulted for unilateral severe eye pain and redness associated with scleral thinning, tenderness, blurred vision, and moderate vitritis. The patient was diagnosed to have surgically induced necrotizing scleritis based on the location, clinical findings, localized hypofluorescence with anterior segment fluorescein angiography, and posterior scleral thickening demonstrated by B-scan. There were no associated systematic findings. The patient responded well to oral steroids; symptoms resolved a few days after treatment was started. Necrotizing scleritis affecting both anterior and posterior sclera may occur months after cataract extraction. Early diagnosis and management may result in good outcomes. (Authors' abstract)

Keywords: *B-scan, angiography, steroids, Medicine*

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(Filipiniana Analytics)
NP

A Survey of Knowledge, Attitudes and Practices of Sedation and Analgesia Among Medical Residents and Pulmonary Fellows-in-training at the University of the Philippines-Philippine General Hospital

Benedicto, Jubert P. , Lo, Tom Edward N. , Tan, Sue Kimbe

Providing sedation and analgesia for patients especially in the intensive care units remains difficult and controversial for clinicians and many institutions. The purpose of this study was to describe the knowledge, attitudes and practices on sedation and analgesia among medical residents and pulmonary fellows-in-training in a tertiary care hospital. The research design was a prospective descriptive survey of 67 participants. Midazolam is the preferred sedative agent for continuous infusion. The top two reasons why sedation was used according to the knowledge of the study participants were agitation and patient comfort. Monitoring neurologic status is the primary reason why sedation was not used. Majority of the medical residents said that < 50% of the mechanically ventilated patients require continuous intravenous sedation. On the other hand, pulmonary fellows-in-training said that 50-75% of mechanically ventilated patients require continuous intravenous sedation. Twenty three participants (34.32%) have used a sedation scale, of which majority uses Ramsay Sedation Scale. Morphine was the preferred analgesic agents of the study participants. Unavailability of analgesic agents is the top reason why analgesia is not used. The medical residents and pulmonary fellows-in-training showed differences in knowledge, attitudes and practices with regard to use of sedation and analgesia. To increase their knowledge and improve their practice, they should be given medical education and training in sedation and analgesia. (Authors' abstract)

Keywords: Sedation, Analgesia, Medicine

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Systematic Literature Search Strategies for the Health Sciences

Arevalo, Joenabie Encanto , Pagatpatan, Jr.,

Systematic search of literature is an important skill for researchers to help achieve a comprehensive understanding of the topic of interest. Likewise, clinicians need this skill for them to be updated on the recent evidence in providing relevant health care interventions to their patients. However, many health professionals and health science students rely on the use of limited search engines and few databases without systematically performing search and retrieval of relevant studies. This practice commonly yields inadequate references for a research project or clinical decision-making resulting to an incomplete understanding of the topic at hand. This paper aims to provide an introductory guide for researchers as well as clinicians on the step-by- step process of systematic literature search. It also provides information on the available open-access directories and databases as additional or alternative sources of evidence especially in low resource institutions. However, careful guidelines must be considered in using open-access sources to maintain the quality of research projects and clinical decisions. (Author's abstract)

Keywords: Systematic literature search, databases, health sciences, open-access sources, Medicine

A Systematic Review on the Effectiveness of Hemorrhoidal Artery Ligation (Transanal Hemorrhoidal Dearterialization) vs the conventional hemorrhoidectomy for Adult Patients with Grades II and III Internal Hemorrhoids

Cueto, Mary Anne Carol A., Cueto, Bernardo

A systematic review was by Giordano et al in 2009 showed that transanal hemorrhoidal dearterialization (THD) would appear to be a potential non-excisional technique for the treatment of second-degree and third-degree haemorrhage, the main advantages being minimal postoperative pain and quick recovery. However, it included mostly poor quality studies available at that time, so that the conclusion may be an overestimate of the effectiveness of the technique and did not include trials that have completed and reported after 2009. The aim of this systematic review is to synthesize the best current evidence on the effectiveness of transanal hemorrhoidal dearterialization as compared to the conventional hemorrhoidectomy with post-operative pain, post-operative bleeding and recurrence rate as primary outcomes, and operative time and urinary retention as secondary outcomes, among adult patients with Grades II and III internal hemorrhoids. PubMed was searched for randomized controlled trials done from 1995 up to 2014. Four out of 221 trials met the criteria for inclusion. There was no evidence of any difference between conventional open hemorrhoidectomy and transanal hemorrhoidal dearterialization in terms of post-operative pain, post-operative bleeding ($P=0.76$), operative time, urinary retention ($P=0.57$), post-operative prolapse/recurrence ($P=0.38$) in adult patients with grades II and III internal hemorrhoids. Because the confidence interval of the summary statistics (Risk Ratio) are very wide, it just shows that not enough data is available to show a precise result. Thus, one cannot conclude whether one technique is better than the other or if they are truly the same. (Author's abstract)

Keywords: Hemorrhoidal artery ligation, Transanal hemorrhoidal dearterialization, internal haemorrhoids, hemorrhoidectomy, postoperative complications, Medicine

Taking a close look at optic-nerve meningioma

Arnold, Anth

MENINGIOMAS, the most common benign intracranial neoplasms, most often involve the visual pathways in the parasellar and orbital regions, with compression or infiltration of the optic nerves or chiasm. Parasellar tumors may arise anteriorly, from the anterior clinoid, planum sphenoidale, or olfactory groove; posteriorly, from the dorsum or tuberculum sellae; or laterally, along the sphenoid wing. Meningiomas affecting the optic nerve may also arise from the optic canal, and from the optic-nerve sheath itself within the orbit. This review focuses on such primary optic-nerve-sheath tumors. (Author's abstract)

Keywords: Optic-nerve-sheath meningioma, Optic-nerve tumors, Optociliary shunt vessels, Optic glioma, Stereotactic radiosurgery, 3D conformal fractionated stereotactic radiotherapy, Medicine

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0565

Tear and Ocular Surface Profile in Adult Anophthalmic Sockets

*Trio-Ranche, Felice Katrina , Pe-Yan, Mary Rose , Tua±o, Prospero Ma. C , Ranche, Joseph Maylem ,
Marcelo, Marie Christ*

Objective: To determine the tear and ocular surface profile of the anophthalmic socket in relation to the contralateral normal eye.

Methods: Twenty-five adult patients with unilateral anophthalmic sockets were included into the study. They were at least 2 months post-enucleation or post-evisceration and without any topical medications on the anophthalmic socket and control eye for at least 2 weeks. Assessment was performed using the following parameters: (1) meibomian gland evaluation, (2) ocular surface staining, (3) degree of conjunctival inflammation, (4) Schirmer I and II, and (5) conjunctival impression cytology.

Results: Mucoid discharge (52%) was the most common complaint in anophthalmic sockets, followed by itchiness (40%), tearing (36%), and dryness (4%). Compared to control eyes, the anophthalmic sockets had more pronounced and statistically significant lid wiper epitheliopathy, conjunctival staining, and bulbar inflammation. Meibomian gland dysfunction, Schirmer I and II, and conjunctival impression cytology showed no difference between the 2 groups. There was a correlation between the symptoms complained and the ocular staining patterns of the anophthalmic sockets.

Conclusion: Anophthalmia predisposes to various ocular surface problems, such as a change in the composition of tears, specifically an increase in the mucin component and a decrease in the aqueous and lipid components, resulting to increased tear viscosity. (Authors' abstract)

Keywords: anophthalmic socket, lid wiper epitheliopathy, Schirmer test, conjunctival inflammation, conjunctival impression cytology, Medicine

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NP

0566

THE MYSTERY OF SALIVARY GLAND TUMORS

Rodriguez, Kathleen M., Ureta, Celso

OBJECTIVE: To present two cases of a rare multiple metachronous behavior of Salivary gland neoplasm, its possible etiology and its management.

STUDY DESIGN: Case Report

SETTING: Tertiary Hospital

PARTICIPANT: Two patients

RESULT: This is a case report of two patients with unusual behavior of salivary gland tumors. The first case is a 38-year-old female with an 18 years history of development of mass at the hard palate. Excision of mass was done which revealed a pleomorphic adenoma, however 7 months prior to admission a mass was noted at the right pre-auricular area with bulging mass at buccal area extending to right tonsillar area. Patient underwent wide excision of parotid mass with segmental mandibulectomy, right which subsequently revealed an Adenoid Cystic carcinoma, Parotid. The second case is an eighty nine year old female, with recurrent mass at the right submandibular area, which recurs every 2 years since 2004 to 2013, however on the last admission, there was development of bilateral submandibular mass with multiple neck mass. Patient underwent Excision of Bilateral Submandibular mass with Selective Neck dissection, right. Histopathologic examination revealed a Pleomorphic adenoma, both right and left submandibular glands with a metastasizing behavior at right neck nodes.

CONCLUSION: In conclusion we are presented with two rare events of a multiple and metachronous presentation of salivary gland neoplasms with a benign primary to malignant second primary tumors. The etiology of multiple salivary gland neoplasm still remains unclear and complete excision of mass remains as its primary treatment modality with post radiation treatment to completely extirpate the tumor. (Authors' abstract)

Keywords: Parotid gland, Submandibular gland, Adenoid cystic carcinoma, metastasizing pleomorphic carcinoma, Multiple salivary gland neoplasm, metachronous, synchronous, Medicine

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NP

0567

**THE VALIDITY OF USING HAND TOUCH METHOD COMPARED TO DIGITAL
THERMOMETRY IN DETECTION OF HYPOTHERMIA AMONG FULL TERM
NEONATES
DELIVERED AT THE OBSTETRIC ADMITTING SECTION OF A TERTIARY**

HOSPITAL
Santos-Alban, Josephine

RATIONALE: Hypothermia is a risk factor for neonatal morbidity and mortality hence it is important to identify a diagnostic test for hypothermia which can be readily available to health care workers.

OBJECTIVE: To determine the validity of using hand touch method in detection of neonatal hypo-thermia as compared to digital thermometer.

STUDY DESIGN: Cross-sectional study

SETTING: Obstetric Admitting Section of a tertiary hospital

STUDY POPULATION: Full-term neonates who fulfilled the following: delivered within 24 hours, birth weight of at least 2.5 kilograms, without congenital anomalies, not clinically ill, and with consent from the mother/father/guardian were included.

METHODOLOGY: Hand touch method was done on 300 full term neonates by two health care workers who were blinded to each other's assessment followed by rectal temperature determination using digital thermometer. The sensitivity, specificity, positive and negative predictive values, and likelihood ratios of hand touch method against digital thermometer were determined. Age of gestation, birth weight, sex, clinical signs of illness, and maternal risk factors were described.

RESULTS: Of the 300 full term neonates included, 47% were males, with a mean birth weight of 2,969 grams. Prevalence of hypothermia was 37% and presence of maternal risk factor was associated in 38% of cases. The sensitivity and specificity of hand touch method against the digital thermometer were 69% and 97%, while the positive and negative predictive values were 93% and 84%, respectively. The likelihood ratio for hypothermia was 22, and 0.3 for non-hypothermia.

CONCLUSION: Hand touch method can be recommended as an easy, inexpensive, and feasible tool to rule in hypothermia among neonates, especially in areas of the community where thermometer is scarce, after giving adequate training to health care workers. (Authors' abstract)

Keywords: neonatal hypothermia, hand-touch method, sensitivity, specificity, likelihood ratios, Medicine

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NP

0568

A Three-Month Follow up of Musculoskeletal Manifestations in Chikungunya Fever
Gutierrez-Rubio, Anna Kristina, Magbitang, Angeline-Therese D. , Penserga, Ester

Chikungunya virus (CHIKV) is a mosquito-borne alphavirus of the family *Togaviridae* transmitted to humans by the *Aedes* spp. mosquitoes, causing Chikungunya Fever (CHIKF). This study aimed to describe the course and outcome of musculoskeletal (MSK) manifestations in patients with CHIKF seen over a three-month period. This is a prospective descriptive study. Seventy patients with fever, rash, and arthritis seen at the University of the Philippines-Philippine General Hospital and private arthritis clinics were collected from August - December 2012. Demographics and course of arthritis were described. Seventy patients, 53 (68.6%) female, with a mean age of 39.2 ± 13.50 were diagnosed with CHIKF. All cases were from the Metropolitan Manila area. Of these, 15 (21.4%) had family members affected. Twenty-four patients (34.3%) were either employed or students. The most common presenting symptoms were fever (94.3%), arthritis or arthralgia (98.6%), and rash (87.1%). The most common joint areas involved were the ankles (60.0%), the wrists (40.0%) and the small joints of the hand (51.4%). Twenty-seven (47.3%) had symmetric arthritis. Thirty-seven cases (52.9%) had arthralgia or arthritis for at least six weeks. By the end of the follow-up period, only four (5.7%) had persistent musculoskeletal symptoms. Age and sex were not found to be factors in determining chronicity of arthritic symptoms ($p = 0.104$ and $p=0.58$ respectively). Of the seventy patients, 31 (44.3%) were confirmed cases of CHIKF— 29 had (+) CHIKV IgM by ELISA, and two had (+) CHIKV PCR. Twenty-one (67.7%) had persistent arthritis of at least six weeks. Treatment consisted of continuous NSAIDs for at least two weeks and some received steroids. In this subgroup, age and sex were not shown to correlate with chronic arthritis ($p=0.47$ and $p=0.05$ respectively). This report on a recent outbreak of CHIKF showed the classic triad of fever, rash, and arthritis. There was no correlation between age and chronicity of arthritic symptoms. Sex, likewise, did not appear to influence chronicity. The disease occurred in family clusters. Patients required continuous treatment with NSAIDs and some had to be given steroids. Most cases resolved by 12 weeks. (Authors' abstract)

Keywords: *Chikungunya fever, musculoskeletal manifestations, Medicine*

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(Filipiniana Analytics)
NP

0569

Thyroid Ultrasound Findings Associated with Thyroid Peroxidase Autoantibody Positivity in Patients with Diffuse Goiter

Tugna, Sheryl N., Capuli-Isidro, Maria Jocel

The study was done to determine the thyroid ultrasound findings in association with anti-TPO positivity among patients with diffuse goiter. The researchers performed a cross-sectional study on patients with diffuse goiter seen at Makati Medical Center out-patient Endocrine clinics from October 1, 2011 to October 1, 2012. Patients with anti-TPO (thyroid peroxidase) above 100 pmol/L were considered anti-TPO positive and below this level were considered negative. After excluding patients with other possible causes of thyroiditis, thyroid ultrasound of anti-TPO positive and anti-TPO negative patients were reviewed and compared based on size, echogenicity, echopattern and vascularity of the thyroid parenchyma. In 94 patients who qualified for the study, 43.6% were anti-TPO positive. A higher proportion of anti-TPO positive was seen among females compared to males by almost twofold (49.7% vs 25%, $p<0.05$). Stratified according to age group for female patients, anti-TPO positivity is relatively higher among 31-50 years old (51.1%, $p = 0.753$). Among male, anti-TPO positivity is present in all 18-20 years old which is significantly higher compared to other age group ($p < 0.01$). Based on thyroid ultrasound findings, those with positive anti-TPO has larger thyroid size in all measurement parameters ($p = 0.0053$). Among anti-TPO positive patients, frequent ultrasound findings were: hypoechoic (79% vs. 21%, $p < 0.001$); heterogenous parenchyma (71% vs. 29%, $p < 0.001$) and increased vascularity (93% vs. 7%, $p < 0.001$). Of note is the absence of homogenous parenchyma finding among anti-TPO positive. All 23 (100%) patients who showed combined findings of hypoechoic, heterogenous parenchyma and increased vascularity were anti-TPO positive. Thyroid ultrasound findings that are found frequently among anti-TPO

positive are increased thyroid size, parenchyma that are hypoechoic and heterogeneous and increased vascularity. Homogeneous echotexture was not seen among anti-TPO positive. The combined sonographic characteristics of hypoechoic, heterogeneous pattern and increased vascularity are highly suggestive of presence of anti-TPO (100%). (Authors' abstract)

Keywords: *Chronic autoimmune thyroiditis, Hashimoto's thyroiditis, Anti-thyroid peroxidase (anti-TPO) antibody, Thyroid Ultrasound, Medicine*

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(Filipiniana Analytics)
NP

0570

Topical Bevacizumab as Adjunctive Therapy for Bleb Survival after Trabeculectomy in the Rabbit Model

Tripon, Jaime Rafeal Hubilla, Yap-Veloso, Ma. Ime

Objective: To determine the effect of topically administered bevacizumab on bleb survival and histology after trabeculectomy in rabbit eyes.

Methods: This is an experimental interventional comparative animal study. Sixteen rabbit eyes underwent trabeculectomy, 8 of which were enhanced with intraoperative mitomycin-C. Eyes were randomized to receive either topical balanced salt solution (BSS) or topical bevacizumab at a concentration of 12.5 mg/mL. Intraocular pressure, bleb dimensions and vascularity grading were measured. IOP was recorded as a ratio of IOP of the experimental operated eye divided by the IOP of the contralateral control eye (IOP_{ratio}) as a function of time. Bleb morphology was recorded as a percentage of the maximum estimated bleb volume (% bleb) as a function of time. Bleb failure occurred if $IOP_{ratio} \geq 0.8$, or if % bleb=0. The eyes were then submitted for histopathological analysis after bleb failure has occurred.

Results: In plain trabeculectomy, the mean bleb survival in terms of IOP were 6.3 and 9.2 days in the BSS and topical bevacizumab groups respectively ($p=0.25$). In mitomycin-C-enhanced trabeculectomy, the mean bleb survival was 16 and 18.2 days respectively ($p=0.40$). In plain trabeculectomy, mean bleb survival in terms of bleb morphology were 8 and 12.2 days for the BSS and bevacizumab groups respectively ($p=0.08$). In enhanced trabeculectomy, mean bleb survival were 19.5 and 20 days respectively ($p=0.99$). Mean vascularity grading were 2 and 1.9 for the BSS groups, and 1.6 and 1.4 for the bevacizumab groups.

Conclusion: Topical bevacizumab as adjunctive therapy after trabeculectomy, whether plain or enhanced with mitomycin-C, showed a trend towards prolonged bleb survival, even though the results of this study were not statistically significant. (Authors' abstract)

Keywords: *Bevacizumab, trabeculectomy, filtering bleb, bleb scarring, mitomycin-C., Medicine*

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NP

Toxic epidermal necrolysis

Dy-Liacco, Jacinto , Reyes, Rosalie

Objective

To recognize the common ocular signs and symptoms of toxic epidermal necrolysis (TEN), differentiate it from similar diseases, give the appropriate management, and provide continuity of care.

Methods

This is a case report of a 21-year-old female patient admitted for ocular involvement of TEN secondary to an acute food reaction and an adverse drug reaction to intravenous cloxacillin.

Results

The patient had hyperemic conjunctivae with infiltration, mucopurulent discharge, and pseudomembrane formation with a corneal epithelial defect. The ocular symptoms were treated with copious irrigation of the conjunctival sac, daily membrane peeling, topical antibiotics, and topical steroids. The patient was advised regular follow-up to prevent symblepharon formation.

Conclusion

With the appropriate diagnosis and management of TEN, ocular symptoms may be relieved and complications prevented. (Authors' abstract)

Keywords: Toxic epidermal necrolysis, Adverse drug reaction, Scalded-skin syndrome, Medicine

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2011 January to June,
(Filipiniana Analytics)
NP

Transient Hepatocellular Injury Associated with Hypertriglyceridemia and Hemolysis in an Alcoholic Filipino Male

Valenzuela, Rosauro , Acosta, Jr., Dennis Danilo, C., Parungao, Daniel , Mirasol, Ma. Angeli

Zieve's syndrome is an uncommon complication of chronic alcohol abuse, which presents with a constellation of symptoms, particularly hepatic dysfunction, hyperlipidemia and reversible hemolytic anemia. This paper presented the first documented case of Zieve's syndrome in the Philippines. The researchers presented a rare case of a 46-year old Filipino male, who manifested with a two-week history of intermittent high grade fever, jaundice, crampy non-radiating epigastric pain, which were later accompanied by tea colored urine and acholic

stools. The patient subsequently presented with sudden anemia on his third hospital day with no signs of bleeding or blood loss. Physical examination revealed diffuse jaundice and hepatomegaly with mild epigastric and right upper quadrant tenderness. Laboratory findings showed significant elevation of liver transaminases, bilirubins and triglycerides. Complete blood count (CBC) revealed a drop of hemoglobin from 134 mg/dl to 64 mg/dl. Coomb's test was negative. Repeat aspartate transaminase (AST) and alanine transaminase (ALT) was decreased. The patient was diagnosed with Zieve's syndrome and was given supportive management including adequate hydration and nutritional supplementation with abstinence from alcohol. Improvement in general status with a gradual resolution of jaundice and anemia were observed. Without further intervention, the patient was discharged improved after five days. Out patient follow-up noted further reduction of liver enzymes and triglycerides, and normalization of hemoglobin. Zieve's syndrome is an uncommon condition characterized by hemolytic anemia in conjunction with secondary hyperlipidemia in patients suffering from alcohol-related toxic liver damage. This condition must be considered in the differential diagnosis of liver injury with uncertain origin, hemolysis or hemorrhage to prevent unnecessary workups and invasive interventions. Vigilance and high clinical suspicion is important in the diagnosis of the syndrome. (Authors' abstract)

Keywords: *Zieves syndrome, hepatocellular injury, hypertriglyceridemia, hemolysis, hepatic dysfunction, alcoholism, Medicine*

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0573

Translation and Validation of a Filipino Version of the Children's Visual Function Questionnaire

Lee, James Abraham B., Monzon-Pajarillo, Andrea Kristina F. , Santiago, Alvina Pauline

Objective: The objectives of this study were to translate into Filipino the Children's Visual Function Questionnaire for children 3 years and above (CVFQ3plus), and to validate the translated CVFQ3plus to be used locally to assess the quality of life (QoL) of Filipino children aged 3 to 7 years old with visual impairment.

Methods: *Study Design:* The study was a single-center, non-randomized translation and validation study. *Translation:* The CVFQ3plus translation into Filipino involved translation, reconciliation, pretesting, and small group discussion, based on the KIDSCREEN Group Translation and Validation procedures. *Participants and Sampling:* Convenience sampling was done to select the participants of the study. Participants were included in the study if they were parents or primary caregivers of children aged 3-7 years old who were noncompliant with treatment and/or those with non-treatable visual impairment defined as mild, moderate, severe unilateral, and severe bilateral. *Procedure:* All patients underwent complete ophthalmologic examination, including determination of the visual acuity using either the LEA chart or HOTV chart, prior to the administration of both the Filipino and English versions of the CVFQ3plus to their parents or caregivers. Participants were also asked to do a self-rating of their English proficiency, and their preferred version of the CVFQ. *Statistical Analysis:* Chronbach's Alpha with a 95% confidence interval was used to determine the validity and internal consistency of the Filipino version of the CVFQ3plus questionnaire.

Results: A total of 122 participants were included in the study. Chronbach's Alpha score ($\alpha=0.86$, CI=95%) for the translated Filipino version of the CVFQ3plus suggests high reliability and internal consistency, comparable to the original English version of the questionnaire.

Conclusion: This study was able to produce a highly reliable and internally consistent Filipino version of the CVFQ3plus. (Authors' abstract)

Keywords: CVFQ, quality of life questionnaires, visually-impaired children, QoL, Filipino children, vision questionnaire, Medicine

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0574

Translation and validation of a Filipino version of the glaucoma quality-of-life questionnaire

Rubio, Carlo Josemaria D., Agulto, Manuel

Objective

This study validated the functionality and value of a Filipino version of the Glaucoma Quality-of-Life 15 Questionnaire (GQL 15) as a tool in managing glaucoma among Filipinos.

Methods

The GQL 15 was translated using the forward-backward-forward translation method. Discrepancies were reconciled by the research group, producing a final forward translation (FFT). The FFT was pretested on patients from the University of the Philippines–Philippine General Hospital, along with the GQL 15. A multidisciplinary group of ophthalmologists and healthsocial-science experts analyzed the results of the pretest to determine the functionality and necessity of the FFT. The FFT was used on glaucoma patients composed of 1 set with glaucomatous automated visual fields, 1 set with glaucomatous disc photos, and a control group. The results were analyzed via an independent t-test.

Results

The pretest in 9 patients showed that the FFT was functional. Majority preferred answering the FFT to the GQL 15. Differences were noted in the answers to FFT vs. GQL 15. A Filipino translation was deemed necessary. The answers of patients in the glaucomatous automated visual-field group ($n = 14$) and the glaucomatous disc photo group ($n = 9$) were significantly higher than those of the control group ($n = 16$) ($p = 0.05$). These results were similar to those of the GQL 15.

Conclusions

The Filipino version of the GQL 15 is a necessary and valid tool in managing glaucoma among Filipinos. (Authors' abstract)

Keywords: Glaucoma, Quality of life, Translation, Medicine

Treatment Efficacy and Risk of Bleeding Among Cancer Patients Treated for Venous Thromboembolism with Dabigatran Compared to Warfarin

Gaspar-Trinidad, Emma , Liangco, Wilfredo , Casapao, Joiane Cris , Tia, Jay

The special needs of cancer patients offer unique challenges in treating them for venous thromboembolism (VTE). Dabigatran is a novel oral anticoagulant (NOAC) that may be comparable to warfarin in clinical benefit and risks of bleeding. A meta-analysis and systematic review was performed to compare efficacy of prevention of VTE recurrence and risks of bleeding with dabigatran compared to warfarin. Randomized-controlled trials (RCTs) from various sources comparing dabigatran with warfarin for the prevention of recurrence of VTE were then retrieved and analyzed. The efficacy outcomes looked into was recurrence of VTE and mortality related to VTE while the primary safety outcome looked into was major bleeding. This meta-analysis, which included the studies, RECOVER I, RECOVER II, REMEDY showed that VTE and VTE-related deaths occurred in six out of 174 (3.4%) of cancer patients treated with dabigatran while four out of 166 (3.6%) cancer patients treated with warfarin with a relative risk of 1.44 with a 95% CI of 0.41, 5.03 showing no significant difference between dabigatran and warfarin. The REMEDY trial included a total of 60 cancer patients from a total of 1,430 patients in the dabigatran group versus 59 cancer patients from a total of 1,426 patients in the warfarin group. Under the outcome of major bleeding event, among all patients who received dabigatran, 13 patients had major bleeding events, while among those who received warfarin, 25 patients had major bleeding events with a hazard ratio of 0.52 and 95% CI of 0.27-1.02. With the RECOVER I, and RECOVER II, among cancer patients analysed, four patients of the 105 who received dabigatran had major bleeding; while three of the 100 patients who received warfarin had major bleeding with a HR of 1.23 (95% CI of 0.28-5.5). The authors concluded that dabigatran is comparable to warfarin in the prevention of recurrence of VTE among cancer patients in terms of both benefits and risks. (Authors' abstract)

Keywords: v e n o u s t h r o m b o e m b o l i s m, n o v e l o r a l a n t i c o a g u l a n t, c a n c e r, M e d i c i n e

Treatment of juxtapapillary toxoplasmic retinochoroiditis with intravitreal clindamycin and dexamethasone injection

Santos, Edmin Mich

Objective

To report the use of intravitreal clindamycin and dexamethasone in the treatment of juxtapapillary toxoplasmic retinochoroiditis.

Methods

This is a case report.

Results

A 34-year-old female was diagnosed serologically and clinically with juxtapapillary toxoplasmic retinochoroiditis in the left eye and treated with intravitreal injection of clindamycin 1.0 mg in 0.1 mL and 4.0 mg of dexamethasone in 0.1 mL. Treatment with oral trimethoprim/ sulfamethoxazole 160/800 mg was continued for 6 weeks. The primary outcome measures were change in Snellen visual acuity, resolution of inflammation, pre- and posttreatment fluorescein angiograms, and adverse events.

Conclusion

Intravitreal injection of clindamycin and dexamethasone was well tolerated and associated with resolution of vitreous and optic-nerve inflammation, offering an additional option in the treatment of juxtapapillary toxoplasmic retinochoroiditis. (Authors' abstract)

Keywords: Toxoplasmosis, Retinochoroiditis, Uveitis, Retinal lesion, Medicine

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0577

Treatment of ocular toxoplasmosis in pregnancy

Foster, Stephen , Paredes, Ian C. , Kump, Le

The study was conducted to describe the course of ocular toxoplasmosis during pregnancy. This is a retrospective, noncomparative case series of four pregnant women who were treated for ocular toxoplasmosis during pregnancy. All of the participants had violent and treatment-resistant toxoplasma retinochoroiditis during pregnancy, leaving three of them with decreased visual acuity in spite of aggressive therapy. Termination of pregnancy appeared to help the recovery in two patients. Pregnant state may provoke the recurrence of ocular toxoplasmosis. (Authors' abstract)

Keywords: Toxoplasmosis, Retinochoroiditis, Uveitis, Pregnancy, Medicine

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NP

0578

Treatment Outcomes with the Use of a Stepwise Insulin Combinations Algorithm Among Type 2 Diabetic Patients

Valdez, Valerie Ann U. , Mercado-Asis, Leilani B. , Mendoza, Erick S. , Lopez,

In the management of type 2 diabetes, insulin is often started late, when there is failure to achieve good control on maximum oral agents. Clinical inertia to insulin initiation and intensification is widely prevalent in our local setting resulting in poor control of diabetes. This study looked into a stepwise insulin combinations treatment algorithm used in an Endocrinology referral clinic at the University of Santo Tomas Hospital (USTH). It aimed to demonstrate the clinical course of the patients , determine the degree of HbA1c reduction, and show the associated extent of hypoglycemia and weight gain. The study is a retrospective chart review of 104 patients that used the following stepwise treatment: Oral regimen; Regimen A: basal+oral; Regimen B: basal+premeal bolus TID±oral; Regimen C: premixed aspart 70/30 or lispro 75/25 TID or BID with prelunch bolus, ± oral; Regimen D: premixed 70/30 BID+premeal bolus TID ± oral; Regimen E: premixed 70/30 BID+premeal bolus TID+basal ±oral. All received automatic snacking two hours after main meals to prevent hypoglycemia. Patients were educated on proper diet and exercise. Data was analyzed using paired t-test, frequencies and percentages. Most ended on the intensive insulin regimens D 57(55%) , and E 18 (17%). Significant HbA1c reduction was demonstrated as follows: Regimen A (n=8): 1.376 ± 0.919 (p=0.000), Regimen B (n=18): 2.320 ± 2.177 (p=0.000), Regimen D (n=57): 2.197 ± 2.158 (p=0.000), Regimen E (n=18): 2.684 ± 1.689 (p=0.000). Overall mean weight gain was 1.070 ± 11.435 kg (p=0.335). Ten, nonsevere hypoglycemia events were reported. The use of this stepwise insulin combinations treatment algorithm exerted significant HbA1c reduction, with minimal events of hypoglycemia, and statistically insignificant weight gain. Hence, this is a feasible tool that may be used as a guide for intensification of insulin treatment. (Authors' abstract)

Keywords: *Diabetes Mellitus Type 2, insulin combinations, HbA1c reduction, Medicine*

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0579

Tubercle Rods and Its Compatriot, Crohn's: Lessons to Learn

Seong Ng, Choon

The study was conducted to illustrate the two closely-related challenging disease entities and the deleterious impacts of disseminated tuberculosis, together with some important literature reviews regarding the diagnosis and its sequelae. The patient is a 22-year-old male with initial presentation of chronic diarrhea and constitutional symptoms, diagnosed as intestinal Crohn's disease. Symptoms persisted despite starting him on immunosuppressive agent (mesalazine 2.0g once daily) during the second presentation. At the same time, chronic cough was reported. Physical examination showed bibasal crepitations with expiratory rhonchi on lung examination, with unremarkable abdominal examination. Investigations revealed normocytic normochromic anemia with raised inflammatory markers (C-reactive protein 13.12 mg/L, erythrocyte sedimentation rate 63 mm/hour) and coagulopathy. Subsequent chest and abdominal radiography were suggestive of a possibility of disseminated tuberculosis involving lung and bowel. His condition deteriorated rapidly despite starting on anti-tuberculous agents and the patient expired due to refractory respiratory failure from acute respiratory distress syndrome. In conclusion, diagnosing and differentiating inflammatory bowel disease with bowel tuberculosis could be challenging. Let us always bear in mind about this constant threat of tuberculosis with combination and vigilant approaches to any presentations. The aims are to clinch the diagnosis early and to treat this communicable disease promptly. (Authors' abstract)

Keywords: *tuberculosis, Crohns disease, immunosuppressive agent, ventilation, Medicine*

Ultrasound Features of Thyroid Nodules Predictive of Thyroid Malignancy as Determined by Fine Needle Aspiration Biopsy

Alcazaren, Elizabeth Ann S. , Arzadon, Jasmin , Puno-Ramos, Maria Patricia G., Kasala, Ruben G. , Villa, Michael

Current guidelines recommend that in patients presenting with clinically palpable nodules or with an ultrasound finding of a thyroid nodule, one has to evaluate its risk for malignancy by proceeding with a fine needle aspiration biopsy (FNAB). The decision to do FNAB would depend on ultrasonographic features of the nodule, which include its size, hypoechogenicity, presence of microcalcifications, increased central vascularity, infiltrative margins, and taller than wide measures on transverse plane. Elastography, a measure of tissue stiffness, is now also being utilized as another feature that has a positive correlation with malignancy. This study hoped to determine which among the abovementioned ultrasonographic features would best correlate with a higher risk for thyroid malignancy among adult patients who had undergone ultrasound guided FNAB. A prospective study was done in a cohort of all Filipino patients 19 years old and above who underwent ultrasound guided FNAB of the thyroid nodule/s from July to December 2013 at the Radiology Section of The Medical City, Pasig City, Philippines. Specimen obtained from FNAB were then reviewed by a pathologist to determine its cytopathology and categorized based on the Bethesda System of Classification. The cytopathology reports were correlated with the features seen on the patient's thyroid ultrasound to determine which characteristic would be predictive of malignancy.

A total of 100 patients underwent ultrasoundguided FNAB, from which 157 nodules were biopsied. 27 nodules were excluded from the analysis due to non-diagnostic or unsatisfactory (Bethesda Category I) findings on cytopathology. Among the 100 patients, 86% of which were females with the mean age of 41 ± 11.31 in those found to have malignant cytopathologic diagnosis. Of the 130 nodules biopsied, 115 nodules were identified as benign (Bethesda Category II) while 15 were identified to be malignant or suspicious for malignancy (Bethesda Category III–VI). Each of the five sonographic features that were predictive of malignancy was compared between the two outcome groups (benign versus malignant). Among them, only the presence of microcalcifications on ultrasound showed to be significantly correlated with malignancy with an odds ratio of 11.3. Ultrasound evaluation with elastography was only performed on 24 nodules and hence results were inconclusive. A nodule possessing more than two of the ultrasound features that were predictive of malignancy was more likely to be malignant on cytopathology (p value of 0.00). The presence of microcalcifications on thyroid nodules as seen on ultrasound is a significant predictor of malignancy and remains to be consistent locally as with foreign studies. Nodules that were proven to be malignant on cytopathology presented with more of the ultrasound features that are said to be predictive of malignancy. (Authors' abstract)

Keywords: thyroid malignancy, thyroid nodules, thyroid ultrasound, Medicine

Unusual Sites of Tuberculosis in Patients with Rheumatologic Conditions

Gutierrez- Rubio, A.K. , Manapat- Reyes, B.H. , Magbitang, A.T.D. , Hernandez,

Tuberculosis (TB) is a chronic infectious disease, with a growing incidence seen worldwide. Among the tuberculous infections, pulmonary TB remains to be the most common, with extrapulmonary TB seen in only less than 2.0% of this population. Although the latter remains to be rare, it is commonly found in the lymph nodes, gastrointestinal (GI) and genitourinary (GU) tracts, weight- bearing joints, and the meninges. But, however rare extra- pulmonary tuberculosis may be, some patients have reported the occurrence of such in less common sites. In patients with autoimmune diseases, the diagnosis and management of microbial infections remain complicated because of their immunocompromised nature, and because of the medications they receive. As tuberculosis is a curable disease, early identification and proper treatment should be applied to avoid further patient compromise. The objective of this paper was to present three cases of patients diagnosed with extrapulmonary tuberculosis at atypical sites namely tuberculous cellulitis, endometrial tuberculosis, and tuberculous dactylitis, accompanying a primary rheumatologic disease. Case 1 is a patient with Dermatomyositis who presented with pain and non- traumatic ecchymosis on his right gluteus, later diagnosed as TB cellulitis through a positive AFB smear of the aspirate. Case 2 is a patient with SLE whose amenorrhea was initially attributed to Cyclophosphamide. However, further work up revealed tuberculous bacteria through AFB smear of the curetting, hence was diagnosed with Endometrial TB. Case 3 reports another patient with SLE, who was diagnosed with recurrent TB dactylitis through a positive AFB smear of the biopsy. Despite the high endemicity of the Philippines for tuberculosis, extra- pulmonary TB continues to be underrecognized. Patients with autoimmune conditions are most likely to suffer from such infections due to their immunocompromised state. High suspicion and management remain to be the cornerstone to avoid diagnostic delays, and improve outcome. (Authors' abstract)

Keywords: autoimmune, tuberculosis, dermatomyositis, systemic lupus erythematosus, extra- pulmonary, Medicine

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Urate Lowering Efficacy of Febuxostat Versus Allopurinol in Hyperuricemic Patients with Gout

Pega-Flores, Christine Joy R. , Villazor-Isidro, Erika Bianca S., Santos-Estrella, Paul V. , Brojan, John Carlo

The prescribed maximum dose of allopurinol is 300 mg/day to maintain a serum uric acid (sUA) concentration of < 6.0 mg/dl. However, increasing evidence shows that 300 mg dose is ineffective in achieving the target sUA level, limiting allopurinol's use in certain subsets of patients who are intolerant to allopurinol such as patients with chronic kidney disease, with multiple comorbidities and elderly patients. The study was conducted to determine the efficacy and safety of febuxostat compared with allopurinol in lowering sUA level in patients with hyperuricemia in gout with a baseline sUA \geq 8 mg/ dl. Electronic searches through COCHRANE, EMBASE, PUBMED, and Manual Search we used for data collection. Search terms included the following: febuxostat, allopurinol, hyperuricemia, gout. Randomized, double-blinded, parallel group clinical trials with meta-analysis quality scale of A-B were included. Intervention included administration of febuxostat and allopurinol in determined dosages and duration in each study. All outcomes were examined using the random effects model. Dichotomous data were analyzed by calculating the odds ratio, with 95% confidence interval and a significant p value of 0.1 was used. Pooled data showed significant decrease in sUA level from baseline with

febuxostat 80 mg than with allopurinol with OR 0.31 (95% CI, 0.24-0.39, $p = 0.00001$). The risk of developing any adverse event with allopurinol is greater compared to febuxostat with RR 0.90 (95% CI, 0.84-0.96, $p = 0.002$). Febuxostat has significant urate lowering efficacy than allopurinol, and in patients with renal impairment without requiring dose adjustment, with lower incidence of any adverse events. However, elevated liver enzymes brought about by febuxostat were noted. (Authors' abstract)

Keywords: Allopurinol, Febuxostat, serum uric acid, hyperuricemia, gout, Medicine

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0583

Use of Eye Care Services among Type 2 Diabetic Patients in Laguna

Adarlo, Genejane, Carandang, Glenn, Rondaris, Maria Victo

Objective: The aim of the study was to determine the prevalence of diabetic patients seeking an ophthalmic evaluation for diabetic retinopathy. Specific objectives were to describe the prevalence and risk factors for diabetic retinopathy (DR) in a group of diabetic patients referred for retinal evaluation from different internists in Laguna by screening using digital retinal photography.

Methods: The study was a hospital-based mixed method study involving two portions: quantitative (cross-sectional) and qualitative. The cross-sectional portion involved patients diagnosed with type 2 diabetes by internists from San Pablo Colleges Medical Center referred for retinal evaluation using a non-mydratic retinal camera. Retinal photographs were categorised for the presence and severity of diabetic retinopathy according to the international clinical DR severity scales recommended by the Global Diabetic Retinopathy Project Group. The qualitative portion involved a focus group discussion among diabetic patients and a short key informant interview with the referring internists.

Results: Sixty-seven (67) diabetic patients were evaluated for diabetic retinopathy (DR) using digital retinal photography. The overall prevalence of any DR was 26% ($n=18$): 55% mild NDPR, 33% moderate NDPR, 6% severe NPDR and 6% PDR. Diabetic macular edema (DME) was present in 22% of patients with any form of DR. The focus group discussion reported the following reasons for consulting an ophthalmologist: presence of blurring of vision, availability of budget, knowledge of the need for ophthalmic evaluation, and order for evaluation by the internist. Interviews among the referring internists revealed three primary reasons for referring: history of visual disturbances, uncontrolled diabetes and finances of the patient.

Conclusion: This study presented a lower prevalence rate of diabetic retinopathy among patients who underwent digital retinal photography compared to that of other studies published in the Philippines. Nevertheless, it is important to continue patient education with regards to diabetic complications in the eye, and improve the referral system among medical practitioners. (Authors' abstract)

Keywords: diabetes, diabetic retinopathy, diabetic retinopathy screening, patient education, referral system, Medicine

Use of hollow polymethylmethacrylate as an orbital implant

Tan, Alexander D. , Agahan, Archimedes

The study was conducted to establish the physical properties of a low-weight hollow polymethylmethacrylate (PMMA) implant and determine its suitability as an orbital implant.

Hollow implants were molded by fusing 2 half-sphere shaped implants made from medical-grade PMMA powder. The water absorption capacity, bulk density, and hardness of the hollow implants were determined. Twelve patients were randomly divided into two equal groups: one group receiving the standard solid acrylic implant and another receiving the hollow PMMA implant. The anophthalmic socket was examined for complications due to surgery and type of implant used. Serial CT (computed tomography) scans were performed to detect implant migration. The hollow PMMA implant had the following physical properties: water absorption = 0.65%, bulk density = 0.57 g/cm³, and hardness = 71.2kg. Most of the implants remained in the socket at least 6 weeks in both groups with 1 case of early implant extrusion in the solid acrylic group. Small degree of implant migration was observed on CT scan in 4 patients in the solid acrylic group and 3 in the hollow PMMA group at 12 weeks follow-up. In the solid acrylic group, the implant migrated posteriorly in those that were eviscerated and anteriorly in those that were enucleated. No pattern was observed in the type of operation and direction of the implant migration in the hollow PMMA group. Hollow polymethylmethacrylate implants are comparable substitutes for solid acrylic implant. Multicenter clinical trials with adequate sample size and longer follow-up are needed to establish the long-term stability of the implant. (Authors' abstract)

Keywords: hollow polymethylmethacrylate, orbital implant, CT (computed tomography) scan, Medicine

Usher syndrome

Fermin, Maria Elisa P., Sy, Jocelyn

The study reported a case of Usher syndrome at the East Avenue Medical Center. A 26-year-old female was diagnosed to have Usher syndrome based on the presence of retinitis pigmentosa and sensorineural hearing loss. Patients with Usher syndrome associated with night blindness and deafness need appropriate supportive treatment and reassurance. (Authors' abstract)

Keywords: Usher syndrome, retinitis pigmentosa, sensorineural hearing loss, Medicine

Validation of the Modified Filipino Version of the American Diabetes Association Diabetes Risk Test and the St. Luke's Internal Medicine Diabetes Risk Test to Identify Population at Risk for Type 2 Diabetes Mellitus among Adults

Yumul, Sachi E. , Dampil, Oliver Allan C. , Machacon, Marie Sigourney S. , Tappan, Sweet Garllie Alb

In 2017, the American Diabetes Association (ADA) have introduced and recommended a Diabetes Risk Test for immediate detection of diabetes mellitus. Given the growing number of diabetics worldwide and in our country, early diagnosis and control of diabetes is vital. This study aimed to validate the modified filipino version of the ADA Diabetes Risk Test and the SLIM (St. Luke's Internal Medicine) Diabetes Risk Test. Phase I of this study involved questionnaire formulation, forward-back-forward translation, pilot testing and cognitive debriefing, and initial validation process (content validity, face validity, and test-retest reliability). There were 30 participants in the pilot testing, six experts for content validity, 40 patients in face validity, and 30 subjects for the test-retest reliability. The modified filipino version of the ADA Diabetes Risk Test and the SLIM Diabetes Risk Test formulated were considered relevant by majority of the subjects from the pilot testing and face validity and had content validity score from experts ranging from 80-100%. Items 1-4, and 8 of the questionnaires showed a kappa of one (p -value of <0.001) while the rest of the questions had kappa scores ranging from 0.60 to 0.86. The St. Luke's Internal Medicine (SLIM) Diabetes Risk Test, a 12-item questionnaire, was developed from the modified Filipino version of the ADA Diabetes Risk test incorporating other risk factors for diabetes to cater for adult Filipino patients. Phase I of this study showed that this questionnaire has acceptable content validity with moderate to perfect test-retesting reliability. Phase II of this study testing the criterion validity to determine diagnostic accuracy is ongoing. (Authors' abstract)

Keywords: risk, risk factors, type 2 diabetes mellitus, surveys and questionnaires, cross-sectional studies, Medicine

Validation using Nucleic Acid Testing (NAT) on Blood Donor Samples Non-Reactive to Transfusion-Transmissible Viruses by Immunoassay (EIA/ChLIA)

Arcellana-Nuqui, Elizabeth , de Vera, III, Benjamin , Punzalan, Kenneth Aristotle , Chamen, Iza Mae , Yu,

Transfusion-transmissible infections (HIV, HBV and HCV) remain a threat to public health specifically in assuring safe transfusion practices. This study aims to determine the ability of a blood service facility to accurately detect HIV, Hepatitis B and C and assess the need to include nucleic acid testing as part of the routine screening algorithm. Of the 3,233 samples from participants with screened sero-negative blood units, testing for HIV and Hepatitis C showed no discrepancies with EIA and NAT in all samples. Testing for Hepatitis B showed 12 (4.00%) samples which are reactive in both EIA and NAT, 3 (0.09%) samples were

reactive with EIA only and 48 (1.48%) were detected for the presence of Hepatitis B Virus via NAT. (Author's abstract)

Keywords: blood transfusions, human immunodeficiency virus, hepatitis, transfusion transmissible infections, nucleic acid test, Medicine

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0588

A valuable test for malignancy of orbital tumors

Pe, Lawrence Marlon H. , Lim, Gloria D. , Castro, Albe

This study determined the effectiveness of fine-needle aspiration biopsy (FNAB) in detecting malignancy in orbital lesions compared with section biopsy. Its sensitivity, specificity, and positive predictive value were determined. This is a nonrandomized, prospective, comparative study of 33 (20 males and 13 females, ages 11 months to 71 years) with orbital lesions who underwent FNAB. The cytologic results were correlated with the histologic results. Different pathologists who were blinded as to study lesions read the cytologic and histologic smears. Twenty-three patients whose smears had high yield of cells were included in the study. Excluded were 2 with poor yield smears, 3 hemorrhagic smears, and 5 without section biopsies of which 2 presented with pyogenic granuloma. FNAB is 87.5% sensitive and 100% specific, with a positive predictive value of 100%. No statistical difference was found between FNAB and section biopsy in detecting ocular malignancy ($p < 0.05$) in this study. FNAB has a good sensitivity and specificity in diagnosing ocular malignancy and is a useful tool in the diagnosis of orbital tumors. (Authors' abstract)

Keywords: Fine-needle aspiration biopsy, section biopsy, malignancy, orbital tumors, Medicine

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NP

0589

Can Video Laryngoscopy Be considered As An Alternative Airway Management Strategy In Obese Patient For Thyroid Surgery With A History Of Failed Fiberoptic Intubation?

Calma, Denise Kyle D., Lim, Lucille

Expertise in managing the airway is the prime clinical skill that defines anesthesiologists. A 45 year old female, 110 kg with a BMI of 45, diagnosed with multinodular non-toxic goiter consults an anesthesiologist if she could be successfully intubated. Her elective thyroidectomy was cancelled twice because of difficult laryngoscopy and failure of endotracheal intubation despite the use of awake flexible fiberoptic laryngoscopy. Fiberoptic intubation of the spontaneously breathing patient is the current gold standard and technique of choice for the elective management of an anticipated difficult intubation. What should be done if the gold standard fails?

According to the failed airway management algorithm, cricothyrotomy is the most rapid and accepted means of gaining access to the airways in a "cannot intubate, cannot oxygenate situation". How a surgical airway was circumvented will be discussed in this case report. (Authors' abstract)

Keywords: *Anticipated Difficult Airway, Management of Difficult Airway, Obese airway management, Anterior neck mass airway management, Medicine*

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0590

Visual outcomes and higherorder aberrations of wavefront vs. combined wavefront aspheric myopic LASIK

Cruz, Emerson M. , Icasiano-Ramirez, Aimee Rose A. , Martinez, Gladness Henna A. , Ang, Robert Edward T., Tionson, Alexander

Objective

We compared the efficacy, safety, refractive and visual outcomes, and aberrometry results of wavefront-guided aspheric treatment (WTA) versus wavefront-guided treatment (WT).

Methods

This prospective, contralateral, comparative study included 60 eyes of 30 patients who underwent myopic LASIK. One eye of each patient was randomized to either WTA or WT. Patients were followed up for 3 months postoperatively. Two-tailed paired t-test was used to determine statistical significance.

Results

At 3 months, 93% of eyes in the WTA group and 83% in the WT group had high-contrast uncorrected distance visual acuity (UDVA) of 20/20, while 87% in both groups achieved low-contrast UDVA of 20/40 or better. Sixty-four percent in the WTA gained 1 or more lines of low-contrast corrected distance visual acuity (CDVA) compared to 50% in the WT group. The mean sphere was 0.17D in the WTA and 0.14D in the WT ($p = 0.63$). The mean spherical equivalent was $-0.04D$ for WTA and $-0.03D$ for WT ($p = 0.88$). All eyes in both groups were within $\pm 1.00D$ of the target emmetropia. The mean change in total higher-order aberration (HOA) was $0.07 \mu m$ in the WTA compared to $0.15 \mu m$ in the WT group ($p = 0.04$). The mean change in spherical aberration was $-0.01 \mu m$ in the WTA and $0.18 \mu m$ in the WT group ($p < 0.001$). The mean change in Q value was significantly lower in the WTA (0.31) than in the WT group (0.63) ($p < 0.001$).

Conclusion

Wavefront aspheric LASIK (WTA) is a safe and effective treatment for myopic astigmatism. Refractive and visual outcomes were similar for both groups. WTA had less induction of higher-order aberration, lower spherical aberration, and better preservation of corneal asphericity (Q value). This translated to more lines of low-contrast vision gained compared to WT. (Authors' abstract)

Keywords: *LASIK, Wavefront-guided, Aspheric, Spherical aberration, higher-order , aberration, Corneal curvature, Medicine*

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0591

Visual Outcomes of Amblyopia Therapy

Monzon-Pajarillo, Andrea Kristina F. , Santos, Melissa Anne M., Valbuena, Marissa

Objective: To determine the visual outcome of amblyopia treatment and describe the relationship between age of onset and consult, compliance as measured by a patch diary, amblyopia subtype, and severity with the final visual outcome.

Methods: Thirty-two consecutive, newly-diagnosed cases of amblyopia, aged 3-8 years on initial consult, with no history of prior amblyopia treatment, were included. Patching was done based on current AAO recommendations and patients were followed up monthly for 6 months. Treatment success was defined as best corrected visual acuity (BCVA) better than 20/30 (0.17LogMAR), or a 3-line improvement from baseline, or stable isoacuity for at least 3 months. Treatment failure was defined as no improvement of BCVA after 3 months of occlusion therapy or a regression of 2 lines. Descriptive and correlation statistics were performed comparing age of onset and consult, amblyopia subtype, severity, and compliance with the main outcome measure of BCVA at 6 months.

Results: Sixteen (50%) attained treatment success. Patients seen earlier (age 2-5 years) had higher rates of success (75%) than those seen later (age 6-8 years) (35%). A moderately strong negative correlation ($r=-0.48$, $p=0.01$) existed between severity of amblyopia and final BCVA at 6 months. overall compliance to patching was $88\pm 18\%$, with good compliance in the success group (92%) compared to fair compliance in the failure group (84%) and a moderate correlation between compliance and BCVA ($r=0.37$, $p=0.05$).

Conclusion: Treatment success was related to severity, compliance, and younger age of treatment. In the presence of good compliance, severity was a strong prognostic variable.(Authors' abstract)

Keywords: *Amblyopia, Patching, Compliance, Sensory Deprivation, Anisometropia, Occlusion therapy, Medicine*

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0592

Visual Profile of Motorcycle-related Ocular Trauma in a Tertiary Hospital

Larona, Allan Joseph L., Pe-Yan, Mary Rose

Objectives: To provide a representative data on the local profile of motorcycle-related ocular trauma seen in a tertiary hospital over a period of one year.

Methodology: A retrospective case review of all motorcycle-related trauma patients seen at the emergency room of the Philippine General Hospital (PGH) by the Trauma Service of the Department of Surgery and referred to the Department of Ophthalmology and Visual Sciences (DOVS) for eye injuries was conducted. Descriptive statistics were used to determine the prevalence and types of injuries, and the factors affecting these injuries.

Results: Thrity-four charts were reviewed; 9 (26.5%) patients had bilateral ocular involvement and 25 (73.5%) unilateral, a total of 43 eyes. The patients were mostly males in their productive age, belonged to the lower economic bracket, and came from nearby Southern Luzon provinces and the National Capital Region (NCR). Most of the injuries incurred were mild and involved the external surface of the eye. Night motorcycle driving, fair weather, and alcohol use were risks identified for motorcycle-related ocular injuries. Helmet use was the only identifiable risk indirectly correlated with severity of ocular injury.

Conclusion: Although majority of the ophthalmic injuries were classified as mild, and eyes involved had generally good visual potential, helmet use was the only identifiable risk associated with the severity of the ocular injury. (Authors' abstract)

Keywords: *Motorcycle, ocular trauma, ocular injuries, contusion hematoma, orbital floor fractures, Medicine*

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0593

Wading through Misery, Hope and Beauty in Caring for Cancer Patients: Experiences of Oncology Nurses

Jocelyn Perlas Lauro,, Veronica M. Dancil, Mercedes Arguel-Be

Nurses are often engaged in providing care for patients who are diagnosed with terminal illness and are faced with the process of dying. Working with these patients and families can be emotionally demanding and challenging. Nurses ought to meet the challenge of developing and rendering effective interventions for cancer patients, focusing predominantly on health promotion, end-of-life care, and above all, the four domains of health-related quality of life: physical, psychological, emotional and spiritual functioning. Health-related Quality of Life (HRQoL) interventions can empower patients to practice health behaviors and facilitate them to be self-directed in their care; thereby contributing substantially to their quality of life.

This study aimed to describe and understand the ‘lived’ experiences of oncology

nurses in providing health-related quality of life interventions among cancer patients. The study was conducted using descriptive phenomenological method and data was generated through one-on-one audio-recorded interview with ten oncology nurses. Colaizzi's (1978) procedural interpretation of the phenomenological method of inquiry was used for data coding and identifying themes. Methods to ensure trustworthiness of the findings were implemented.

Three themes with 14 sub-themes were identified. Results of the study showed that

health-related quality of life interventions were essential in nursing care among cancer patients. It was suggested that the manner in which cancer patients' quality of life improves through HRQoL interventions should be further studied. In addition, it may be of value for nursing leaders to provide specified training programs for oncology nurses working on issues relevant to the HRQoL intervention skills. (Authors' abstract)

Keywords: Oncology Nurses, Cancer Patients, Health-related Quality of Life, Health-related Quality of Life Interventions, Medicine

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0594

Wavefront-guided versus standard laser *in situ* keratomileusis in low to moderate myopia

Lim Bon Siong, Ruben , Cua, Irwin Y. , Oro, Mellanie M. , Sarmiento, Jerome M. , Villar, Winston L. , Rocas, Jose Erne

The study was investigated to compare the pre- and postoperative changes in higher-order aberrations after standard LASIK (PlanoScan, Bausch & Lomb) and wavefront-guided LASIK (Zyoptix, Bausch & Lomb) and determine their effects on visual acuity, contrast sensitivity, and refractive outcomes at one year postoperatively. In a prospective, randomized clinical trial, 15 patients with low to moderate myopia had standard LASIK on one eye and wavefront-guided LASIK on the contralateral eye. A Hartmann-Shack aberrometer (Zywave, Bausch & Lomb) was used to measure the aberrations. Root-mean-square (RMS) values were determined. Uncorrected visual acuity (UCVA), best corrected visual acuity (BCVA), refractive errors, and contrast sensitivity were also measured. Thirteen (87%) of the 15 eyes treated with Zyoptix and 12 (80%) of the 15 treated with PlanoScan had UCVA of 20/20 at one year postoperatively. The mean difference in the pre- and postoperative contrast sensitivity showed no significant changes in all spatial frequencies in both groups ($p > 0.05$). The difference in attempted versus achieved refraction was not significant between the two groups ($p = 0.794$). In all eyes, the total RMS increased postoperatively ($p < 0.001$), but the mean RMS difference from the preoperative values between the two groups was not statistically significant ($p = 0.257$). LASIK in low to moderate myopia increases overall high-order aberrations. Zyoptix LASIK offers no advantage over PlanoScan LASIK in decreasing highorder aberrations postoperatively and in achieving better visual and refractive outcomes. (Authors' abstract)

Keywords: in situ, keratomileusis, myopia , Uncorrected visual acuity (UCVA), Root-mean-square (RMS, Medicine

Wavefront-optimized treatment for myopia using Allegretto Wave Eye-Q excimer laser

Abaño, Jessica Marie R., Guzman, Cele

Objective

To evaluate the efficacy, predictability, and safety of LASIK surgery using the Allegretto Wave Eye-Q excimer laser.

Methods

Data of patients who underwent myopic LASIK were collected. The data consisted of pre- and postoperative refractions, uncorrected visual acuity (UCVA), best-corrected visual acuity (BCVA), and intraoperative treatment parameters. The main outcome measures were efficacy, predictability, and safety.

Results

One hundred eight eyes of 56 patients, 21 males and 35 females, mean age of 30.66 years, who underwent myopic LASIK in a tertiary hospital, were included in the study. The mean spherical error corrected was -5.22 ± 2.56 D (median, -5.0 D). Postoperatively, all eyes achieved UCVA of 20/30 or better, with 92.6% achieving 20/20. Nearly 94% of patients maintained or gained 1 to 2 Snellen lines of BCVA postoperatively. One patient lost 2 Snellen line of BCVA. The mean postoperative manifest refraction spherical equivalent (MRSE) was -0.04 ± 0.26 D. The general refractive predictability was 93.52% within ± 0.5 D from the target refraction, while 76% of all patients had a postoperative MRSE of within ± 0.25 of the target.

Conclusion

Myopic LASIK performed using the Allegretto Wave Eye-Q excimer laser is safe and effective with high refractive predictability. (Authors' abstract)

Keywords: Myopia, LASIK, Excimer laser, Visual Acuity, Wavefront, Medicine

Weathering an Adenosine Insensitive Right Ventricular Outflow Tract Ventricular Tachycardia (Ado-insensitive RVOT VT) Storm in an Adolescent Female: A Case Report

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Ventricular tachycardias (VT) are commonly associated with structural heart disease. However, 10% of VTs have no identifiable cause. Right ventricular outflow tract ventricular tachycardia (RVOT VT), a small subgroup of idiopathic VTs localized in the right ventricular outflow tract is highly sensitive to adenosine (ADO). Only 11% of RVOT VT is ADO-insensitive, posing a diagnostic challenge. The researchers presented a peculiar case of an ADO-insensitive RVOT-VT storm and the challenges of recognizing and managing it in a resource-limited setting. A 15-year-old female, asthmatic, complained of palpitations, lightheadedness, chest pain and dyspnea a few hours prior to admission. She had a similar episode a month ago, which necessitated ER admission, electrical cardioversion and amiodarone. On admission, she was tachycardic but normotensive. She had diffuse wheezes. Cardiac exam was normal. ECG revealed a wide complex tachycardia (WCT). Work-up revealed a normal chest x-ray, thyroid function tests and electrolytes. Echocardiogram showed a structurally normal heart. She was managed as a case of viral myocarditis and SVT with aberrancy. Vagal maneuvers and adenosine was given which slowed down the tachycardia. She was then started on IV anti-arrhythmics however, sustained symptomatic VT recurred on the same day. ECG analysis showed a WCT, LBBB, AV dissociation with positive QRS complexes in inferior leads suggestive of VT originating from the RVOT. RVOT VT storm was considered and adenosine (maximum dose) was given. The patient did not revert to sinus, hence, ADO-insensitive RVOT VT was considered. Cardioversion terminated the VT storm. On electrophysiology study, the VT was induced/ localized at the RVOT via 3D mapping. Ablation of the RVOT focus was performed, immediately terminating the VT. Post ablation, the patient was asymptomatic and was discharged improved with excellent prognosis. This case report highlights two things. The ECG remains a reliable tool in recognizing and localizing VTs clinically. Secondly, it highlights the importance of prompt recognition of ADO-insensitive RVOT VT because its management and prognosis is very different from the common causes of VT. (Authors' abstract)

Keywords: ventricular tachycardia, arrhythmia, electrocardiogram, VT ablation, Medicine

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0597

Web-based Interventions Among Adults: Relevance to Anthropometric Indicators

Serafica, Reimund C., Gatlin, Tricia

Purpose: Web-based interventions offer low cost and practical strategies to promote self-care for adult individuals with various health conditions and status issues around the globe. The purpose of this review was to summarize the current recent literature in examining the effectiveness of web-based interventions to promote healthy lifestyles related to anthropometric measurements in adult individuals with various health conditions and status.

Design: A systematic review of literature was conducted. Search of the literature was employed to web-based intervention studies in refereed journals written in the English language. The databases searched were PubMed, Ovid MEDLINE, CINAHL, and Google Scholar, with a search period of 2004–2014. In addition to these databases, a manual search was also used.

Methods: All studies were examined by three reviewers for eligibility using the Jadad

scoring system. Thirteen randomized controlled trial (RCT) studies (n=13) met criteria in this review and revealed significant associations between the utilization of web-based health promotion interventions on anthropometric measurements in adult populations with health related conditions.

Findings: Seven studies reported overall positive changes in the participants' anthropometric measurements at the completion of each study. Four out of seven

studies reported that adult participants' in the intervention groups had greater weight loss as compared to the control groups. In addition, one study out of the seven studies reported a larger reduction in BMI of the participants in the intervention group. Two studies out of 13 studies reported positive changes in BMI, waist circumference, body fat, and waist-hip-ratio in the control groups.

Conclusions: The outcomes from this review may prove useful information of

effectiveness of web-based interventions relative to physiological outcomes such as anthropometric measurements. These programs can inform transformative practice and improvement of global health. (Authors' abstract)

Keywords: anthropometric measurements, Web-based Interventions, Randomized controlled trial (RCT), PubMed, Ovid MEDLINE, CINAHL, Google Scholar, Medicine

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0598

Wellness Within Illness: An Evolutionary Concept Analysis

Moreno-Lacalle, Rain

The concept of wellness has no single, universal acceptable definition. The situation gives room to developing and refining wellness both as a concept and an experience. This paper aimed to substantiate the concepts surrounding wellness within an illness experience. Beth Rodger's evolutionary method of concept analysis provided the organizing framework for this paper. The data source was a search of literature published from 2010-2016 on CINAHL, Medline, EBSCO, and Google scholar database. Trailing process is organized with particular focus on antecedents, attributes, and consequences.

The analysis found four attributes of wellness within illness namely: normalizing, independence, empowerment, and finding meaning strengthened by antecedents such as strong social support, motivation, constructive coping strategies, and cognitive reframing. Subsequently these may lead to adaptation to illness, being well, and living to illness. Looking at wellness and illness in dichotomy may lead to rote deftness thus expansion of the panorama of wellness within an illness experience may lead to more depth on the scientific understanding and varied application. Increased conceptual understanding and knowledge development on wellness will enable nurses in facilitating patient's adaptation during illness. (Authors' abstract)

Keywords: wellness, illness, concept analysis, disease, health promotion, fitness, chronic, critical, burden, Medicine

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0599

X-linked Dystonia Parkinsonism - Bridging Cultural Beliefs with Medical Practice: Case Report

Mendoza, Trisha

Dystonia is often ascribed by common folk to supernatural causes rather than to a treatable medical condition. Such is what happened in this case of a 24 year-old male who presented with involuntary opening and closing of the mouth and writhing movements of the extremities, and who was eventually diagnosed with X-linked Dystonia Parkinsonism, endemic in males from Panay Island in the Philippines. A biopsychosocial approach on the management of the patient included symptom relief with an atypical antipsychotic, neuroleptics, and botulinum toxin injection, CEA, and risk assessment evaluation for prevention of long term complications and death. (Author's abstract)

Keywords: X-linked Dystonia Parkinsonism, biopsychosocial approach, atypical antipsychotic, neuroleptics, botulinum toxin injection, Medicine

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VETERINARY MEDICINE

0600

Detection of Pathogens on the Brown Dog Tick, *Rhipicephalus sanguineus* sensu lato (s.l.) (Arachnida: Acari: Ixodidae) in the Philippines

Bartolome-Cruz, Kathlyn

The objective of this study was to determine the negative effects of *Rhipicephalus sanguineus* sensu lato (s.l.) on infested dogs and its vector potential in three sites of the Philippines. To perform this study, blood samples were obtained from 953 dogs naturally infested with *R. sanguineus* (s.l.) ticks from three distinct localities in the Philippines (Los Baños, Laguna; Quezon City, Metro Manila; and Pasay City, Metro Manila). In the molecular detection of hemoparasites in *R. sanguineus* (s.l.) infested dogs, 6.40% were diagnosed positive with hemoparasites: *Hepatozoon* spp. (3.67%), *Babesia* spp. (2.00%), and *Ehrlichia* spp. (0.73%). *R. sanguineus* (s.l.) infested dogs positive with hemoparasites age range were 1–3 years old. Males (52.46%) were more infected than female (47.54%). The crossbreeds (24.60%) were the most infected with hemoparasite. In the detection of tick-carried pathogens vectored by *R. sanguineus* (s.l.), 29 untreated dogs were collected with ticks. Age range were observed within 1–3 years old, there were more male 20 (68.97%) than female 9 (31.03%), and most were crossbreed (51.72%) dogs. Nested PCR total detection rate was 12.50%: *Babesia* spp. (2.08%),

Hepatozoon spp. (2.08%), and *Ehrlichia* spp. (8.33%). Engorged adult female and male ticks were detected with positive the tick-carried pathogens. Co-infection of *Babesia* spp., *Hepatozoon* spp., and *Ehrlichia* spp. was also detected. BLASTS analysis confirmed the sequence identities of the positive tick samples as *Ehrlichia canis*. (Author's abstract)

Keywords: *molecular detection, Rhipicephalus sanguineus sensu lato (s.l.), tick-carried pathogens, Veterinary medicine*

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Fil(S) Q1 P55 147/4 2018

SUBJECT INDEX

12-lead electrocardiography	
Observer Variability in the Diagnosis of STElevation Myocardial Infarction from Emergency Room Electrocardiograms of Patients Presenting with Chest Pain	0446
2-octyl cyanoacrylate	
Comparison of Tensile Strength of Fibrin Glue, 2-Octyl Cyanoacrylate, Liquid Ocular Bandage, and Conventional Nylon 10-0 Sutures in Corneal Laceration Repair in an Animal Model	0252
3D conformal fractionated stereotactic radiotherapy	
Taking a close look at optic-nerve meningioma	0564
4th Branchial cleft fistula	
MIDLINE NECK FISTULA: 4TH BRANCHIAL CLEFT FISTULA VS INFECTED THYROGLOSSAL CYST	0432
5-fluorouracil	
Comparison of the In-Vitro Effects of Bevacizumab, Mitomycin-C, 5-Fluorouracil, and Triamcinolone Acetonide on the Viability of Cultured Human Tenon's Fibroblasts	0255
75-gram oral glucose tolerance test	
Diagnosis of Gestational Diabetes Mellitus Using the International Association of the Diabetes and Pregnancy Study Groups Criteria and Adverse Pregnancy Outcomes Among a Cohort of Filipino Women: An Association Analysis	0298
A. alba	
Mangrove Structure and Mud Crab Population in Northern Samar	0134
A1chieve	
Clinical Experience with BIAsp 30: Results from the Philippine Cohort of the Global A1chieve Study	0224
Abdomen	
Patients of Different Body Mass Index Classification and its Effect on Tube Current Time Product, Scanner Radiation Output and Image Quality as Applied in Multidetector Computed Tomography of the Whole Abdomen: A Retrospective Study	0455
aberrant	
Aberrant Diffuse Expression of p63 in Prostate Adenocarcinoma	0159
aberration	
Visual outcomes and higherorder aberrations of wavefront vs. combined wavefront aspheric myopic LASIK	0590
abnormal uterine bleeding	

Endometrial Tuberculosis Causing Amenorrhea and Abnormal Uterine Bleeding in a Lupus Patient Treated with Cyclophosphamide	0339
acanthamoeba	
A mysterious case of bilateral stromal keratitis	0439
accessory mitral valve leaflet	
Asymptomatic Accessory Mitral Valve Leaflet with Left Ventricular Outflow Tract Obstruction	0190
accommodating intraocular lens	
Measurement of Accommodative Amplitude Using Wavefront Aberrometer	0427
Accommodating IOL	
Clinical Comparison of Visual and Refractive Outcomes of Two Models of Accommodative Intraocular Lenses	0222
accommodating IOL	
Incidence, Indications, and Outcomes of Yag Capsulotomy In Eyes Implanted with an Accommodating Intraocular Lens	0382
accommodative amplitude	
Measurement of Accommodative Amplitude Using Wavefront Aberrometer	0427
acculturation	
The Meanings of Diabetes, Healthy Lifestyle and Barriers to Healthy Lifestyle Among Filipino Immigrants in the United States	0426
accuracy	
Accuracy of Blood Glucose Measurements Using Capillary and Arterial Line of Extracorporeal Circuit of Hemodialysis Among Diabetic Patients Undergoing Outpatient Hemodialysis at The Medical City	0160
The Accuracy of Mean Neutrophil Volume Relative to Blood Culture for the Diagnosis of Sepsis: A Meta-analysis	0161
acetocarmine	
In Vitro Germination and Viability Testing of Nipa (<i>Nypa fruticans</i> Wurmb.) Pollen under Different Storage Conditions	0041
acid-fast bacilli	
Histopathological Detection of <i>Mycobacterium Tuberculosis</i> and <i>Mycobacterium Lepae</i> using a Modified Acid-Fast Technique	0375
acne	
Double-Blind Randomized Controlled Trial on the Efficacy and Safety of Metformin as an Adjunct to Doxycycline and Tretinoin 0.025% Cream in the Treatment of Moderate to Severe Acne Vulgaris	0308
acne assessment	

The Appropriate Grading Tool to Assess Acne Severity in Face-to-face Consultation and Digital Skin Images	0177
acne grading tool	
The Appropriate Grading Tool to Assess Acne Severity in Face-to-face Consultation and Digital Skin Images	0177
acne vulgaris	
A Cross-Sectional Study on the Impact of Acne Vulgaris on the Quality of Life among High School Students in Pasig City, Philippines	0281
A Double-Blind, Randomized Controlled Trial on the Efficacy, Safety, and Tolerability of Argan Oil Cream in the Treatment of Mild to Moderate Acne Vulgaris	0309
ACOS	
A Case Report on a 29-Year-Old Male with Difficult to Treat Bronchial Asthma in Exacerbation: Rediscovering Asthma COPD Overlap Syndrome (ACOS)	0212
Acral Lentiginous Melanoma	
Acral Lentiginous Melanoma in Filipinos: Report of Two Cases	0162
Acrysof Cachet Phakic IOL	
Refractive and Visual Outcomes of Surgical Treatments for High Myopia	0506
actinomycetoma	
A CASE OF ACTINOMYCETOMA TREATED WITH CO-TRIMOXAZOLE (TRIMETHOPRIM + SULFAMETHOXAZOLE)	0206
actinomycosis	
Splenic Actinomycosis Mimicking Malignant Lymphoma - A Rare Case of Abdominal Actinomycosis	0548
Active Learning	
Relationship Between Level of Readiness for Self-directed Learning and Learning Styles of CEU Nursing Students	0509
Acute care	
Pressure Ulcer Prevention in Acute Care using the Pressure Ulcer Bundle of Care	0471
Acute Chest Pain	
Diagnostic Accuracy of Mean Platelet Volume in the Diagnosis of Acute Coronary Syndromes among Patients with Acute Chest Pain at the Emergency Room of Philippine Heart Center	0299
acute coronary syndrome	
Apolipoprotein Levels in Patients with Acute Coronary Syndrome (LIPAS): A Pilot Study	0176
Association of the Platelet–Lymphocyte Ratio (PLR) with Outcomes in Patients Admitted for Acute Coronary Syndrome: The PLACS Study	0188

A Descriptive Study on the Initial Management of Patients with Acute Coronary Syndrome in Emergency Rooms of Philippine Hospitals	0291
The “Weekend Effect” Among Patients Presenting with Acute Coronary Syndrome at the Philippine General Hospital	0410
Prognostic Impact of Coronary Collaterals in Acute Coronary Syndrome (PICC-ACS): A Meta-analysis of Observational Studies	0489
Acute coronary syndromes	
Diagnostic Accuracy of Mean Platelet Volume in the Diagnosis of Acute Coronary Syndromes among Patients with Acute Chest Pain at the Emergency Room of Philippine Heart Center	0299
acute diarrhea	
FOLIC ACID SUPPLEMENTATION IN THE TREATMENT OF ACUTE WATERY DIARRHEA IN CHILDREN 6 MONTHS TO 36 MONTHS OF AGE: A RANDOMIZED DOUBLE-BLIND PLACEBO-CONTROLLED CLINICAL TRIAL	0359
Acute febrile neutrophilic dermatosis	
Peripheral ulcerative keratitis in Sweet syndrome	0457
acute ischemic stroke	
A Case Report on Cerebrogenic Fatal Cardiac Arrhythmia in a Patient with Acute Ischemic Stroke	0213
acute myelogenous leukemia	
Bumps of Blood Cells: Blastic Plasmacytoid Dendritic Cell Neoplasm in an Elderly Filipino	0202
Acute Myelogenous Leukemia	
LARGE ERYTHEMATOUS MASS OF THE AURICLE IN A 17-YEAR OLD MALE: AN UNCOMMON PRESENTATION OF ACUTE MYELOGENOUS LEUKEMIA	0406
acute myelogenous leukemia	
Clinical Profile and Outcome of Infections Among Adult Leukemia Patients with Febrile Neutropenia Admitted at the University of Santo Tomas Hospital	0228
acute myocardial infarction	
Acute Myocardial Infarction in Very Young Filipino Adults	0163
Acute primary angle closure	
Long-term intraocular-pressure outcome following an attack of acute primary angle closure	0414
Acute renal infarction	
Acute Renal Infarction Secondary to Membranous Glomerulopathy	0164
acute watery	
COLOSTRUM POWDER SUPPLEMENTATION IN THE TREATMENT OF ACUTE WATERY, NON BLOODY DIARRHEA IN CHILDREN 6 MONTHS	0236

TO 36 MONTHS OF AGE WITH SOME SIGNS OF DEHYDRATION: A
RANDOMIZED DOUBLE BLIND PLACEBO CONTROLLED CLINICAL
TRIAL

Adenoid cystic carcinoma

THE MYSTERY OF SALIVARY GLAND TUMORS 0566

adenoma

Paneth Cells in Colonic Adenomas: Association with Higher Adenoma Burden 0454

adherence behaviors and compliance

Hemodialysis Patients' Compliance and Adherence Behaviors to Renal
Replacement Therapy in Two Dialysis Centers in Iloilo City 0371

adhesive

Production of plant-derived polymers of high added-value 0104

adnexal neoplasm

A Case of Eccrine Carcinoma Presenting with Neurological Manifestations 0209

adolescence

A Cross-Sectional Study on the Impact of Acne Vulgaris on the Quality of Life
among High School Students in Pasig City, Philippines 0281

Adolescent

An Atypical Presentation of Pulmonary Tuberculosis in an Asthmatic Adolescent:
A Case Report 0191

adolescent

The Diabetes Camp Experience of Adolescents with Type 1 Diabetes 0297

adrenal cancer

Endocrine Malignancies: A Five-Year Retrospective Analysis in a Tertiary
Hospital 0338

adrenal carcinoma

Clinical, Surgical, and Histopathologic Outcomes of Filipino Patients who
Underwent Adrenalectomy in a Tertiary Hospital in Cebu, Philippines 0232

adrenal nodules

Outcomes Following Laparoscopic Adrenalectomy as Treatment for Patients with
Adrenal Nodules 0451

adrenal-dependent secondary hypertension

Clinical, Surgical, and Histopathologic Outcomes of Filipino Patients who
Underwent Adrenalectomy in a Tertiary Hospital in Cebu, Philippines 0232

adrenalectomy

Clinical, Surgical, and Histopathologic Outcomes of Filipino Patients who
Underwent Adrenalectomy in a Tertiary Hospital in Cebu, Philippines 0232

adult

Langerhans Cell Histiocytosis of the External Auditory Canal in an Adult Patient with Myelodysplastic Syndrome: A Case Report	0405
adult patients	
The Appropriate Use of Proton Pump Inhibitors in Adult Patients Admitted in the Intensive Care Unit of a Tertiary Hospital	0178
adults	
The Development and Acceptability of a Board Game to Supplement Standard Diabetes Education at the University of Santo Tomas Hospital	0293
Advanced glaucoma	
Risk of visual loss in advanced glaucoma after trabeculectomy and combined cataract surgery	0525
adverse drug reaction	
Adverse Drug Reaction to Nevirapine in an Immuno-Compromised Patient: A Case Report	0166
Adverse drug reaction	
Toxic epidermal necrolysis	0571
adverse pregnancy outcomes	
Diagnosis of Gestational Diabetes Mellitus Using the International Association of the Diabetes and Pregnancy Study Groups Criteria and Adverse Pregnancy Outcomes Among a Cohort of Filipino Women: An Association Analysis	0298
Age of gestation	
4-Year Prevalence and Outcome of Initial Screening for Retinopathy of Prematurity in a Tertiary Hospital	0158
Age-related cataract	
Association of Cumulative Dissipated Energy and Postoperative Foveal Thickness among Patients with Age-related Cataract who Underwent Uncomplicated Phacoemulsification	0186
Age-related macular degeneration	
Baseline Macular Pigment Optical Density among Filipinos with Age-related Macular Degeneration	0195
age-related macular degeneration	
Macular Pigment Optical Density in Healthy Eyes of Filipino Adults	0419
agricultural produce	
Commercial Biohydrogen Production Project in 2013	0077
agricultural residue	
Agricultural Residue Feedstock Selection for Polyhydroxyalkanoates Production using AHP-GRA	0046
Agriculture	

Inventory and Morphometrics of Anuran Species Found in Mt. Kilala of the Mt. Hamiguitan Range Wildlife Sanctuary, Governor Generoso, Davao Oriental, Philippines	0001
Organogenic Potential of <i>Dendrobium</i> Floral Tissues for Stable Transformation Applications	0002
Plasma Heat Shock Protein 70, Physiological and Behavioral Responses of Gilts to Varying Temperature Humidity Index in a Controlled Chamber	0003
Variations in Growing Media and Plant Spacing for the Improved Production of Strawberry (<i>Fragaria ananassa</i> cv. Chandler)	0004
Ahmed glaucoma valve	
A retrospective review of autologous scleral flap versus donor scleral graft	0517
Ahmed® glaucoma valve	
Risk Factors for Conjunctival Tube Erosion in Eyes Implanted with Ahmed® Glaucoma Valve in a Private Eye Institution in the Philippines	0521
air pollution	
Phenotypic characterization of pink pigmented facultative methylotrophic bacteria from soil exposed to vehicular soot	0030
Akita-cedar trees	
Development of Production Process of Bioethanol in Japanese Way	0085
Alcohol-related ocular toxicity	
Methanol-induced bilateral optic neuropathy	0430
alcoholism	
Transient Hepatocellular Injury Associated with Hypertriglyceridemia and Hemolysis in an Alcoholic Filipino Male	0572
Alertness	
Effect of Duty Schedule on Emergency Medicine and Internal Medicine Residents in Training with Early, Intermediate and Late Chronotypes on Attention, Alertness and Reaction Time	0315
algae	
Biofuel from Algae	0072
Successful Flight Experiments with Biofuels	0107
Algal bloom	
Blooms of the colonial green algae, <i>Botryococcus braunii</i> Kützinger, in Paoay Lake, Luzon island, Philippines	0010
algorithm	
Optimal Deterministic Algorithm for the Hammock(2,2)-Poset Cover Problem	0045
Allergic asthma	
Efficacy of BCG immunotherapy in allergic asthma	0330

allergic rhinitis	
Safety of Fluticasone Furoate Nasal Spray Among Filipino Patients with Allergic Rhinitis: A Post-Marketing Surveillance Study	0536
Allopurinol	
Urate Lowering Efficacy of Febuxostat Versus Allopurinol in Hyperuricemic Patients with Gout	0582
Aloe Barbadensis	
Management of Plaque Type Psoriasis with Aloe Vera (Aloe Barbadensis) Extract in Hydrophilic Ointment versus Clobetasol Propionate Ointment: A Prospective Randomized Double Blind Controlled Trial	0422
Aloe Vera	
Management of Plaque Type Psoriasis with Aloe Vera (Aloe Barbadensis) Extract in Hydrophilic Ointment versus Clobetasol Propionate Ointment: A Prospective Randomized Double Blind Controlled Trial	0422
Alport syndrome	
Alport syndrome	0169
alternating current (AC)	
Low-cost electromagnet for extraction of metallic intraocular foreign body	0416
alternative medication	
Antimicrobial potency of colloidal silver compared with antibiotic eye drops	0174
AMACR/HMWCK/p63 cocktail	
Aberrant Diffuse Expression of p63 in Prostate Adenocarcinoma	0159
Amblyopia	
EYE PROFILE OF CHILDREN AGES 3-5 YEARS OLD IN A DAY-CARE CENTER IN BRGY. BATIS, SAN JUAN	0354
Visual Outcomes of Amblyopia Therapy	0591
AMD	
A Survey of Subtidal Anthropogenic Marine Debris (AMD) in Mayo Bay, Mati City, Davao Oriental, Philippines	0052
amlodipine	
A Post Marketing Surveillance Study To Evaluate the Efficacy and Safety of Fixed Dose Amlodipine - Losartan Potassium for the Treatment of Hypertension in the Philippines	0463
Real-World Effectiveness and Safety of Single-pill Combination of Amlodipine/Valsartan or Amlodipine/Valsartan/Hydrochlorothiazide in Patients with Hypertension from the Philippines	0504
ammoniacal odor	
Defects in the Handling, Storage and Transport of Mud Crab	0118
Handling, Storage and Transport Conditions of Mud Crabs in Trading Centers	0128

Amniotic-membrane transplantation	
Dehydrated human-amnioticmembrane allograft versus conjunctival autograft after pterygium excision	0284
amphibian fauna	
Preliminary report on the anurans of Mts. Palay-Palay Mataas-na-Gulod protected landscape, Luzon Island, Philippines	0033
Amphotericin B	
Antifungal Activity of Voriconazole on Local Isolates: an In-vitro Study	0172
amputation	
Long Term Outcome of Type 2 Diabetic Patients With Critical Limb Ischemia	0413
Amvisc Plus (AP)	
A prospective, randomized clinical trial comparing the effects of three viscoelastics on the corneal endothelium after cataract surgery	0491
Amyntas	
Earthworm Distribution in Selected Islands of the Visayan (Central Philippine) Archipelago	0017
ANA	
Rituximab for Refractory Anemia and Thrombocytopenia in a Patient with Systemic Lupus Erythematosus	0526
Analgesia	
A Survey of Knowledge, Attitudes and Practices of Sedation and Analgesia Among Medical Residents and Pulmonary Fellows-intraining at the University of the Philippines-Philippine General Hospital	0561
analytic hierarchy process	
Agricultural Residue Feedstock Selection for Polyhydroxyalkanoates Production using AHP-GRA	0046
ANCA-associated vasculitis	
A Filipino with Polyangiitis Overlap Syndrome and Associated Multiple Infections	0356
ANCA-associated vasculitis	
A Case of Churg-Strauss Syndrome Presenting with Foot Drop	0208
angiography	
Surgically induced necrotizing scleritis after a routine extracapsular cataract extraction	0560
angioplasty	
Long Term Outcome of Type 2 Diabetic Patients With Critical Limb Ischemia	0413
angiosarcoma pseudoangiomatous stromal hyperplasia	
Rare Mammary Lesions: A Radiologic-Pathologic Correlation	0503
Angle-supported phakic intraocular lens	

Angle-supported intraocular-lens implantation for the correction of moderate to high myopia	0170
Anisometropia	
Visual Outcomes of Amblyopia Therapy	0591
Ankle/brachial index	
Relationship of Diabetic Retinopathy with Ankle Brachial Index and Microalbuminuria in Type 2 Diabetics	0511
ankylosing spondylitis	
Correlation Between Disease Activity, Functional Capacity, and Health-Related Quality of Life of Filipinos with Ankylosing Spondylitis	0269
Disease Characteristics of Filipino Ankylosing Spondylitis Patients in Metro Manila Rheumatology Clinics	0306
Annonaceae	
Morphological and molecular identification of a novel species of <i>Uvaria</i> (Annonaceae) with potential medicinal properties	0026
anophthalmic socket	
Tear and Ocular Surface Profile in Adult Anophthalmic Sockets	0565
Anterior blepharitis	
Demodex sp. infestation in anterior blepharitis, meibomian-gland dysfunction, and mixed blepharitis	0286
anterior blepharitis	
Petroleum Jelly Versus Tea Tree Oil and Tea Tree Facial Wash Lid Scrub in Patients with Blepharitis Associated with Above-normal Demodex Count	0458
anterior lenticonus	
Alport syndrome	0169
anterior mediastinal mass	
Kaposi Sarcoma in an HIV-Negative Filipino with Myasthenia Gravis and Anterior Mediastinal Mass	0401
Anterior neck mass airway management	
Can Video Laryngoscopy Be considered As An Alternative Airway Management Strategy In Obese Patient For Thyroid Surgery With A History Of Failed Fiberoptic Intubation?	0589
Anterior-chamber angle	
Effect of brimonidine on anterior-chamber angle in patients with narrow angles	0314
anthracyclin-induced cardiotoxicity	
The Role of Prophylactic Renin-angiotensin System Inhibitors for the Prevention of Anthracycline-induced Cardiotoxicity Among Adult Cancer Patients: A Meta-analysis	0527
anthropometric measurements	

Web-based Interventions Among Adults: Relevance to Anthropometric Indicators	0597
Anti N-Methyl D Aspartate receptor encephalitis	
The Profile of Acute Encephalitis Cases Admitted at the Philippine Children's Medical Center from 2008-2012: A 5 Year Retrospective Study	0485
anti T-11	
E-rosette inhibition by anti-T11 and anti-lymphocyte globulin in cervical cancer a comparative study	0345
anti-hypertensive	
Blood Pressure-Lowering Efficacy of Spironolactone in Patients with Resistant Hypertension: A Meta-analysis	0201
Anti-lymphocyte globulin	
E-rosette inhibition by anti-T11 and anti-lymphocyte globulin in cervical cancer a comparative study	0345
Anti-thyroid peroxidase (anti-TPO) antibody	
Thyroid Ultrasound Findings Associated with Thyroid Peroxidase Autoantibody Positivity in Patients with Diffuse Goiter	0569
Anti-VEGF	
Clinical Outcomes After Intravitreal Bevacizumab Injection for Diabetic Macular Edema	0225
antibiotic	
Compliance with Guideline-Based Empiric Antimicrobial Therapy for Febrile Neutropenia in Adult Filipino Cancer Patients and their Effect on Outcomes	0259
antibiotic prophylaxis	
Antibiotic Prophylaxis for Chemotherapy-Induced Febrile Neutropenia in Hematologic and Solid Organ Malignancies	0171
Antibiotic sensitivity	
Ocular bacterial flora and antibiotic sensitivity among Filipino patients undergoing routine cataract surgery	0447

antibiotic susceptibility testing	
Proficiency Testing of Clinical Laboratories for Bacteriology in the Philippines, 2009–2015	0484
Anticipated Difficult Airway	
Can Video Laryngoscopy Be considered As An Alternative Airway Management Strategy In Obese Patient For Thyroid Surgery With A History Of Failed Fiberoptic Intubation?	0589
anticoagulant use	
Prevalence of Cardio-embolic Event Among Patients with Spontaneous Echo Contrast on Transthoracic Echocardiography (SMOCC-Heart Study)	0475
anticoagulation	
Adherence to Guidelines on Anticoagulant Management Among Adult Patients with Atrial Fibrillation at the Philippine General Hospital	0165
anticoagulation guidelines	
Adherence to Guidelines on Anticoagulant Management Among Adult Patients with Atrial Fibrillation at the Philippine General Hospital	0165
Antifungal susceptibility	
Antifungal Activity of Voriconazole on Local Isolates: an In-vitro Study	0172
antimicrobial	
Antimicrobial potency of colloidal silver compared with antibiotic eye drops	0174
Strategies to Reduce Disease Incidence in Mud Crab	0151
antimicrobial resistance	
Serotype Distribution and Antimicrobial Resistance of Streptococcus pneumoniae in the Philippines, 2004-2011	0542
antineutrophil cytoplasmic antibody	
A Filipino with Polyangiitis Overlap Syndrome and Associated Multiple Infections	0356
anuran assemblage	
Preliminary report on the anurans of Mts. Palay-Palay Mataas-na-Gulod protected landscape, Luzon Island, Philippines	0033
anurans	
Inventory and Morphometrics of Anuran Species Found in Mt. Kilala of the Mt. Hamiguitan Range Wildlife Sanctuary, Governor Generoso, Davao Oriental, Philippines	0001
anxiety	
Anxiety and Depression in Heart Failure Patients: A Prospective, Cross-Sectional Study	0175

Depression and Anxiety in Adults with Congenital Heart Disease Using the Validated Filipino Version of the Hospital Anxiety and Depression Score (HADS-P)	0289
Prevalence of Anxiety and Depression Among Filipino Patients with Chronic Obstructive Pulmonary Disease: A Multi-Center Study	0473
aortic arc calcification	
Association of Aortic Arch Calcification and Cerebrovascular Disease	0185
APG	
Leaf architecture of selected species of malvaceae <i>sensu</i> APG and its taxonomic significance	0022
Aphakic correction	
Implantation of single-piece hydrophobic acrylic intraocular lens in the ciliary sulcus	0378
Apocynaceae	
Molecular confirmation on the phylogenetic position of the genus <i>Clemensiella</i> Schltr. in marsdenieae (Apocynaceae - Asclepiadoideae)	0025
apolipoprotein	
Apolipoprotein Levels in Patients with Acute Coronary Syndrome (LIPAS): A Pilot Study	0176
Applanation tonometry	
Correlation of central corneal thickness and Goldmann applanation tonometry among Filipinos	0272
appropriate use	
The Appropriate Use of Proton Pump Inhibitors in Adult Patients Admitted in the Intensive Care Unit of a Tertiary Hospital	0178
AQUA Palawana	
Aquatic heteroptera of the Lake Manguao Catchment, palawan and New Rank of <i>Rhagovelia Kawakamii hoberlandti</i> Hungerford & Matsuda 1961	0006
Aquasilviculture technology	
Development of Aquasilviculture at BFAR-NBFTC, Pagbilao, Quezon	0119
Aqueous tear deficiency	
Efficacy of Topical Pilocarpine in the Management of Primary Aqueous Tear Deficiency: An Initial Study	0336
Aqueous-deficiency dry-eye disease	
Comparison of 20% autologous-serum eye drops with unpreserved hypromellose in the treatment of aqueous-teardeficient dry-eye disease	0244
Archiparetima	
Earthworm Distribution in Selected Islands of the Visayan (Central Philippine) Archipelago	0017

argan oil	
A Double-Blind, Randomized Controlled Trial on the Efficacy, Safety, and Tolerability of Argan Oil Cream in the Treatment of Mild to Moderate Acne Vulgaris	0309
Argon laser	
A prospective, randomized comparison of Nd:YAG and sequential argon-YAG laser iridotomy in Filipino eyes	0492
arrhythmia	
Weathering an Adenosine Insensitive Right Ventricular Outflow Tract Ventricular Tachycardia (Ado-insensitive RVOT VT) Storm in an Adolescent Female: A Case Report	0596
arsenate	
Infrared and Raman Microscopy of the Arsenate Double Salt Mineral Tilasite, CaMg(AsO ₄)F, from Långban, Värmland, Sweden	0043
ARSP	
Serotype Distribution and Antimicrobial Resistance of Streptococcus pneumoniae in the Philippines, 2004-2011	0542
Artemia	
Mud Crab Production Trials at the College of Fisheries and Marine Sciences, Aklan State University, New Washington, Aklan	0138
Updates on the Larviculture of Mud Crab at SEAFDEC/AQD	0154
arterial line	
Accuracy of Blood Glucose Measurements Using Capillary and Arterial Line of Extracorporeal Circuit of Hemodialysis Among Diabetic Patients Undergoing Outpatient Hemodialysis at The Medical City	0160
arthritis	
Chronic Tophaceous Gout in a Patient with Cyanotic Congenital Heart Disease	0219
Asclepiadoideae	
Molecular confirmation on the phylogenetic position of the genus <i>Clemensiella</i> Schltr. in marsdenieae (Apocynaceae - Asclepiadoideae)	0025
ASEAN	
The 9th EAS (East Asia Summit) Energy Cooperation Task Force Meeting	0064
Asian	
In-Hospital Outcomes of Methylprednisolone Pulse Therapy in the Treatment of Systemic Lupus Erythematosus	0390
Mixed Connective Tissue Disease in Filipinos – A 13-Year Retrospective Review of 14 Cases in the Philippine General Hospital	0433
Prevalence of Metabolic Syndrome in Filipino Patients with Gout in a Tertiary Hospital	0481

asian biomass resource	
Activities for Spreading the Use of Biomass to Southeast Asia	0065
Asian-West African biotype	
Biotype of the invasive plant species <i>Chromolaena odorata</i> (Asteraceae: Eupatoriaceae) in the Zamboanga Peninsula, The Philippines	0009
Aspergillus	
Antifungal Activity of Voriconazole on Local Isolates: an In-vitro Study	0172
Aspergillus flavus	
<i>In vitro</i> evaluation of natamycin 5% suspension against <i>Aspergillus flavus</i> , <i>Fusarium solani</i> , and <i>Candida parasilopsis</i>	0380
Aspheric	
Visual outcomes and higher order aberrations of wavefront vs. combined wavefront aspheric myopic LASIK	0590
aspiration and sclerosis of hepatic cyst	
Delayed Emergence After Hepatic Cyst Aspiration and Sclerosis Under Intravenous Sedation	0285
Asthma	
An Atypical Presentation of Pulmonary Tuberculosis in an Asthmatic Adolescent: A Case Report	0191
asthma	
A Case Report on a 29-Year-Old Male with Difficult to Treat Bronchial Asthma in Exacerbation: Rediscovering Asthma COPD Overlap Syndrome (ACOS)	0212
Prevalence of Asthma Among Filipino Adults Based on the National Nutrition and Health Survey (NNHS)	0474
astigmatism	
Comparing Femtosecond Lenticule Extraction (FLEX) and Femtosecond Laser In-situ Keratomileusis (LASIK) for Myopia and Astigmatism	0240
Comparison of Small Incision Lenticule Extraction (SMILE) and Femtosecond Laser In-Situ Keratomileusis (F-LASIK) for the Correction of Myopia and Astigmatism: 1-Year Clinical Outcome	0251
Astigmatism	
Comparison of the Rotational Stability of Different Toric Intraocular Lens Implants	0256
Atalantia linearis	
Beneric status of the endemic <i>Atalantia linearis</i> Merr (Rutaceae) based on <i>rps16</i> intron data (cpDNA), with a preliminary report on its phytochemical components	0008
atherothrombosis	
Four-year Clinical Outcomes of Filipino Patients with or at Risk for Atherothrombotic Events from the REACH Registry	0361

atherothrombotic disease	
Four-year Clinical Outcomes of Filipino Patients with or at Risk for Atherothrombotic Events from the REACH Registry	0361
atrial fibrillation	
Adherence to Guidelines on Anticoagulant Management Among Adult Patients with Atrial Fibrillation at the Philippine General Hospital	0165
atrial septal defect	
Pulmonary Arterial Aneurysm with Thrombus Formation and Atrial Septal Defect with Pulmonary Hypertension	0494
attention	
Effect of Duty Schedule on Emergency Medicine and Internal Medicine Residents in Training with Early, Intermediate and Late Chronotypes on Attention, Alertness and Reaction Time	0315
attitude	
The Effect of a Single-Session Diabetes Education on the Knowledge, and Attitudes of Patients with Type 2 Diabetes Mellitus Seen at Out-patient Clinics in Chinese General Hospital: A Prospective Cohort Study	0312
Attitude	
Knowledge, Attitude and Practices on Smoking Cessation Among Physicians in Makati Medical Center	0403
atypical antipsychotic	
X-linked Dystonia Parkinsonism - Bridging Cultural Beliefs with Medical Practice: Case Report	0599
Auricular hematomas	
LARGE ERYTHEMATOUS MASS OF THE AURICLE IN A 17-YEAR OLD MALE: AN UNCOMMON PRESENTATION OF ACUTE MYELOGENOUS LEUKEMIA	0406
Auto immune hemolytic anemia	
Autoimmune Hemolytic Anemia Revealing Classical Hodgkin Lymphoma: Two Case Reports and Literature Review	0192
Autoantibodies	
Efficacy of Selenium Supplementation on Autoantibody Titers in Gravesâ€™ Ophthalmopathy	0335
Autoclave sterilizer	
Effectiveness of the glass-bead sterilizer in ophthalmic instruments	0325
autoimmune	
Unusual Sites of Tuberculosis in Patients with Rheumatologic Conditions	0581
autologous fibrin glue	

Comparative Study Between Fibrin Glue Prepared from a Single Human Donor and Sutures for Sealing Induced Corneal Penetrating Wounds on Porcine Eyes	0238
Autologous scleral flap	
A retrospective review of autologous scleral flap versus donor scleral graft	0517
autologous scleral flap	
Risk Factors for Conjunctival Tube Erosion in Eyes Implanted with Ahmed® Glaucoma Valve in a Private Eye Institution in the Philippines	0521
Autologous-serum eye s	
Comparison of 20% autologous-serum eye drops with unpreserved hypromellose in the treatment of aqueous-teardeficient dry-eye disease	0244
automobile fuel	
Biofuel and Unused Fossil Fuel to be Essential for Automobile Fuels by 2020	0071
Autotomy	
Induction of Molting in Hatchery-reared Mud Crab <i>Scylla serrata</i> Juveniles Through Temperature Manipulation or Autotomy	0131
Avascular necrosis	
Challenges in the Management of Concomitant TB Arthritis and AVN in a Lupus Patient with Adverse Drug Reaction to Anti-Koch's Medications	0216
Average peripapillary RNFL thickness	
Correlation Between Average Retinal Nerve Fiber Layer Thickness and Rim Area of the Spectral-Domain OCT with the Humphrey Visual Field Index in Eyes with Glaucoma	0268
Correlation of Average RNFL Thickness Using the STRATUS OCT with the Perimetric Staging of Glaucoma	0270
Avicennia marina	
Mangrove Structure and Mud Crab Population in Northern Samar	0134
axillary lymph node dissection	
Intraoperative Frozen Section Assessment of Sentinel Lymph Nodes in Breast Cancer: Six-Year Experience in a Tertiary Hospital	0396
B-scan	
Surgically induced necrotizing scleritis after a routine extracapsular cataract extraction	0560
babasu oil	
Successful Flight Experiments with Biofuels	0107
Bacillus clausii	
Histomorphologic Effects of <i>Bacillus clausii</i> Spores in Enteropathogenic <i>E. coli</i> O127:H21-infected Mice: A Pilot Study	0374
Bacillus subtilis	
Strategies to Reduce Disease Incidence in Mud Crab	0151

Bacitracin

Comparison of preoperative anti-infective preparations for extracapsular lens extraction 0249

bacteremia

Clinical Profile and Outcome of *Stenotrophomonas maltophilia* Infections Among Adult Patients Admitted at the University of Santo Tomas Hospital: A Seven-Year Retrospective Study 0229

Bacterial Diversity

Characterization and identification of high cellulase-producing bacterial strains from Philippine mangroves 0011

Screening and optimization of cellulase production of *Basillus* strains isolated from Philippine mangroves 0035

Bacterial Enzymes

Screening and optimization of cellulase production of *Basillus* strains isolated from Philippine mangroves 0035

Bacterial flora

Ocular bacterial flora and antibiotic sensitivity among Filipino patients undergoing routine cataract surgery 0447

bacterial identification

Isolation and characterization of purple nonsulfur bacteria (PNSB) from a rice paddy soil in Bulacan, Philippines 0021

Proficiency Testing of Clinical Laboratories for Bacteriology in the Philippines, 2009–2015 0484

bacteriovores

Bacterial and yeast food preferences of cellular slime molds (*Dictyostelids*) isolated from Lubang Island, Occidental Mindoro, Philippines 0007

Badminton

Multicenter survey of badminton-related eye injuries	0438
Balloon dacryocystoplasty	
Endoscopy-assisted balloon dacryocystoplasty in the treatment of congenital nasolacrimal-duct obstruction	0340
balloon dacryoplasty	
Surgical Technique and Preliminary Results of Transcanalicular Endoscopic Lacrimal Duct Recanalization and Balloon Dacryoplasty with Silicone Intubation in Filipino Patients with Complete Nasolacrimal Duct Obstruction	0559
Balloon valvotomy	
PREDICTORS OF RESTENOSIS AFTER PERCUTANEOUS BALLOON MITRAL VALVULOPLASTY	0470
bamboo	
Biofuels from Bamboo Forests	0073
The Challenge to Diversify Raw Materials for Biofuel: Utilization of Powered Bamboo	0076
Bardet-Biedl syndrome	
Manifestations of Bardet-Biedl syndrome	0423
basal cell tumors	
An Insight into the Histopathology of Oral Neoplasms with Basaloid Morphology and a Working Classification	0391
basal insulin	
The Efficacy of Daily Compared to Twice Weekly Basal Insulin Titration Algorithms Among Patients with Type II Diabetes Mellitus: A 12-Week Randomized Controlled Trial	0331
basaloid morphology	
An Insight into the Histopathology of Oral Neoplasms with Basaloid Morphology and a Working Classification	0391
Baseline data	
Annotated list of odonata from mainit hot spring protected landscape, Compostela Valley, Mindanao Island, Philippines	0005
BCG immunotherapy	
Efficacy of BCG immunotherapy in allergic asthma	0330
bechet's disease	
Disease Characteristics of Behcet's Disease Among Filipino Patients Seen in Rheumatology Clinics	0305
bechet's syndrome	
Disease Characteristics of Behcet's Disease Among Filipino Patients Seen in Rheumatology Clinics	0305
Beckman-Coulter ACT 5Diff hematology auto-analyzer	

Diagnostic Accuracy of Mean Platelet Volume in the Diagnosis of Acute Coronary Syndromes among Patients with Acute Chest Pain at the Emergency Room of Philippine Heart Center	0299
behavior	
Plasma Heat Shock Protein 70, Physiological and Behavioral Responses of Gilts to Varying Temperature Humidity Index in a Controlled Chamber	0003
behavioral	
Dyspnea Among Patients with Advanced Lung Cancer: A Concept Analysis	0311
Berlin questionnaire	
Association, Incidence and Clinical Profile of Patients with Obstructive Sleep Apnea and First-Onset Stroke in a Tertiary Hospital: A Prospective Descriptive Study	0184
berry shape	
Interspecific and Intraspecific Variation in <i>Coffea</i> sp. using Fruit Metric and Landmark-based Geomorphometric Analyses	0019
Bevacizumab	
Clinical Outcomes After Intravitreal Bevacizumab Injection for Diabetic Macular Edema	0225
Comparison of the In-Vitro Effects of Bevacizumab, Mitomycin-C, 5-Fluorouracil, and Triamcinolone Acetonide on the Viability of Cultured Human Tenon's Fibroblasts	0255
Intravitreal Bevacizumab as Adjunctive Therapy for Bleb Survival in Trabeculectomy in Rabbit Eyes	0398
Topical Bevacizumab as Adjunctive Therapy for Bleb Survival after Trabeculectomy in the Rabbit Model	0570
BIAsp 30	
Clinical Experience with BIAsp 30: Results from the Philippine Cohort of the Global A1chieve Study	0224
Bicol	
Culturable Foliar Fungal Endophytes of Mangrove Species in Bicol Region, Philippines	0014
bicuspid aortic valve	
Pulmonary Endarteritis in a Patient with Patent Ductus Arteriosus and a Bicuspid Aortic Valve	0495
bilateral corneal opacity	
A case of bilateral corneal opacity	0207
bilateral frozen orbits	
Chopstick splinter: A rare cause of bilateral frozen orbits	0218
bilateral leukocoria	

Retinal Dysplasia	0514
bilateral stromal keratitis	
A mysterious case of bilateral stromal keratitis	0439
Bio-ETBE	
Bio-ETBE Production Using Domestic Bioethanol	0069
Biofuels Supplied from Oil Industry	0074
bio-power generation	
Construction of Woody-pellet Production Plants in Thailand and Indonesia	0081
Bio-prospecting	
Characterization and identification of high cellulase-producing bacterial strains from Philippine mangroves	0011
Screening and optimization of cellulase production of Basillus strains isolated from Philippine mangroves	0035
biodiesel	
Diversification in Biofuel: Produced from Sunflower Seeds	0086
Production of Biofuel Using the World's Most Advanced Fermentation Technology	0103
Use of E5 obligatory in the Philippines	0112
biodiesel fuel	
Activities for Spreading the Use of Biomass to Southeast Asia	0065
Biodiesel in Thailand	0068
Diversification in Biofuel: Produced from Sunflower Seeds	0086
Indonesian National Plan for Biomass Energy Supply	0093
Nippon Oil Corporation started the full-scale sales of ETBE-mixed bio-gasoline	0099
biodiversity	
Inventory and Morphometrics of Anuran Species Found in Mt. Kilala of the Mt. Hamiguitan Range Wildlife Sanctuary, Governor Generoso, Davao Oriental, Philippines	0001
Status of the Myxomycete collection at the UPLB-Museum of Natural History (UPLB-MNH) Mycological herbarium	0037
Bioelectrical Impedance Analysis	
Correlation of Percent Body Fat by Bioelectrical Impedance Analysis with Anthropometric and Metabolic Variables Among Adult Filipinos	0274
bioenergy	
Construction of Woody-pellet Production Plants in Thailand and Indonesia	0081
bioethanol	
40 yen/litter of Bioethanol is the Goal!	0063
Activities for Spreading the Use of Biomass to Southeast Asia	0065
Bioethanol from Squeezed Lees of Mandarin Oranges	0070

Biofuels from Bamboo Forests	0073
New Development of High Efficiency Lignin Elimination Technique	0084
Development of Production Process of Bioethanol in Japanese Way	0085
The Indonesian government doubled the dissemination subsidy for bio-fuel in fiscal 2010	0092
JA Group Start Regular Production of Domestic Biofuel	0095
Latest News Topic of Biofuel Development in India	0096
Nippon Oil Corporation started the full-scale sales of ETBE-mixed bio-gasoline	0099
Test Use of E3-Gasoline has started	0109
Use of E5 obligatory in the Philippines	0112
Woody Bioethanol Proof Production Plant in Akita	0114
bioethanol production technology	
Construction of RITE-Honda Process Test Plant for Bioethanol Production	0080
New Development of High Efficiency Lignin Elimination Technique	0084
biofuel	
21 Biomass Projects Selected among The Hundred New Energy Developments	0062
40 yen/litter of Bioethanol is the Goal!	0063
Biodiesel Fuel is becoming popular in local areas of Japan (Kyoto)	0067
Biofuel and Unused Fossil Fuel to be Essential for Automobile Fuels by 2020	0071
Biofuel from Algae	0072
Biofuels Supplied from Oil Industry	0074
The Challenge to Diversify Raw Materials for Biofuel: Utilization of Powered Bamboo	0076
Construction of Proof Production Plant for BTL	0079
Construction of Woody-pellet Production Plants in Thailand and Indonesia	0081
For Expanding Use of Biofuels in Japan	0090
The Indonesian government doubled the dissemination subsidy for bio-fuel in fiscal 2010	0092
Indonesian National Plan for Biomass Energy Supply	0093
Local Production and Local Consumption of Biomass Energy	0097
Nippon Oil Corporation started the full-scale sales of ETBE-mixed bio-gasoline	0099
Reduce CO ₂ Emission by Power Generation Using Woody Biomass	0105
Successful Flight Experiments with Biofuels	0107
Synthesizing DME (Dimethyl Ether) from wooden biomass	0108
biofuel production	
10th East Asia Summit – Energy Cooperation Task Force Meeting	

Abad, Cybele Lara	171	Adtoon, Jenny A.	41	Alava, Hilda Diana A.	474
Abad, Reynaldo G.	41	Afos, Ivy Elline S.	307	Alava, Veronica	150
Abad-Venida, Ma. Luisa	206	Afos, Ivy Elline S.	464	Alava, Veronica R.	127
Abad-Venida, Ma. Luisa	234	Afos, Ivy Elline S.	366	Alava, Veronica R.	117
Abaño, Jessica Marie R.	252	Agahan, Archimedes Lee D.	584	Alava, Veronica R.	125
Abaño, Jessica Marie R.	595	Agahan, Archimedes Lee D.	172	Alava, Veronica R.	141
Abasolo, Herlyn C.	283	Agbayani, Benigno F.	233	Alava, Veronica R.	142
Abcede, April Melody T.	556	Agbayani, Benigno F.	330	Alava, Veronica R.	143
Abdelfatteh, Zakhama	192	Agbayani, Michael Joseph	596	Alba, Willy S.	285
Abdul Rahman, Ropilah	414	Agbayani, Renato F.	130	Albano, Bernard Benjamin	295
Abelardo, Nelson S.	475	Agdeppa, Maria Cecilia Gertrudis	457	Alcazaren, Elizabeth Ann	396
Abelardo, Nelson S.	500	Agoo, Esperanza Maribel G.	13	Alcazaren, Elizabeth Ann S.	580
Ablan-Lagman, Ma. Carmen	148	Aguilar, Romulo N.	544	Alegria, Rainier Mark	213
Ablan-Lagman, Ma. Carmen	152	Aguilar, Romulo N.	368	Alejandro, G.J.D.	26
Ablog, Jay A.	319	Aguilar, Romulo N.	493	Alejandro, Grecebio Jonathan D.	15
Abola, Ma. Teresa	353	Aguinaldo, Razaele	484	Alejandro, Grecebio Jonathan D.	27
Abola, Maria Teresa B.	361	Aguinod-Cheng, Patricia J.	511	Alejandro, Grecebio Jonathan D.	8
Abong, Jovilia M.	474	Agulto, Manuel	398	Alejandro, Grecebio Jonathan D.	25
Abrahan IV, Lauro L.	356	Agulto, Manuel B.	492	Alejandro, Grecebio Jonathan D.	36
Abrahan, IV, Lauro L.	188	Agulto, Manuel B.	302	Alejo, Julieta V.	145
Abrahan, IV, Lauro L.	307	Agulto, Manuel B.	512	Alfafara, Catalino G.	46
Abrahan, IV, Lauro L.	527	Agulto, Manuel B.	258	Ali, Syed A.	210
Abrahan, IV, Lauro L.	289	Agulto, Manuel B.	277	Alipon, Marina A.	57
Abrahan, IV, Lauro L.	500	Agulto, Manuel B.	574	Almazan, Natividad	406
Abreo, Neil Angelo S.	52	Agulto, Meliza Katrina B.	258	Almirol, Bernadette Joy	161
Abubakar, Al-Zamzam	299	Aherrera, Jaime Alfonso M.	205	Almonia, Daryl Joy	484
Acampado, Laura	505	Aherrera, Jaime Alfonso M.	289	Altuna, Jesus	547
Acampado, Laura Rosario	335	Aherrera, Jaime Alfonso M.	188	Alvia, K.M.	39
Acosta, Jr., Dennis Danilo, C.	572	Aherrera, Jaime Alfonso M.	410	Amansec, Richard Q.	446
Acosta, Vida Rose Danielle K.	276	Aherrera, Jaime Alfonso M.	489	Amar, Edgar C.	151
Acuin, Pablo Q.	47	Aherrera, Jaime Alfonso M.	500	Amoroso, Victor B.	34
Adajar, Bernard Joseph L.	8	Aherrera, Jaime M.	307	Amoroso, Victor B.	24
Adarlo, Genejane	583	Aiello, Lloyd Paul	379	Anacay, Cynthia B.	184
Adiong, Areefah	495	Alag, Mark Louie C.	263	Anasco, Nathaniel C.	125
Alonto		Alajar, Elaine B.	333	Andag-Silva, Aimee	204
Adorna, Henry N.	45			Andal, Jose Jasper	462
				Andal, Jose Jasper	159
				Andal, Jose Jasper	363
				Ang, Alexander	470

Ang, Daphne	363	Arcinue, Cheryl A.	518	Baraoidan, Rhoda Zyra P.	466
Ang, Daphne	462	Arellano, Hderbert A.	510	Barcelon-Cruz, Mariel I.	176
Ang, Robert Edward	491	Arenas, Elizabeth H.	27	Barrameda, Maria Celeste C.	291
Ang, Robert Edward T.	222	Arevalo, Alejandro	202	Barredo, Katherine Jane G.	292
Ang, Robert Edward T.	287	Arevalo, Joenabie Encanto	562	Bartolome-Cruz, Kathryn	600
Ang, Robert Edward T.	357	Arias, Randell	420	Bascuna, Rena Ivy	490
Ang, Robert Edward T.	382	Arias, Randell	304	Baticados, Didi B.	130
Ang, Robert Edward T.	427	Arnold, Anthony C.	564	Bautista, Aileen A.	505
Ang, Robert Edward T.	496	Arquiza, Jonathan	212	Bautista, Grace Celine D.	412
Ang, Robert Edward T.	506	Arriola, Axel H.	36	Bautista, Karina Angela D.	56
Ang, Robert Edward T.	590	Arriola, Axel H.	27	Bautista, Maria Diana Aileen C.	228
Ang, Robert Edward T.	246	Arroyo, Milagros H.	215	Bautista, Maria Diana Aileen C.	288
Ang, Robert Edward T.	256	Arroyo, Milagros H.	195	Bayani, II, Dioscoro DC.	596
Ang, Robert T.	243	Arroyo, Milagros H.	379	Baylon, Honorata G.	387
Angbue Te, Nikki Doreen S.	544	Arzadon, Jasmin	580	Bejemino, Churchill	150
Angeles, Roland Reuben B.	333	Asencion, Amelia S.	13	Benedicto, Jubert P.	530
Angeles-Agdeppa, Imelda	55	Atanis, Richard	321	Benedicto, Jubert P.	473
Añonuevo, John	213	Atienza, Jr., Narciso	543	Benedicto, Jubert P.	539
Anonuevo, John D.	333	Atienza, Noel	268	Benedicto, Jubert P.	561
Antipolo, Arvin Rolly D.	538	Atrero, Cristilyn T.	53	Benedicto, Ma. Teresa Julieta U.	539
Antonio, Cherry Lou M.	323	Avilla, Jerlyn D.	54	Bengzon, Alfonso U.	379
Antonio, Cherry Lou M.	485	Azanza, Maria Patricia V.	56	Benjamin, Cherry Lois M.	180
Antonio, Mark Q.	505	Azarcon, Vallerie B.	56	Berba, Regina P.	194
Anuran, Geannagail O.	191	Babao, Rosalina T.	332	Berba, Regina P.	548
Anzures, Rachelle	193	Bacsal, Kristine E.	491	Bergantin, Maria Rhona G.	228
Anzures, Rachelle	490	Bacsal, Kristine Margaret E.	492	Bergantin, Maria Rhona G.	229
Apepe, Sinbad Alfonso A.	8	Badenas, Ermie Ann V.	236	Bergantin, Maria Rhona G.	288
Apostol-Alday, Angela S.	266	Bagay, Carmela Kathrina C.	13	Bernal, Vanessa Anne C.	281
Apusa, Lemuel N.	49	Bagnes, Roland B.	337	Bernas, Eleanor P.	406
Aquino, Eduardo Thomas	522	Bajpai, Manas	391	Bijasa, Andrew	543
Aquino, Joy	557	Balaravi P.	218	Bilocura, Imelda L.	232
Aquino, Jubaida	393	Balce-Santos, Dulcinea A.	156	Binas, Joseph B.	124
Aquino, Mario V.	248	Baldia, Susana	10	Biñas, Joseph B.	117
Aquino, Riyel	10	Baldonado, Alicia N.	164		
Aquino, Rubelyn F.	453	Balili, Charlene Ann V.	329		
Aragon, Jimmy B.	451	Balisan, Othaniel Philip	420		
Arcellana-Nuqui, Elizabeth	587	Banag, Cecilia I.	8		
Arceño, Jenissa Amor	462	Banate-Gulfan, Geraldine O.	550		
		Banzon, Marcelino	158		
		Barangan, Giovell P.	536		

Biñas, Joseph B.	127	Calaustro, Jr., Elmer	319	Casimero, Faye	159
Bitanga, Bernardo V.	48	Ivan M.		Victoria	
Bocobo, Joseph C.	156	Calderon, Maria Jesusa	498	Castaños, Karla Phoebe	290
Bodla, Ali A.	210	C.		B.	
Bondad, Elvina O.	57	Calica, Phoebe	4	Castillo, Ma Rosario	557
Bongosia, Leandro	295	Calma, Denise Kyle D.	589	Irene D.	
Bongosia, Leandro C.	463	Calvez, Juancho Pablo	48	Castillo, Ma Rosario	230
Bonifacio, Maurino	147	S.		Irene D.	
Boongaling, Mary	483	Calzado, Catherine	197	Castillo, Ma. Rosario	221
Ervie DC		Campos, Jane R.	155	Irene D.	
Borbon, Alvin Christian	310	Campos, Wilfredo L.	127	Castillo, Teresita R.	278
C.		Campos-Cagingin, Ma.	480	Castor, Mary Anne R.	474
Brobo, Jr., Sarael S.	232	Luisa		Castro, Alberto M.	588
Brojan, John Carlo G.	582	Camus, Erwin E.	287	Castro, Christian	32
Brucelas, Archival G.	560	Canilao, Lilette Marie	357	Zachariah R.	
Buenaflor, Ma. Theresa	264	B.		Castro, Jr., Joselito Joel	416
Buenaflor, Ma. Theresa	503	Canilao, Lilette Marie	427	R.	
Buenaluz-Sedurante,	385	B.		Castro, Karen Joyce G.	225
Myrna		Canilao, Lilette Marie	287	Castro-Caringal, Jean	275
Buenaventura, Angelo	42	B.		Abigaile R.	
Gabriel E.		Canlas, R.A.	39	Catacutan, Mae R.	116
Buera, Arleen L.	25	Cao, Ernelea P.	19	Catacutan, Mae R.	123
Bugayong, Mark Philip	484	Caole-Ang, Imelda	327	Catacutan, Mae R.	146
Bulosan, Teofilo R.	332	Capanzana, Mario V.	53	Cating-Cabral, Monica	280
Bumalay, Martin Roel	237	Capanzana, Mario V.	54	Therese	
Bunagan, Gabriel	435	Capanzana, Mario V.	55	Causaren, Rubie	33
Buño, II, Bonifacio	250	Capeding, Maria	484	Maranan	
Buot, Jr., Inocencio E.	18	Rosario		Cavallerano, Jerry D.	379
Buot, Jr., Inocencio E.	22	Capellan, Maria	472	Centeno, Rex	197
Cabangon, Myl R.	480	Leonora D.		Cerezo, Iris Yvonne T.	319
Cabic, Alpha Grace	375	Capuli-Isidro, Maria	569	Cerezo, Rolando B.	115
Cabic, Estatera	375	Jocelyn		Cerezo, Rolando B.	129
Cabilitasan, Ma. Venuz	122	Carandang, Glenn	583	Cham, Terrence L.	447
C.		Carbonell, Denise	457	Chamen, Iza Mae	351
Cabral, Loraine Kay	462	Ramona		Chamen, Iza Mae	352
Cabral, Monica Therese	247	Carbonell, Denise	360	Chamen, Iza Mae	350
Cabrera, Patricia E.	450	Ramona V.		Chamen, Iza Mae	587
Cabuang, P.G.D.	26	Caringal, Anacleto M.	40	Chan, Jackson S.	21
Cadiz, Geofe O.	18	Carino, Noel S.	172	Chan, Justin Paul D.	128
Caguioa, Jesse B.	243	Carlos, Celia	542	Chan, Pik Sha	491
Caguioa, Priscilla B.	228	Carnate, Jr., Jose	282	Chan, Pik Sha	170
Caguioa, Priscilla B.	288	Carvajal, Miguel Oriel	319	Chang, Ann Margaret	405
Cahyadi, Alius	200	A.		Chan-Uy, Pik Sha	378
Cajano, Pauline Joy R.	3	Carvajal, Thaddeus M.	23	Chao-Po, Polly	255
Cala, Anthony Von Leo	319	Carvajal, Thaddeus M.	32	Chavez, Lorelei L.	555
M.		Casagan, Michelle	294	Chen, Steve C	529
		Casapao, Joiane Cris	575	Chen, Yun	529
		Casilan, Jerland Salazar	469		

Cheng, Christian Bernard T.	202	Corpuz, Allan D.	179	Cueto, Bernardo C.	563
Cheung, Dominique S.	118	Corpuz, Allan D.	205	Cueto, Mary Anne Carol A.	563
Ching, Maricar	29	Corre Jr., Valeriano L.	131	Cuevas, Pearl Ed G.	509
Chiong, Lowe L.	475	Cortez Rossana M.	482	Cuizon-Borromeo, Luisa Cecilia L.	461
Chiong, Lowe L.	489	Covar, Rainier	258	Culla, Gail M.	387
Cho, Carmela	10	Covar, Rainier Victor	478	Cullen, James F.	400
Chu, Donnabelle M.	407	Cremen, Ma. Chiela M.	27	Cunanan, Elaine C.	298
Chua, Annette Y.	217	Cristobal, Susan	449	Cunanan, Elaine C.	499
Chua, Carlos	354	Cruz, Cecille	529	Cunanan, Elleen L.	176
Chua, Carlos Emmanuel	193	Cruz, Emerson M.	222	Cura, Jonathan D.	296
Chua, Carlos Emmanuel M.	214	Cruz, Emerson M.	337	Dagamac, Nikki	29
Chua, Kathleen	462	Cruz, Emerson M.	382	Heherson A.	
Chua, Maria Pamela S.	534	Cruz, Emerson M.	590	Dampil, Oliver Allan C.	271
Chua, Mitzi Marie	310	Cruz, Emerson M.	246	Dampil, Oliver Allan C.	331
Chua, Sheila C.	536	Cruz, Emmerson M.	506	Dampil, Oliver Allan C.	355
Chuanico, Rodolfo U.	416	Cruz, Franz Marie	196	Dampil, Oliver Allan C.	586
Cifra, C.	422	Cruz, Franz Marie	518	Danguilan, Romina	465
Ciriaco-Tan, Cynthia P.	417	Cruz, Franz Marie O.	467	Dantes, Marita B.	401
Co, George N.	531	Cruz, May Ann	10	Darmawan, Guntur	404
Codilla, Lina T.	9	Cruz, Raul D.	430	Dasig, Darwin A.	315
Coloso, Relicardo M.	146	Cruz-Anacleto, Maria Angela S.	511	Dasmarinas, Dianne D.	44
Comia, George Emmanuel	207	Cruz-Bermudez, Charito	402	Datay-Lim, Sarah Jane	396
Concepcion, Dean D.	174	Cruz-Bermudez, Charito C.	526	Daud, Nashiba	596
Concepcion, Ma. Elizabeth T.	541	Cu, Ricka	436	Dayrit, Johannes F.	162
Concepcion, Maria Elizabeth T.	220	Cua, Ian Homer Y.	155	De Castro, Luis Elijah S.	8
Cordero, Cynthia P.	302	Cua, Irwin	435	de Guzman, Milldeanna	280
Cordero, Cynthia P.	512	Cua, Irwin	251	De Guzman, Milldeanna L.	451
Cordero, Jr., Paciente A.	31	Cua, Irwin	238	De Guzman-Castro, Charo Fionna F.	498
Cornel, Michelle U.	312	Cua, Irwin	240	de Jesus Atienza, Noel	300
Coronel, Ma. Catherina G.	531	Cua, Irwin Y.	594	de Jesus Atienza, Noel	301
Corpus, Kristine	393	Cubillan, Leo D. P.	157	de Jesus Atienza, Noel	270
Corpus, Kristine	425	Cubillan, Leo D.P.	187	de Jesus, Ana Karina A.	381
Corpus, Kristine	490	Cubillan, Leo D.P. ,	554	de Jesus, Arnel A.	273
Corpus, Kristine	543	Cubillan, Leo DP.	172	de Jesus, Arnel A.	341
Corpus, Kristine D.	544	Cubillan, Leo P.	380	de la Cruz, Ronnie	138
Corpus-Velasquez, Kristine D.	424	Cudal, Beinjerinck Ivan B.	466	de la Serna-Mah, Ana Maria O.	162
Corpuz, Allan	182	Cuenza, Lucky	463	De Leon, Anjanette S.	181
Corpuz, Allan	254	Cuenza, Lucky R.	190	De Leon, Francesca Rose G.	175
		Cuenza, Lucky R.	262	de Leon, John Mark S.	394
		Cuenza, Lucky R.	295	De Leon, Josephine M.	471
		Cuenza, Lucky R.	495		

De Leon, Josephine M.	181	Delgado, John S.	229	Dy Nieva, Stanlee James	472
De Leon, Julia C.	474	Delgado, John S.	288	Dy, Jackson	455
De Los Reyes, Francia Victoria	436	Deloso-Añonuevo, Ethel	213	Dy-Liacco, Jacinto	571
de Luna, Kristine S.	298	Dematera, Francis	317	Dy-Liacco, Jacinto U.	249
de Luna, Kristine S.	392	Descallar-Mata, Kathleen Rose	500	Ealdama, Joselle	542
de Luna, Kristine S.	456	Dianongco, Ma. Lucila	306	Ebba, Edgardo	295
De Lunas, Karen Estelle C.	229	Dianongco, Maria Lucilla G.	481	Ebison, Jr., Andres	280
De Mesa-Rodriguez, Roslyn	172	Dieta, Florida C.	119	Ebison, Jr., Andres V.	451
De Mesa-Rodriguez, Roslyn F.	173	Dieta, Romeo E.	119	Echavez, Margarita	398
De Sagun-Bella, Karina Q.	172	Dillera, Karl Paolo O.	290	Eckert, Elfriede	344
De Sagun-Bella, Karina Q.	554	Dimaano, Efren M.	533	Edralin, Diana M.	529
de Venecia, III, Angelito Braulio	286	Dimaano, Efren M.	347	Edulan, Vaughn Caesar L.	440
de Venecia, III, Angelito Braulio F.	198	Dizon, Florencio	375	Eligio, Jomelle G.	319
de Vera, III, Benjamin	350	Dizon, Grace R.	421	Eltanal-Pascual, M.A.T	560
de Vera, III, Benjamin	587	Dolom-Mundin, Mary Anne C.	408	Eltanal-Pascual, Marie Antonette T.	386
Deala, Rosalinda P.	483	Domado, Ahmad M.	552	Elumba, Merlene E.	41
Decembrana, Alain G.	60	Domingo, Efren	505	Emboltorio, Cheryl	132
Dejoras, Eliza Mia M.	431	Domingo, Francis	326	Encarnacion, Lonabel A.	166
Del Mundo, Paul Samuel V.	214	Domingo, Rolando Enrique D.	450	Enriquez, Ma. Luisa D.	434
del Rosario, Dennis L.	515	Dorado, Egbert D.	291	Erni, Jocelyn G.	379
del Rosario-Capellan, Maria Leonora	480	Doria-Del Castillo, Jennifer	511	Escobar, Erwin C.	46
Dela Cruz, Albert G.	506	Dorotheo, Edgardo U.	302	Escobin, Ma. Ailsa	204
Dela Cruz, Albert G.	382	Dorotheo, Edgardo U.	512	Escueta, Luella Joy A.	162
Dela Cruz, Jr., Albert G.	246	Dorotheo, Edgardo U.	523	Esparar, Grace	484
Dela Cruz, Jr., Albert G.	222	Dote, Sheila Mae I.	471	Espiritu, Ramon Cesar G.	360
Dela Cruz, Thomas Edison E.	29	Doyola-Solis, Ellen Flor	124	Espiritu, Romeo B.	273
Dela Cruz, Thomas Edison E.	37	Dualan, Ivo John	169	Espiritu, Romeo B.	341
Dela Cruz, Thomas Edison E.	12	Duante, Charmaine A.	476	Espiritu, Romeo B.	514
Dela Cruz, Thomas Edison E.	21	Duante, Charmaine A.	53	Esposo, Sheila Marie	375
Dela Cruz, Thomas Edison E.	7	Ducay, Apple Joy D.	53	Esquibel, Ma. Imee Lynne C.	418
dela Rosa, Paolo R.	235	Dumasis, Arlie Jean Grace	462	Estanislao, Edgar A.	59
Delgado, John S.	228	Duno, Khrsha	146	Estoesta, Alexis Mae D.	319
		Duya, Jose Eduardo D.	333	Estrada, Maureen Thea C.	168
		Duya, Jose Eduardo DL.	596	Eu Lim, Andrew Keat	414
		Duyongco-Tiu, Ma. Vircel	383	Eusebio, Jr., Jesus	419
		Dy K.D.	422	Evaristo, Allen	209
		Dy Liacco, Jacinto U.	528	Exconde, B.S.	26
				Faisan Jr., Joseph P.	151
				Fajardo-Gomez, Ma. Florentina	477

Faltado, Jr., Antonio	335	Garcia, Carlos M.	57	Guevara, Bryan Edgar K.	290
Faustino, Collene	307	Garcia, Givenchy Maree D.	316	Guevara, Glenn	560
Marizza G.		Garcia, Givenchy Maree D.	219	Guevara, Jocelyn K.	290
Felipe, Anthony F.	364	Gardoce, Rosthon	146	Guia, Arnel	375
Fermin, Maria Elisa P.	585	Garibay, Esteban	150	Guillano, Victoria P.	303
Fernandez, Lenora	460	Garma, Paul Froilan U.	369	Guinto, Sarah E.	53
Fernandez, Sime Raymond B.	494	Gaspar, Carol B.	519	Gulmatico-Flores, Zharlah	189
Fernandez, Sime Raymond B.	303	Gaspar-Trinidad, Emma	575	Gurango, Jose Armand	204
Ferrer, Kathreen Alexis C.	265	Gatchalian, Ellen M.	202	Gurdeep Singh M	218
Fincale, Ginalynn	455	Gatlin, Tricia K.	597	Gutierrez- Rubio, A.K.	581
FlorCruz, II Nilo Vincent dG.	487	Gatmaitan-Dumlao, Jolene Kristine G.	417	Gutierrez, Hermes G.	16
Floracruz, Nilo Vincent Dg.	525	Gatpo, Ariam O.	8	Gutierrez-Rubio, Anna Kristina	568
Florendo, Josefina E.	297	Gaw, Darien B.	546	Guzey, Mustafa	320
Flores, Dante Granfil	17	General, Mheljor A.	14	Guzman, Celeste P.	595
Flores, John D.G.	491	Genodepa, Jerome G.	133	Hassan, Zeeshan	4
Flores, John G.	187	Genodepa, Jerome G.	146	Hay, Eduardo Tin	262
Flores, John Vincent Policarpio D.	248	Gervacio, Giselle G.	596	Henson, III, Ruben D.	340
Flores, John Vincent Policarpio D.	257	Gervacio, Giselle G.	165	Henson, Raoul D.	340
Flores, John Vincent Policarpio D.	272	Geslani, Kathleen G.	377	Hernandez Lei Anne Michelle R. ,	166
Flores, Karen	441	Gillera, Mikka D.	471	Hernandez, A.T.S.	581
Fortuna, Egidio Jose	543	Glorioso, Idelia G.	54	Hernandez, Ana	182
Fortuna, Egidio Jose S.	379	Go, Arlinking O.	155	Hernandez, Ana	254
Foster, Stephen	577	Go, Connel O.	12	Hernandez, Ana Teresa	231
Francisco, III, Jesus	170	Go, Louisa	596	Hernandez, Ana Teresa S.	513
Francisco, Shari G.	504	Go, Monica S.	319	Hernandez, Ana Teresa S.	179
Freitag, Hendrik	6	Gomez, Maria Honolina S.	293	Hernandez, Sophia Angelica S.	12
Fudolig, Agustin M.	48	Gomez, Maria Honolina S.	329	Hilado, Josefa	211
Gabel, Veit-Peter	344	Gomez, Maria Honolina S.	392	Hilo, Lady Valerie Mae V.	265
Gabiota, Julius Remar A.	140	Gonsalves, Julian F.	55	Hipe, Juneth Ria L.	307
Gabriel, Ma. Teresita G.	550	Gonzales, Alexander P.	50	Ho, Howell T.	32
Gabriel, Ma. Teresita G.	502	Gopez, Ulysses King	441	Ho, Lorraine	372
Galang, John Bervin S.	265	Gosiengfiao-Perez, Katerina Tanya	516	Hocson, Herbert Renan I.	149
Galias, Anabelle F.	332	Gudahl, Daniel	58	Hocson, III, Simplicio	244
Galila, Domingo	132	Guerrero, Jonathan Jaime G.	14	Hosaka, Mark Angelo B.	227
Ganzon, Marie Simonette	266	Guerrero, Paul I.	257	Huerto, Remedios Felisa S.	434
Gapuz, Kristine T.	164	Guerrero, Paul I.	272	Huervana, Joana Joy D.C.	131
		Guevara, Bryan Edgar K.	303		

Huervana, Joana Joy D.C.	154	Javier, Joselito	326	Khu, Patricia M.	525
Hufano, Ma. Charmian	542	Javier, Joselito C.	536	Kilic, Adil	320
Hung, Johnielyn	405	Jayme, Jerolly L.	265	King Kay, Caroline Bernadette O.	384
Hussain, Rusnah	414	Jimenez, IV, Jose Melvin	490	King, Rich Ericson	500
Hutchison, Bruce	210	Jimenez, Jose Melvin	193	King, Rich Ericson C.	333
Ibanez, IV, Manuel Benjamin B.	186	Jimenez, Lea A.	52	King-Ismael, Daisy	309
Ibañez-Guzman, Leticia	178	Jimeno, Cecilia	505	King-Ismael, Daisy	348
Ibarreta, Isabel Paula C.	265	Jimeno, Cecilia A.	476	Kloprogge, J. Theo	43
Icasiano-Ramirez, Aimee Rose A.	590	Jimeno, Cecilia A.	200	Koay, Aun Na	414
Iguban, Eleonor B.	458	Joaquin-Quino, Raquel	487	Kobuch, Karin	344
Iguban, Eleonore B.	173	Joaquin-Quino, Raquel M.	525	Kongbangkerd, Anupan	2
Ijaz, Muhammad	4	Joaquin-Quino, Raquel M.	373	Kuan, Letty G.	369
Inductivo-Yu, Ira	558	Jocelyn Perlas Lauro,	593	Kuhn, Rudolf V.	37
Inductivo-Yu, Ira	411	Jonathan Rivera, Edgar		Kumar, Rinki	20
Ines, Philipp C.	468	Leuenberger, Ma.	517	Kump, Leila I.	577
Inocencio, Froilan P.	430	Imelda Yap-Veloso,		Kwong, Shirley L.	474
Inopia, Kristine	354	Jonathan Rivera, Edgar		Labajo, Hannah Ruth V.	331
Isagan, Abe Ernest Johann E.	183	Leuenberger, Ma.	517	Labio, Madalinee Eternity D.	155
Isidro, Maria Jocelyn C.	479	Imelda Yap-Veloso,		Labio, Madalinee Eternity D.	156
Isip, Joie DJ	280	Jose, Ryan Gabriel D.	471	Labitag, Armand	522
Isip, Joie Dj Q.	451	Joven, Mark Henry	497	Rosaurus A.	
Itable, Jill	552	Jumawan, Kim M.	5	Lacuesta, Talitha Lea V.	533
Iturralde, Harold P.	482	Junio, Hiyas A.	44	Lagamayo, Michael Angelo N.	245
Jacob, Karlo D.	528	Kagen, Alexander	372	Lagat, Ronaldo D.	28
Jacoba, Cris Martin P.	394	Kahn, Azhar Abbas	4	Lagat, Ronaldo D.	38
Jain, Anand B	224	Kapawan, Ma. Theresa	484	Lagrada, Marietta	542
Jalique, Jundelle Romulo	510	Karki, Subekcha	206	Lagula-Bilocura, Imelda	383
Jamias, Jade	488	Kasala, Ruben	497	Lagula-Bilocura, Imelda	520
Jamias, Jade D.	156	Kasala, Ruben G.	580	Lagunday, Noel E.	24
Jamias, Jade D.	155	Kaw, Sharah Mae G.	270	Lagura-Bilocura, Imelda	444
Jamora, Vanessa G.	168	Keat Eu Lim, Andrew	203	Lane, Susan Hayes	426
Jang, Seung Bong	30	Ketherine	274	Lantion-Ang, Frances Lina	205
Japitana, Ma. Femie	211	Kho, Richard C.	448	Lanzona, Isaias A.	183
Jara, Raul D.	289	Kho, Sjoberg A.	499	Laraño, Allen Anthony P.	22
Jarabelo, Romel E.	21	Kho, Sjoberg A.	476	Larona, Allan Joseph L.	592
Jarcia, Daisy Angeles	553	Kho, Sjoberg A.	556	Lasco, II, Jun Maximo F.	261
Jasul, Gabriel V.	476	Khoctali	192		
Javate, Reynaldo	419	Khu, Patricia M.	302		
Javate, Reynaldo M.	559	Khu, Patricia M.	512		
Javelona, Jonas Q.	445	Khu, Patricia M.	523		
Javier, Anton Oliver M.	37	Khu, Patricia M.	267		
		Khu, Patricia M.	487		
		Khu, Patricia M.	277		
		Khu, Patricia M.	467		

Lat-Luna, Ma. Margarita	314	Lemana, B.O.C.	26	Limchui, Jr., Luis V.	260
Lat-Luna, Ma. Margarita	255	Lemana, Bismark Oliver C.	25	Lim-Cuizon, Waynila Mae P.	520
Lat-Luna, Ma. Margarita L.	257	Leonardo, Zerlyn	310	Limgenco-Hipe, Juneth Ria	182
Lat-Luna, Ma. Margarita L.	272	Lerit, Sweet Jorlene T.	252	Limgenco-Hipe, Juneth Ria R.	208
Lat-Luna, Ma. Margarita L.	523	Letran, Eleanor L.	308	Limgenco-Hipe, Juneth Ria R.	254
Lat-Luna, Ma. Margarita L.	492	Leuenberger, Edgar U.	313	Limgenco-Hipe, Juneth Ria R.	305
Lat-Luna, Ma. Margarita L.	248	Leuenberger, Edgar U.	521	Lim-Khoo, Winnie Sharon	315
Lat-Luna, Ma. Margarita L.	267	Liangco, Wilfredo	575	Lingad-Sayas, Rochelle C.	479
Lat-Luna, Margarita	198	Libanan, Lysa Lynn	211	Lingao, Michelle D.	439
Laurente, Ophelia S.	25	Liberato, Raymund Darius	470	Lingao, Michelle Doronila	328
Lavadia, Maria Angela M.	461	Libunao, Gardel Xyza	121	Lique, Ivy Carol	397
Lavente, Jodette Joy H.	165	Lieh Lich Bin O.	218	lirio, John Patrick M.	547
Lazaro, Karen D.	497	Lim Bon Siong, Ruben	373	Litonjua, Augusto D.	239
Lazo, Maynard Sam O.	424	Lim Bon Siong, Ruben	594	Litonjua, Augusto D.	508
Le Vay, Lewis	124	Lim Bon Siong, Ruben	240	Liwag, Leannel P.	8
League, Jay	547	Lim Bon Siong, Ruben	242	Liza-Sharmini AT	218
League, Jose E.E.	313	Lim Bon Siong, Ruben	447	Lladoc-Natividad, Therese Eileen B.	540
Lebata-Ramos, Ma. Junemie Hazel	124	Lim Bon Siong, Ruben	478	Llanes, Elmer Jasper B.	176
Lebata-Ramos, Ma. Junemie Hazel	134	Lim Bon Siong, Ruben	537	LLlanes-Garcia, Liza	460
Ledesma, Lourdes K.	315	Lim Bon Siong, Ruben	169	Lo, Kristine T.	423
Ledesma, Therese Giannine V.	550	Lim Bon Siong, Ruben	198	Lo, Kristine T.	244
Lee Ong C.	218	Lim Bon Siong, Ruben	207	Lo, Kristine T.	284
Lee, Anthony C.	32	Lim Bon Siong, Ruben	251	Lo, Raymundo	397
Lee, Anthony C.	23	Lim Bon Siong, Ruben	279	Lo, Raymundo	462
Lee, Anthony C.	20	Lim Bon Siong, Ruben	286	Lo, Tom Edward N.	385
Lee, Anthony C.	30	Lim Bon Siong, Ruben	286	Lo, Tom Edward N.	548
Lee, Eduardo I.	261	Lim Bon Siong, Ruben	435	Lo, Tom Edward N.	561
Lee, James Abraham B.	573	Lim Bon Siong, Ruben	439	Lombos-Serondo, Maria Rhea B.	461
Lee, Lillian V.	485	Lim Bon Siong, Ruben	458	Lontoc, Carla Alilie A.	3
Lee-Olalia, Dana Margaux	309	Lim, Aileen Anne	171	Lontok, Ma. Antoinette DC.	156
Lee-Olalia, Dana Margaux	348	Lim, Gloria D.	449	Lopez, Amy A.	292
Leila, Njim	192	Lim, Gloria D.	588	Lopez, Amy A.	578
Lelis, Marievi A.	291	Lim, Jane Melissa L.	554	Lopez, Juan	425
Lelis, Marievi A.	534	Lim, Jane Melissa L.	157	Lopez, Victor B.	220
Lelis, Marievi A.	445	Lim, Kimberly	132	Lopez-Villafuerte, Lillian	234
		Lim, Lucille L.	589	Loy, Marie Joan	193
		Lim, Lucille L. .	285		
		Lim, V.I.M.	26		
		Lim-Abrahan, Mary Anne	224		
		Lim-Abrahan, Mary Anne	505		
		Lim-Bon-Siong, Ruben	244		
		Lim-Bon-Siong, Ruben	284		

Loy, Marie Joan V.	225	Maghuyop, Norman	403	Marcelo, Marie Christine T.	565
Loyola, Aldrin B.	334	Maglaya, Patrick Louie	353	Marcelo, Millicent	499
Lucarelli, Mark J.	349	Magno, Jose Donato	500	Marcia, Jose Protacio D.	263
Lucero, Marjorie Aijee	141	Magno, Jose Donato A.	446	Marin, Jr., Jose David F.	336
Luna, Ma. Margarita L.	277	Magsadia, Clarita R.	55	Martin, Andrei	255
Lupisan, Socorro	197	Malanyaon, Olympia Q.	596	Martin, Andrei P.	268
Lupisan, Socorro	294	Mallen, Andrew I.	259	Martinez, Gladness A.	243
Lupisan, Socorro	484	Malundo, Anna Flor G.	194	Martinez, Gladness Henna A.	427
Luz, James Rommet D.	158	Manalo, Minda A.	533	Martinez, Gladness Henna A.	256
Luz, Vimar A.	241	Manapat- Reyes, B.H.	581	Martinez, Gladness Henna A.	496
Mabilin-Prieto, Karen B.	177	Manapat-Reyes, Bernadette Heizel	366	Martinez, Gladness Henna A.	590
Mabilin-Prieto, Karen B.	401	Manapat-Reyes, Bernadette Heizel	179	Martinez, Jose Ma.	227
Macabeo, A.P.G.	26	Manapat-Reyes, Bernadette Heizel	219	Martinez, Jose Ma.	321
Macalalad, Noel	484	Manapat-Reyes, Bernadette Heizel	208	Martinez, Jose Ma.	270
Macapugay, Leora Flor	165	Manapat-Reyes, Bernadette Heizel D.	205	Martinez, Jose Ma.	547
Macasaet, Anne Marie	238	Manarang, Vincent Raphael	509	Martinez-Lee, Thelma C.	359
Macasaet, Joyce Ann D.C.	516	Manasan, Criston Van	282	Martires, Melville M.	541
Macatula, Therese C. .	156	Mancio, Pamela Rose	557	Martyr, John Clifton	185
Machacon, Marie Sigourney S.	586	Mancio, Pamela Rose L.	221	Masbang, Armin	526
Macias, Emilio L.	434	Mancio, Pamela Rose L.	228	Masim, Melissa	542
Macusi, Edison D.	1	Mancio, Pamela Rose L.	288	Masna-Hidalgo, Barbara Joy	220
Macusi, Edison D.	52	Mandario, Mary Anne E.	117	Matawaran, Bien J.	476
Madero, Sherlyn B.	151	Mandario, Mary Anne E.	125	Matawaran, Bien J.	556
Madulid Domingo A.	16	Mangondato-Aquino, Jubaida	253	Matriano-Akut, Vivienne	185
Magallanes, Jonray	205	Manguba, Alexander	205	Matubang, Mark F.	145
Magbag, Raphael	295	Mangubat, Jill Henriett T.	269	Medecilo, Melanie M.	13
Magbitang, A.T.D.	581	Mangubat, Leonardo	373	Medina, Milton Norman D.	5
Magbitang, Angeline	254	Mangubat, Leonardo R.	421	Medina, Plebeian	197
Magbitang, Angeline Therese D.	179	Mangulabnan, Melissa Camille E.	403	Medina, Plebeian	294
Magbitang, Angeline-Therese	182	Mantiquilla, Junaldo A.	41	Medrano, Ana Beatriz	558
Magbitang, Angeline-Therese D	339	Manzano, Almira A.	245	Medrano, Ana Beatriz R.	163
Magbitang, Angeline-Therese D.	390	Manzano, Jennifer Justice	429	Mehta, Toral D.	157
Magbitang, Angeline-Therese D.	216			Mejia, Margarita Nahleen N.	457
Magbitang, Angeline-Therese D.	481			Melek, Kechida	192
Magbitang, Angeline-Therese D.	568			Mendez, Noe P.	24
Maghuyop, Norman	460				
Maghuyop, Norman	441				

Mendez, Shana Lou M.	471	Miranda, Edna A.	533	Mueller, Andreas	554
Mendoza, Cristy	463	Miranda-Padua, Maria Louella	499	Muljadi, Nadia	370
Mendoza, Donn M.	189	Mirasol, Ma. Angelina	572	Muljadi, Nadia M.	175
Mendoza, Erick	428	Mirasol, Roberto C.	274	Mupas, Jacqueline	419
Mendoza, Erick S.	292	Mojica, Joerelle V.	596	Nañagas, Juan Pablo R.	173
Mendoza, Erick S.	275	Mojica, Ruel M.	19	Narciso, Zenaida V.	54
Mendoza, Erick S.	578	Molina, Emerson Jay B.	511	Narvacan-Montano, Carolyn	247
Mendoza, Jeffrey	190	Molina, Ramon Miguel	171	Narvacan-Montano, Carolyn	480
Mendoza, Myrna T.	381	Mondoy, Melisa	484	Natnat, Hanna Jean J.	471
Mendoza, Paulo Giovanni	372	Mondragon, Karen Anjela M.	527	Navarra, Sandra	428
Mendoza, Pia Magdalena R.	434	Monsalud, Rosario G.	11	Navarra, Sandra V.	418
Mendoza, Trisha Mae C.	599	Monsalud, Rosario G.	35	Navarra, Sandra V.	377
Meollo, Arejenald U.	524	Montano, Carolyn N.	508	Navarra, Sandra V.	367
Merca, Theresa Gladiola B.	342	Montano, Carolyn N.	472	Navarro, Rafael	484
Merca, Theresa Gladiola B.	554	Montano, Carolyn N.	466	Nayve, Jr., Fidel Rey P.	46
Mercado, Gary John V.	223	Montano, Carolyn N.	479	Nee-Estuye-Evangelista, Cyril Kim	363
Mercado, Gary JV.	450	Montano, Gerardo L.	21	Nepomuceno, Richard L.	167
Mercado, Gary V.	273	Montejo, Yvonne Bettina E.	283	Ng, Janice Natasha C.	303
Mercado, Gary V.	341	Montoya, Haydee Ann	145	Ngelangel, Corazon A.	235
Mercado-Asis, Leilani B.	499	Monzer, Jan	344	Ngo, Joenavin D.	367
Mercado-Asis, Leilani B.	292	Monzon, Orestes P.	499	Nievera, Lilia Flor	380
Mercado-Asis, Leilani B.	275	Monzon-Pajarillo, Andrea Kristina F.	591	Nobillos, Joselito	58
Mercado-Asis, Leilani B.	556	Monzon-Pajarillo, Andrea Kristina F.	573	Noble, Perry N.	315
Mercado-Asis, Leilani B.	578	Morabe, Evelyn S.	337	Nocheseda, Carla Joyce C.	48
Mercado-Asis, Leilani B.	456	Morabe, Evelyn S.	409	Noguera, Sharlene I.	223
Mesina, Flordeluna Z.	202	Morabe, Ferdinand L.	260	Nonato, Rodean Andrew	185
Metillo, Ephrime B.	9	Morabe-Dy, Ma. Regina S.	260	Noor, Nauman	4
Meve, Ulrich	15	Morales, Apple Grace O.	265	Nuevo, Jose Jurel M.	174
Meyer, Eli	152	Morales, Shayne Julieane	551	Obico, Jasper John A.	13
Millado, Cyrose Suzie S.	41	Moreno-Lacalle, Rainier C.	318	Obillos, Stephanie Martha O.	500
Milo, Abigail M.	292	Moreno-Lacalle, Rainier C.	443	Ocampo, Pius Jonas	255
Milo, Mario	499	Moreno-Lacalle, Rainier C.	598	Ocampo-Rosario, Minette Claire SG	411
Milo, Mario T.	292	Moria, Francis	264	Ogbac, Frederick E.	164
Min Tet C.	218	Morilla, Muriel A.	596	Ogsimer, Cornelio	132
Mina-Alvarez, Emmeline R.	452	Mortel, Sharon Rose	553	Oliva, Raymond	201
		Mortel, Sharon Rose C.	483	Oliva, Raymond V.	532
		Mozo, Ranier Nery	327	Oliva, Raymond V.	534
				Olpindo, Randy	294
				Ong, Janus P.	155

Ong, Janus P.	156	Panganiban, Abigail O.	496	Pe, Lawrence Marlon H.	588
Ong, Janus P.	442	Panggat, Jakes Catherine M.	431	Peczon, Jr., Ildefonso V.	362
Ong, Jr., Renato C.	371	Panggat, Kevin Matthew Serafin B.	170	Pedracio, Farrah Haidee Lynne P.	442
Ong, Yu Ming	203	Panggat, Kevin Matthew Serafin B.	478	Pega-Flores, Christine Joy R.	582
Ong-Go, Arlinking K.	156	Pangilinan, Jeffrey A.	507	Peña-Dumdum, Aileene I.	502
Ong-Ramos, Celeste C.	338	Pangilinan, Jeffrey A.	346	Peña-Dumdum, Aileene I.	550
Orca, Janna Vernetta D.	319	Pangilinan, Jeffrey A..	388	Peñaranda, Mary Michelle Z.	261
Orcasitas, Jessie F.	290	Panlilio, Cherisse Ann P.	164	Penserga, Ester	513
Orcasitas, Jessie F.	494	Panlilio, Josefa R.	323	Penserga, Ester	306
Ordanel, Ivy D.	45	Panlilio, Mara Teresa T.	385	Penserga, Ester G.	269
Ordoná-Miranda, Joanavi Montesclaros	553	Papa, Rey Donne	10	Penserga, Ester G.	305
Oro, Emilita M.	55	Papa, Ricardo Tobias M.	379	Penserga, Ester G.	431
Oro, Mellanie M.	594	Parado-Esteba, Fe D.	121	Penserga, Ester G.	568
Oronce, Arman	408	Parado-Esteba, Fe D.	136	Penserga, Ester G.	366
Orprecio, Jim	58	Parado-Esteba, Fe D.	141	Penserga, Ester G.	356
Ortiz, Marilyn H.	323	Parado-Esteba, Fe D.	142	Penserga, Ester G.	433
Ortiz, Marilyn H.	485	Parado-Esteba, Fe D.	143	Penserga, Ester G.	540
Osio-Salido, Evelyn	179	Parado-Esteba, Fe D.	150	Peralta, Jose P.	118
Pablo, Jr., Ernesto	419	Parado-Esteba, Fe D.	154	Peralta, Jose P.	128
Pablo-Villamor, Maria Phillina	539	Paraiso-Galang, Cecilia Angela Y.	293	Peralta, Jose P.	145
Pacquing, Leo Francis	253	Paran, Faith Jessica M.	126	Peralta, Jose P.	146
Padilla, D.K.M.	26	Pardhe, Nileshe	391	Peregrino, Jovell Ian M.	521
Padilla, Ma. Dominga B.	386	Paredes, Ian C.	577	Perez, III, Marcos	532
Padilla, Ma. Dominga B.	541	Paredes, Ian P.	538	Perez, Joel M.	186
Padlan-Ramos, Janelle Marie	343	Parra, Christian M.	37	Perez, Kathleen	436
Padua, Abigail	294	Parungao, Daniel	572	Perez, Martesio C.	516
Padua, Florecita	345	Pasco, Paul	485	Perez, Martesio C.	407
Pagatpatan, Jr., Celso	562	Pasco, Paul Matthew D.	323	Perez, Rachelle C.	246
Pagsisihan, Daveric A.	204	Pasia, Arnold T.	519	Perez, Violeta M.	539
Paguio, Jennifer T.	535	Pastor, Allen Brian I.	21	Pe-Yan, Mary Rose	565
Pagulayan, R.C.	39	Pastor, Pauline Joy A.	534	Pe-Yan, Mary Rose L.	592
Pajarillo, Edmund J. Y.	535	Pastrana, Eduardo B.	138	Picar, Rosalina E.	315
Paliza, Arnelfa C.	308	Patalen, Chona F.	53	Picar, Rosalina E.	184
Palmero, Ma. Lourdes H.	343	Pates Jr., Gaudioso S.	136	Picar, Rosalina Espiritu	209
Palmero, Manuel O.	349	Payawal, Diana A.	155	Piedad, Prima Angelica M.	319
Palmes, Patricio P.	371	Payawal, Diana A.	156	Pineda, Minnie Jane	299
Palomares, Teresita S.	145	Payte, Melanie	428	Piores-Roderos, Olivia	204
Panaguiton, Graciano Jalemar	153	Payumo, Edelissa F.	247	Pipo, Michelle Marie Q.	445
Panelo, Araceli	532	Paz-Pacheco, Elizabeth	510		
Panelo, Araceli A.	534	Pe, Lawrence C.	449		

Plata-Que, Ma. Teresa	413	Quilang, Jonas P.	19	Ranche, Joseph	565
Policarpio, Josefina T.	168	Quimio, Tricita H.	37	Maylem	
Ponce, Amy G.	1	Quimpo, Joselynna A.	271	Rapanut, Julius Matt	484
Pontillas, Ayezl E.	466	Quimpo, Joselynna A.	355	Ratanasut, Kumrop	2
Prieto E.P.P.	422	Quinitio, Emilia	136	Ravago-Gotanco,	
Prieto, Elizabeth P.	401	Quinitio, Emilia T.	121	Rachel June	126
Prieto, Elizabeth P.	177	Quinitio, Emilia T.	130	Raya-Ampil, Encarnita	175
Prieto, Elizabeth P. ,	498	Quinitio, Emilia T.	131	Rayos, Antonio A.	3
Prieto, Rei Joseph	488	Quinitio, Emilia T.	144	Real, Irisyl O.	527
Prieto, Rei Joseph P.	401	Quinitio, Emilia T.	150	Reandelar, Jr., Macario	490
Primavera, Jurgenne H.	135	Quinitio, Emilia T.	154	Reandelar, Jr., Macario	393
Primavera-Tirol,		Quinitio, Emillia T.	134	Rebosa, Catherine B.	498
Yasmin H.	138	Quinitio, Gerald F.	136	Rebugio, Jesamine F.	115
Prodigalidad, Jose		Quinones, Gloria June	375	Recto, Rhona L.	402
Vicente	451	Quito, Benjamin Jose	295	Recto, Rhona L.	526
Protasio, Jesa Nadine		Rabanal, Teresita N.	323	Regalado, Raymond	
V.	368	Rabanal, Teresita N.	485	Nelson	242
Pua, Glenda Lyn	462	Racaza, Geraldine Z	339	Regalado, Raymond	
Pua, Glenda Lyn	454	Racaza, Geraldine Z.	356	Nelson	238
Pua, Paul Francis	226	Racaza, Geraldine Z.	433	Reganit, Paul Ferdinand	188
Puerto, Jonathan Q.	47	Racaza, Geraldine Z.	289	Reganit, Paul Ferdinand	
Puno-Ramos, Maria		Racho, Veronica A.	224	M.	176
Patricia G.	580	Radin, II, C Philip	420	Regazpi, Prescilla B.	145
Punzalan, Felix		Teomar		Rellin, Klidel Fae B.	44
Eduardo	205	Ragaza, Rosario J.	145	Remo, Jocelyn Therese	
Punzalan, Felix		Ramil S. Lising,	187	M.	427
Eduardo	188	Ramirez, Carly Simon	12	Remo, Jocelyn Therese	
Punzalan, Felix		P.		M.	256
Eduardo R.	489	Ramirez, Carly Simon	29	Remotigue, Carmela	440
Punzalan, Felix		P.		Remulla, Juancho	423
Eduardo R.	165	Ramirez, Joseph	295	Remulla, Juancho C.	187
Punzalan, Felix		Michael		Remulla, Juancho	
Eduardo R.	176	Ramirez, Marcellus	175	Francisco C.	364
Punzalan, Felix		Francis		Requiso, Princess J.	46
Eduardo R.	527	Ramirez, Marcellus	370	Reside, Evelyn Victoria	171
Punzalan, Felix		Francis L.		Resurreccion, Michael	
Eduardo R.	361	Ramirez, Melizza T.	337	M.	236
Punzalan, Felix		Ramli, Norlina M.	399	Resurreccion, Michael	
Eduardo R.	410	Ramos, Everly Faith	334	M.	359
Punzalan, Kenneth		Ramos, John Daniel A.	489	Retinopathy of	
Aristotle	351	Ramos, John Daniel A.	188	Prematurity Working	
Punzalan, Kenneth		Ramos, John Daniel A.	176	Group	393
Aristotle	352	Ramos, John Daniel A.	353	Retinopathy of	
Punzalan, Kenneth		Ramos, John Daniel A.	410	Prematurity Working	
Aristotle	350	Ramos, Marjorie	522	Group	490
Punzalan, Kenneth		Ramos, Ronald C.	315	Reyes, Bernadette	
Aristotle	587	Ranche, Joseph M.	430	Heizel M.	339
Quesada, Mary Natalie				Reyes, Bernadette	
C.	308			Heizel M.	307

Reyes, Jan Michael R.	337	Romero, Diomari Kathleen R.	319	Salonga, Ma. Eleanor Cathryn DR.	234
Reyes, Johann Michael	458	Romero, Hazel L.	449	Salva, Eumelia P.	347
Reyes, Karen B.	243	Rondaris, Maria Victoria	583	Salva^a, Angela D.	155
Reyes, Katrina Angela Z.	356	Rondilla, Leonard Warren S.	495	Salvador, David	404
Reyes, Maria Cecilia D.	459	Ronque, Peter Paul T.	325	Raymund Kalaw	
Reyes, Myra Alisa J.	379	Ronquillo, Yasmyne C.	273	Salvosa, Farlah Angela M.	380
Reyes, Rigo Daniel	547	Roque, Marianne	251	Salvosa, Farlah Angela M.	364
Reyes, Rosalie Mae M.	571	Rosales, Reynaldo	326	Samala, Kenneth G.	442
Reyes, Rosalie Mae M.	506	Roscom, Karen Kristine A.	145	Samano, Angela Adelaida J.	382
Reyes, Rosalie Mae M.	382	Roxas, Evalyn	180	Samonte, I.E.	39
Reynaldo Rosales, Cyril Joseph Tolosa,	324	Roxas, Jomael Leandro T.	559	San Juan, Astrid	358
Reynaldo Rosales, Cyril Joseph Tolosa,	324	Roxas, Michael Roy Z.	263	San Luis, Teofilo	499
Reyno, Danilo Q.	332	Rubio, Anna Kristina Gutierrez	390	Sanchez, Elizabeth V.	281
Rillon-Tabil, Nikki	428	Rubio, Carlo Josemaria D.	574	Sanchez, Joana Camille S.	19
Rim, Klii	192	Ruiz, Hanah I.	12	Sandoval, Mark Anthony S.	510
Rivera, John Michael	237	Saban-Roa, Tina Marie	240	Santiago, Alvina Pauline	423
Rivera, Jonathan A.	313	Sabit, Maureen B.	12	Santiago, Alvina Pauline D.	437
Rivera, Mark Christian R.	357	Sacdalan, Danielle Benedict L.	527	Santiago, Alvina Pauline D.	554
Rivera, Mark Christian R.	287	Sadiasa, Alexander	484	Santiago, Alvina Pauline D.	573
Rival, Dionisio R.	48	Saguiguit, Angelica	10	Santiago, Alvina Pauline D.	157
Rivero, Gilda C.	41	Sagun, Leonisa	304	Santiago, Alvina Pauline D.	486
Rivero, Jenica Ana A.	265	Sahagun, Jorge	2	Santiago, Angeline- Therese M.	431
Roa, Jr., Camilo	460	Salas, Marissa	524	Santiago, Darby	250
Roa, Mary Ann	529	Salas, Marissa G.	453	Santiago, Darby E.	223
Roa-Lingad, Frances Marie DC.	279	Salas, S.R.	26	Santiago, Krystle Angelique A.	29
Roberto E. Flaminiano,	215	Salas-Walinsundin W.M.M.	422	Santiago, Rex Michael	454
Robles, Jeremyjones	440	Salido, Evelyn	182	Santiaguel, Joel M.	473
Roces, Barbara A.	311	Salido, Evelyn	231	Santos, Angelane S.	409
Roces, Jose Ernesto G.	594	Salido, Evelyn O.	205	Santos, Edmin Michael G.	576
Rodriguez, Amiel N.	332	Salido, Evelyn O.	187	Santos, Faith Y.	259
Rodriguez, Kathleen M.	346	Salido, Evelyn O.	464	Santos, Francisco	139
Rodriguez, Kathleen M.	432	Salido, Evelyn O.	513	Santos, Jennifer Joy Y.	195
Rodriguez, Kathleen M.	566	Salido, Evelyn O.	254	Santos, Kevin Carl	274
Rodriguez, Rashmine A.	183	Salido, Evelyn O.	316	Santos, Kevin Carl	522
Rodriguez, Roslyn D.	249	Salido, Evelyn O.	481		
Rodriguez-Chan, Maria Joanna	277	Salido, Evelyn O.	305		
Rojo, Justo P.	16	Salido, Evelyn Osio	390		
Romero, Cherry E.	145	Salillas, Annette	358		

Santos, Lourdes Ella G.	176	Sobrepena, Leorino M.	224	Tamayo, Rodnel O.	47
Santos, Mario	139	So-Cabahug, Jacklyn	429	Tamesis, Linda	317
Santos, Maurice Lee B.	549	So-Cabahug, Jacklyn M.	178	Tamesis-Villalon, Pearl	215
Santos, Melissa Anne M.	591	Soldivillo, Lynne Michelle B.	209	Tamesis-Villalon, Pearl	554
Santos-Alban, Josephine Ann G.	567	Solis, Maria Luisa Patricia C.	382	Tamesis-Villalon, Pearl M.	544
Santos-Estrella, Paul V.	582	Solis, Maria Luisa Patricia C.	506	Tam-Go, Lyzanne Maryl	444
Sarmiento, Jennifer Aurea S.	427	Solis, Maria Rachelle Katrina C.	506	Tan, Alexander D.	421
Sarmiento, Jerome M.	594	Sollano, Jose D.	292	Tan, Alexander D.	362
Sarol, Jesus N.	525	Sombrero, Lydia	484	Tan, Alexander D.	415
Satici, Ahmet	320	Somera, Mechil D.	151	Tan, Alexander D.	584
Sawadjaan, Leila	338	Sonia, Hammami	192	Tan, Anne Marfe L.	337
See, Thonnie Rose O.	167	Sonico, M.G.L	39	Tan, Ceryl Cindy	444
Selva Raja V.	218	Soriano, Jonathan G.	267	Tan, Ceryl Cindy Y.	232
Sempio, Earl Louis A.	183	Sosa, Madeleine Grace M.	323	Tan, Judy L.	155
Senador, Leilani R.	550	Sotalbo, Cindy S.	464	Tan, Reginald Robert	537
Seong Ng, Choon	579	Spiegel, Detlev	344	Tan, Ronabelle L.	23
Sepulveda, Ma. Theresa	542	Sta Romana, Antonina T.	523	Tan, Soo Ken	203
Serafica, Reimund	426	Sulima, Agapito E.	137	Tan, Sue Kimberly M.	473
Serafica, Reimund C.	597	Suller, Armida L.	415	Tan, Sue Kimberly M.	561
Serrano, Jocelyn E.	14	Sumilang, Francesca Mari P.	417	Tanangan, Robelle Mae D.V.	418
Servas, Jerlyn Maureen P.	177	Sumile, Jony	150	Tan-Delos Reyes, Myra	190
Shahjahan, Muhammad	4	Sumile, Jony D.	141	Tandoc, III, Amado	197
Shahzad, Umbreen	4	Sumile, Jony D.	142	Tandoc, III, Amado	294
Sia, Genevieve F.	160	Sumile, Jony D.	143	Tapia, Mariel C.	129
Sia, Sonia	542	Sunico, Alice Tuesday C.	449	Tappan, Sweet Garllie Albert R.	355
Siao, Stephanie O.	285	Suquila, Jason T.	533	Tappan, Sweet Garllie Albert R.	586
Siapno, Rosario Pinkie V.	384	Suquila, Jason T.	347	Taquiso, Jezreel	500
Sibayan, Santiago A. B.	220	Sy, Jocelyn L.	585	Taquiso, Jezreel L.	176
Sibayan, Santiago Antonio B.	344	Sy, Mary Ellen A.	514	Taquiso, Jezreel L.	442
Sibayan, Santiago Antonio B.	541	Sy, Robert T.	215	Tayapad, Joanne B.	379
Sibonga, Rema C.	124	Sy, Rody G.	176	Te, Nikki Doreen Angbue	193
Siguan, Christine S.	493	Sy, Rosa Allyn G.	322	Tech, Elsie	132
Silva, Paolo Antonio S.	487	Tabao, Nik Shawn C.	11	Tecson, III, Jose V.	486
Silva, Paolo S.	379	Tabao, Nik Shawn C.	35	Tee, Kenneth	182
Silvestre, Jenalyn	150	Tacugue, Maria Christy Jesusa G.	55	Tee, Kenneth	254
Sinon, Johnny B.	291	Tady, Clarissa Marie S.	357	Tee, Kenneth	231
Sison, Jorge A.	504	Tagal, Christian Joseph Z.	555	Tee, Kenneth D.	216
Siy, Patrick Y.	271			Tee, Kenneth D.	179
So, Jeffrey	159			Tee, Kenneth D.	513
So, Jeffrey	395			Tee, Michael L.	216
				Tee, Michael L.	187

Templo, Jr., Felipe	420	Tripon, Jaime Rafeal	570	Uy, Angelique Bea	334
Tendencia, Eleonor A.	122	Hubilla		Uy, Angelique Bea	500
Tendencia, Eleonor A.	151	Tsui, Wilson	372	Uy, Charles Vincent O.	235
Tesoro, Christine		Tuano, Bernardo	251	Uy, Christopher	
Dianne P.	319	Joaquin P.		Sebastian J.	378
Thaebtharm, Agnes	348	Tuano, Diana Francesca	374	Uy, Christopher	
Theise, Neil	372	Tuaño, Prospero Ma.	321	Sebastian J.	437
Tia, Jay Malvin	575	Tuaño, Prospero Ma. C	565	Uy, Harvey S.	249
Tibayan, Christoper		Tuano, Prospero Ma. C.	434	Uy, Harvey S.	365
John N.	212	Tuazon, Danny Joseph	413	Uy, Harvey S.	378
Tilbe, Maria Lourdes	436	Tud, Raissa Marie	374	Uy, Harvey S.	389
Timbol, Edgardo S.	446	Tugna, Sheryl N.	569	Uy, Harvey S.	491
Timoteo-Cervantes,		Tuguinay, Jenela May	319	Uy, Harvey S.	545
Johanna	314	N.		Uy, Harvey S.	364
Tin Hay, Eduardo L.	468	Tumabiene, Kristine D.	475	Uy, Harvey S.	438
Tin Hay, Lora May T.	312	Tumbocon, Joseph	255	Uy, Harvey S.	477
Tindoc, John Anthony		Anthony		Uy, Harvey Siy	170
D.	235	Tumbocon, Joseph	270	Uy, Harvey Sy	328
Ting, Frederic Ivan L.	259	Anthony		Uy, Jamela	32
Tinio, Bernard Gil O.	546	Tumbocon, Joseph	268	Uy, Miko Mariel	32
Tinio, Lawrence	302	Anthony		Uy-Agbayani, Celia	500
Tinio, Lawrence	512	Tumbocon, Joseph	300	Catherine	
Tiongco, Richard		Anthony		Valbuena, Marissa	342
Henry P.	489	Tumbocon, Joseph	301	Valbuena, Marissa N.	278
Tiongson, Alexander A.	590	Anthony		Valbuena, Marissa N.	591
Tiuseco, Karen Angela		Tumbocon, Joseph	314	Valdez, Allan M.	449
L.	169	Anthony		Valdez, Anne Lizbeth	395
Tiuseco, Karen Angela		Tumbocon, Joseph	537	Valdez, Valerie Ann U.	292
L.	458	Anthony		Valdez, Valerie Ann U.	578
Tobias- Qunitio,		Tumbocon, Joseph	544	Valencia, Jose Carlo B.	226
Emilia	145	Anthony J.		Valencia, Niccolo	287
Toledo-Ramirez, Ma.		Tumibay Nelson L.	51	Zandro R.	
Melizza Theresa	496	Umali, Arianne S.	508	Valencia, Niccolo	357
Tolentino, Leda	435	Umali, Arlene	374	Zandro R.	
Tolentino-Molina,		Umali, Jeanette J.	259	Valenton, Mario J.	439
Maria Kariza	396	Umandap, Christine	374	Valenton, Mario J.	447
Tolentino-Wilson,		Hope		Valenton, Mario V.	187
Odessa G.	239	Urbano, Annalyn Q.	219	Valenzuela, Rafael	450
Torio, Kate C.	256	Urbano, Annalyn Q.	316	Valenzuela, Rosauro	572
Torres, Jeremy Martin		Ureta, Celso V.	346	Valera, Eric G.	341
O.	29	Ureta, Celso V.	406	Valera, Eric G.	273
Torres, Juan F.	499	Ureta, Celso V.	388	Valero, Sherman O.	186
Torres, Ryan	374	Ureta, Celso V.	432	Valero, Sherman O.	379
Traifalgar, Rex		Ureta, Celso V.	501	Vallente, Jeremiah	201
Ferdinand	120	Ureta, Celso V.	507	Valmoria, Nemuel	557
Train, Christine Q.	289	Ureta, Celso V.	566	Vargas, Andrea G.	183
Trinidad, Jaypee G.	145	Urriquia, Ma. Theresa	336		
Trio-Ranche, Felice		B.			
Katrina	565				

Varona, Linda L.	474	Villanueva, Ana	374	Yatco, Mario M.	515
Vega, Renato SA.	3	Patricia		Yilmaz, Nevin	320
Vega-Alava, Kristine Mae	322	Villanueva, III, Emilio	161	Yorobe, Mari Anne	374
Vega-Alava, Kristine Mae	241	Villanueva, III, Emilio	237	Yorobe, Mari Anne	374
Velasquez, Jhoanna Rose H.	527	Villanueva, Reagan Joseph T.	5	Yu, Ira I.	156
Veloso, Ma. Imelda	398	Villar, Winston	251	Yu, Marc Gregory	374
Veloso, Ma. Imelda Y.	521	Villar, Winston L.	594	Yu, Marc Gregory	306
Veñegas, Elaine T.	367	Villarama, Jose Benito R.	347	Yu, Marc Gregory	335
Veñegas, Elaine T.	377	Villarante, Katrina Lenora	374	Yu, Marc Gregory Y.	269
Ventura, Jey-R S.	46	Villareal, Dennis T.	376	Yu, Rhoda	350
Ventura, Ricardo	490	Villasenor, Liz	374	Yu, Rhoda	587
Ventura, Ricardo H.	412	Villasenor, Liz	374	Yu, Rhoda	351
Ventura, Ricardo H.	452	Villazor-Isidro, Erika Bianca S.	582	Yu, Rhoda	352
Ventura, Ruby Lynn G.	46	Vince Cruz, Chona Camille E.	148	Yu-Gan, Susan	224
Ver, Mikhail Lew	374	Virgula, Juliette C.	154	Yulo, Paul Richard J.	7
Veronica M. Dancil, Mercedes Arguel-Belza,	593	Visperas, Julie Christie G.	384	Yulo, Paul Richard J.	29
Verzosa, Lee	242	Vista, Evelyn B.	134	Yumul, Sachi E.	586
Verzosa, Lee	321	Vista, Rafael C.	134	Yutangco, Ronald A.	511
Verzosa, Lee G.	434	Vizconde, Dennis C.	287	Zahari, Mimiwati	399
Verzosa, Lee G.	174	Vizconde, Dennis C.	496	Zamora, Katherine V.	438
Verzosa, Lee G.	325	Vizconde, Dennis C.	357	Zamora, Mithi Kalayaan	201
Verzosa, Lee G.	459	Walid, Bouteraa	192	Zantua, Anna Carmina	374
Vicencio, Jay	321	Walton, Mark	124	Zapata-Mesina, Flordeluna	230
Vicencio, Jay Marianito	537	Wang, Aileen D.	199	Zapata-Mesina, Flordeluna	557
Vicencio, Jay Marianito	242	Wayne, Michael	372	Zayco, Camille Constancia C.	222
Vicente, Mark A.	489	Wong, Stephen	156	Zettel, Herbert	6
Vicente, Mark A.	475	Wong, Stephen	285	Zuniga, Wilson	374
Victa, Jacqueline Judith	461	Wong, Stephen N.	155	Zuniga, Wilson	374
Vidal, Kemberly C.	1	Wu, Jiunn-Tzong	10		
Villa, Michael	217	Yadao, Rhoumel A.	449		
Villa, Michael L.	338	Yago, Allan Christopher C.	42		
Villa, Michael L.	580	Yao, Ada Lyn	374		
Villaflor, Agnes Jean M.	371	Yao, Christy S.	160		
Villalobos, Ralph Elvi	374	Yap, Emily Mae	558		
Villalobos, Ralph Elvi	441	Yap, Emily Mae L.	163		
Villalobos, Ralph Elvi M.	199	Yap, Emily Mae L.	411		
Villalon, Ma. Melizza S.	501	Yap, Jennifer	29		
Villaluz, Mel Michel G.	323	Yap, Kristine Jeanne	484		
		Yap-Veloso, Ma. Imelda	570		

LIST OF PUBLICATIONS ABSTRACTED

Acta Medica Philippina
Journal of the Philippine Medical Association
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Philippine Journal of Internal Medicine
Philippine Journal of Internal Medicine (PJIM)
Philippine Journal of Nursing
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Philippine Journal of Pathology
Philippine Journal of Science
Philippine Journal of Systematic Biology
Philippine Metals
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