

40th

Annual Research
and Education
Forum MSC UPR

**40 YEARS OF CONTRIBUTIONS
TO RESEARCH AND HEALTH SCIENCES
EDUCATION**

Abstract Supplement

PRHSJ.V39.N4.2020



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El Recinto de Ciencias Médicas en su misión de preparar profesionales en el campo de las ciencias de la salud está en una constante búsqueda de nuevos conocimientos, avances científicos y estrategias innovadoras en los procesos de enseñanza. Este accionar institucional influye en la formación de los profesionales de la salud que prestan cuidados y servicios a la comunidad puertorriqueña.

Cada año el Comité Organizador en esfuerzo conjunto con el Decano de Asuntos Académicos, se dan a la tarea de planificar e implementar el Foro Anual de Investigación y Educación. El mismo representa, el evento cumbre en este recinto académico. Para el año 2020, los desafíos emergentes de salud pública como resultado colateral de la globalización, nos condujo hacer frente a la pandemia del coronavirus, COVID-19.

A partir de marzo 2020, el virus COVID-19 cambió la cotidianidad personal y profesional. En consecuencia, la agenda de los quehaceres académicos, de investigación y de servicios se afectaron significativamente. En aquel momento la prioridad era salvaguardar la salud y seguridad de cada uno de los miembros de la comunidad académica, a la vez que se tomaban las medidas de prevención y protección a la salud. Por tanto, el Foro Anual de Investigación y Educación tuvo que ser cancelado.

Este importante evento en ciencias de la salud y educación superior reúne una representación diversa de líderes del sector público, privado, entidades comunitarias, profesores y estudiantes que trabajan juntos para difundir las mejores prácticas en educación, nuevos desarrollos en ciencia, medicina y salud pública en busca de un mayor bienestar para nuestra sociedad. Dado que los trabajos de los autores ya se habían evaluado y aprobado, el Comité Organizador decidió dar continuidad a los procesos mediante el desarrollo del compendio de resúmenes que se publica en la revista *Puerto Rico Health Sciences Journal* del Recinto de Ciencias Médicas. En este volumen especial se describen los diversos trabajos de investigación, educación y servicio desarrollados por los estudiantes, profesores y líderes en la práctica de las ciencias de la salud.

El Decanato de Asuntos Académicos y el Comité Organizador del Foro Anual de Investigación y Educación reafirman su compromiso con la generación y divulgación de nuevos conocimientos, avances científicos y estrategias innovadoras en los procesos de enseñanza que abonan al desarrollo de competencia de los profesionales de la salud y del bienestar de la comunidad general.

Cordialmente,



José Hawayek Alemañy, MD
Decano y Presidente
del Comité Organizador



Luis Estremera De Jesús, EdD
Coordinador, Comité Organizador

JAVIER ORLANDO ALGARÍN ORTIZ (1962 -2020)

Nació en Humacao, Puerto Rico donde también cursó estudios en escuelas del sistema de educación pública, siendo el menor de tres hermanos. Se graduó Magna Cum Laude tanto de un Bachillerato en Física Aplicada a la Electrónica de la Universidad de Puerto Rico (UPR) en Humacao (1986); como de su grado de Maestría en Sistemas Abiertos de Información que completó en la Universidad Interamericana de Puerto Rico (2006). Era autodidacta, un voraz lector y eterno aprendiz. Disfrutaba lecturas sobre inteligencia artificial, las tecnologías de la información y las comunicaciones, así como gustaba de la ciencia ficción, la música, temas de la educación superior, literatura y geopolítica. Con frecuencia se le podía sorprender repasando sus lecciones de cálculo y física –decía que para no olvidarlas.



Comenzó a trabajar en la Universidad de Puerto Rico, Recinto de Ciencias Médicas (RCM), Decanato de Asuntos Académicos (DAA) en el 1990. Fue Director Asociado de la Unidad de Informática (UI), CompuCentro, donde además de supervisar al personal que daba apoyo técnico a los usuarios, ofreció cursos y adiestramientos de informática y el uso de las microcomputadoras. Desde entonces ofreció asistencia técnica a la Facultad y a los estudiantes que la requerían para la elaboración de proyectos de investigación y tesis. Funcionarios de todas las facilidades que ubican en el Centro Médico eran referidos a la UI donde encontraban solución a desafíos tecnológicos que otros expertos no habían podido descifrar. Es así como conoce a su amada esposa Zulma con quien contrajo nupcias en marzo de 1998 y en noviembre del 2003 llegan al mundo sus dos tesoros: Nailah y Eduardo.

Su palabra concisa, clara y discreta le acompañaron en toda expresión en su caminar por la vida, que no por ser prudente era menos incisiva. Se regía por valores de empatía y persistencia, así como por la ética del trabajo de la “milla extra”. Echaba mano a su capacidad crítica y analítica para identificar problemas. Su personalidad previsor le llevaba a poner a prueba los cambios y anticiparse a las dificultades para poder ayudar a los demás. Asimismo, hacía uso de su creatividad, sus destrezas de investigación y su tenacidad en la búsqueda de soluciones. Cómo no recordar aquel verano a finales de los 90’s cuando la mayoría de los equipos de los centros de cómputos de la UPR se infectaron con un virus troyano que causó muchas dificultades a los usuarios, y gracias a su acertada evaluación y recomendación de adquirir un antivirus distinto al adoptado por el Sistema, logró mantener al virus alejado de la unidad que entonces dirigía. Igualmente, pudo reparar y rescatar documentos extensos que facultativos, investigadores y estudiantes habían dado por perdidos.

Como Coordinador de Servicios Técnicos, entre otras iniciativas, diseñó y construyó la primera base de datos que utilizaría el DAA para el Programa de Ayudantías. Por años estuvo a cargo de la construcción y actualización de la página web y los servicios electrónicos del Foro Anual de Investigación y Educación que le hicieron merecedor de elogios y reconocimientos. Fue un gran colaborador del Comité Institucional de Avalúo donde además de administrar un servidor, participó en el desarrollo de un instrumento de acopio de datos para producir el informe de las tasas de graduación y retención de más de ochenta programas académicos del RCM.

Más que su formación académica y experiencia laboral, durante su paso por la tierra, Javier deja una palpable estela de trascendencia por su sencillez, don de gente y calidad humana. En su afable conversar era frecuente que afloraba su mayor prioridad, la familia. Sin importar cuál fuera el proyecto o actividad que realizara, estuvo siempre presente su entrañable y pausada expresión, junto a sus valores de lealtad y el compromiso de cumplir a plenitud con lo que se le encomendaba; y ese recuerdo acompañará a todo el que tuvo la dicha de conocerle.

Javier O. Algarín-Ortiz, hijo, hermano, amigo, compañero universitario, y amoroso padre y esposo, descanse en paz.

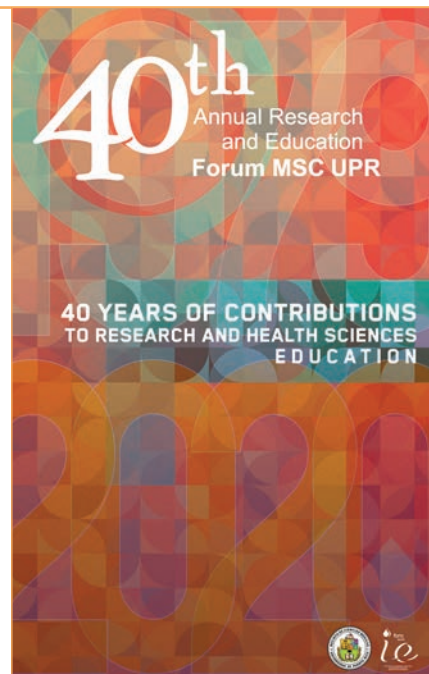
En el mes de febrero 2020, se me presentó el reto de crear una propuesta de arte para el Foro Anual de Investigación y Educación, ciertamente, 40 años son una larga trayectoria. Las colaboraciones, el trabajo interdisciplinario y la diversidad de aportaciones han contribuido significativamente al campo de la investigación y la educación. Estos aportes han generando un caudal de hallazgos e información que conforman una gran gama de nuevo conocimiento en beneficio de la educación superior, los sistemas de salud y de nuestra sociedad local e internacional. El espíritu de un esfuerzo conjunto, de trabajo en equipo que caracteriza este evento académico, me llevó a pensar en cómo individuos de todos los campos se encuentran, colaboran, intercambian experiencias, ideas y conceptos para la formación de algo nuevo, un nuevo paradigma, como unidad de un esquema o estructura más amplia, más globalizada.

Así pues, inspirado en este concepto comencé a indagar la idea de un plano, un piso, un nivel y que estos están comprometidos y formados por varios elementos individuales, losas, pero que juntos, se unen como un todo. Estas losas forjan el suelo, un cimiento donde las generaciones antecesoras de académicos, investigadores y alumnado desarrollaron sus proyectos de investigación o de educación y dejaron su huella. Es a base de este cimiento que las generaciones actuales y futuras tienen la oportunidad de pensar, crear, desarrollar y contribuir. Esto, como parte de un continuo de la gesta en la generación del conocimiento, como resultado de los procesos de inquirir y de la aplicabilidad de los procesos del aprendizaje transformativo. El resultado ulterior de estas acciones colectivas como comunidad académica se traducen en acciones que conducen a la innovación, al cambio y a la expansión del quehacer investigativo y educativo a donde no se ha llegado antes, estimulando el horizonte, conquistando con las ciencias, el conocimiento y la sabiduría, lo desconocido.

Recuerdo los antiguos mosaicos que decoraban las paredes y pisos de los hospitales de la isla, la antigua fachada del RCM, del arte que también ha estado ahí desde el principio y que inseparablemente forma parte de la historia y diseño de estos lugares, de ahí también surge mi línea creativa. Decido crear un suelo, un cimiento donde todos estos elementos descansan, se apoyen. Un fondo donde se levantan los 40 años de una gran gesta, comprometido en los colores de unión y armonía, las sombras de la colaboración e innovación y los tonos de la transparencia y la fortaleza. El fondo consiste de cuartos (1/4) de círculos interactuando entre ellos para la creación de nuevas formas de inquirir, educar y descubrir. El patrón causa una sensación de caos y desorden, pero al alejarse podemos ver la armonía, esto celebra a los individuos y comunidad académica que componen este foro. De igual forma, como sus aportaciones son las que forman hoy los 40 años de trayectoria en la investigación y educación en las ciencias de la salud, en armonía y como parte de un todo mayor que ellos. Escondidos en el mosaico está una lupa como una representación gráfica del acto de inquirir, de investigar, de buscar lo no tangible. Además, se insertó un marca libros (bookmark) como elemento asociativo con el campo de la educación que también funge como marcador del tiempo en este evento académico de 40 años de historias y saberes.

Por otro lado, el uso de los años es para crear la sensación de un lapso de tiempo real, demarcar de forma tangible esos 40 años de contribución como institución de educación superior. Las fechas le dan peso al diseño, magnitud al evento, y proveen una manera visual de interpretar las cuatro décadas. Finalmente, el color principal es inspirado en el color Pantone del año 2019, LIVING CORAL, como manera de atarlo también al contexto contemporáneo del diseño, y es un color muy cálido, alegre y tropical, características que siempre nos definen. Le acompañan turquesas y amarillos complementarios.

Ante ustedes, el producto de creativo de arte del 40mo Foro Anual de Investigación y Educación. Este arte es el resultado concreto del proceso reflexivo e interpretación artística gráfico Gerardo E. Vélez Pérez, adscrito a la Oficina de Informática y Recursos Educativos de la Escuela de Profesiones de la Salud. ¡Enhorabuena!



DESCRIPCIÓN DEL CONCEPTO DE ARTE OFICIAL
40^{mo} FORO ANUAL DE INVESTIGACIÓN Y EDUCACIÓN 2020

Abstracts*

1001 | Post-Hurricane María Power Outages Frequency in Puerto Rico: A Public Health Problem (2018-2019)

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Background & Objectives: Hurricane Maria hit Puerto Rico on September 20, 2017. In the aftermath, Maria destroyed 99% of the power infrastructure, with 100% of all residents without power for months. It is considered the worst and more extended power outage in U.S. history, and the second more longer power outage in modern history. Officially, the death excess was estimated in 2,975 people. The primary cause of those deaths is attributed to health complications because of the long-term electrical power outage. The primary purpose of this study is to determine with a binomial statistical distribution how reliable today's Puerto Rico's power service is after two years of Hurricane Maria to prospectively measure its impacts on population health. Method: To create a binomial probability distribution registering every massive power outage occurred in Puerto Rico for one day in a specific week during 52 consecutive weeks. One week can only contain one count per day, and the meaning of what is considered as a massive power outage is predetermined specifically. The probability distribution changed continually in order to be up to date, and patterns could be detected visually and statistically. Results: The binomial probability for a success is approximately near the range between 0.270 (95% C.I.: 0.267, 0.280) to 0.290 (95% C.I.: 0.284, 0.298). Third-Degree polynomial regression was obtained that fits the observed data. A final binomial probability (p) of nearly 0.27-0.29 means that weekly occur(s) 1 up to 3 large power outages in Puerto Rico. Conclusions: Puerto Ricans' health could be negatively affected by the constant and frequent power outages after two years of the severe impact of Hurricane Maria on the island. Tap water and household food hygiene could be among the most affected areas due to these power outages increasing the risk for foodborne and waterborne diseases.

1014 | Correlations between Navigational Spatial test (MI) and Visuospatial performance in HIV-seropositive (HIV+) women

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Introduction and Objective: During the last three decades, combined antiretroviral therapy (CART) has helped reduce morbidity and increase HIV-seropositive (HIV+) patient's survival rate. Despite the positive outcome of CART, there remains a high prevalence of HIV-associated neurocognitive disorders (HAND) within this population. The aim of this study was to explore the relationship among a computer based navigational spatial task named Memory Island (MI) and the visuospatial performance of an HIV+ Puerto Rican women sample. Additionally, we assessed the concurrent validity of the task and compared subject's cognitive performance based on their level of cognitive impairment. Method: This study is a secondary data analysis from data collected from a longitudinal HIV+ women Cohort at the University of Puerto Rico. We evaluated 45 HIV+ women. Cognitive performance was determined using the HAND criteria, dividing the HIV+ women into cognitively normal (CN) and neurocognitive impaired (CI). To assess the concurrent validity of the Memory Island we explored the relationship of this task with other validated cognitive tests and assessed the sensitivity and specificity of each test using the Receiver Operating Characteristic Analysis (ROC, curve). The Memory Island Test (MI) is a computer based cognitive task that requires the subject to use their visuospatial ability and visuospatial memory to learn the spatial position of certain cues and successfully locate them. The task can be administrated quicker than most neuropsychological tests and carries little verbal, numeric or cultural content. Results: Our results demonstrate that the most sensitive tests for visuospatial ability were Rey Complex

*Disclaimer: All information contained in this document was published as provided by the Organizing Committee.

Figure Immediate and Spatial Span, both with an 85% sensitivity. The visuospatial NP test correlates significantly with learning and spatial memory in MI test ($p < .001$), which demonstrates a concurrent validity among the tests. Our results show there are statistically significant differences in visuospatial ability between CN and CI women. Conclusions: The findings show that visuospatial ability is significantly associated with spatial learning and memory deficits in cognitively impaired HIV+ women. The Memory Island test may possibly serve as a new tool for the screening of visuospatial abilities in HIV+ women.

1021 | Characteristics, Upon Presentation, of a Cohort of Hispanic Patients with Birdshot Retinochoroidopathy

*Frances M. Marrero, MD**; *Edgar De Jesus, MD**; *Samuel Alvarez, BS†*; *Israel J. Mendez Bermudez, MPH*†*; *Mariam Vila, MD**; *Carmen Santos MD**; *Armando L. Oliver, MD**. *Department of Ophthalmology, University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico; †School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico

Objective: To describe the characteristics, upon presentation, of a cohort of Hispanic patients with birdshot retinochoroidopathy. Methods: A retrospective chart review of Hispanic patients with birdshot retinochoroidopathy of was performed. The demographic and clinical characteristics were analyzed. Results: Nine patients who met the research criteria for a diagnosis of birdshot retinochoroidopathy were identified and included in the analysis, all of whom were HLA-A29 positive. The median age of the cohort upon presentation was 52 years; 89% of the patients were female, and all were Hispanics. Ninety-four percent of the eyes had an initial visual acuity of 20/50 or better, while 72% had measured 20/25 or better. Sixty-one percent of the eyes had retinal vasculitis, which was bilateral in 83% of the cases. Thirty-three percent of the patients had, upon presentation, evidence of cystoid macular edema, which was always bilateral. All the eyes had the typical birdshot lesions, at presentation. Conclusion: Birdshot retinochoroidopathy can be found in Hispanic patients. Our study suggests that the characteristics upon presentation in Hispanics may be similar to those of Caucasian cohorts. [P R Health Sci J 2020;39:249-253]

1025 | Small Cells Big Consequences

José I Ruiz Rodríguez, Juan J Rivera Torres, Natalia Blanco Cintrón, Carla I Colon Núñez, Beatriz Zayas Godoy, Nicole Rassi Stella. University of Puerto Rico School of Medicine Internal Medicine Program.

Introduction: Small cell carcinoma of the ovary of hypercalcemic type (SCCOHT) is a rare malignant neoplasm with very poor prognosis. It usually presents in young females during the second decade of life. Case Report: A 22 years old female presents with abdominal distention, malaise, nausea, vomiting, and leg cramps. As the days passed by, her abdominal distention progressed and she developed shortness of breath which brought her to the emergency room. Upon initial evaluation with abdominopelvic CT she was found with a heterogeneous poorly defined pelvic mass centered in the lower pelvis and extending above the umbilicus arising from the left ovary. A tissue biopsy was unable to be performed due to her unstable medical condition. On physical exam, she was in moderate distress, not tolerating supine position, and abdomen was distended and tender to palpation with decreased bowel sounds. Laboratories were remarkable for an acute kidney injury, and multiple electrolytes disturbances such as hypercalcemia (14mg/dL), hypokalemia (3.0mEq/L) and hyponatremia of (150mEq/L). Patient was started on electrolytes replacement, Calcitonin, Furosemide, and Zoledronic Acid. During her hospitalization, the patient became critically ill developing disorganized behavior and disorientation. Due to severe abdominal pain a compartment syndrome was suspected and emergent paracentesis was performed with removal of 2000mL of ascitic fluid and patient was transferred to ICU. Immunohistochemistry of tissue biopsy taken by interventional radiology was remarkable for Pankeratin, Synatophysin, CD56, Bcl-2, CD99 and Ki67. Labs were also positive for PTH-RP. Patient was diagnosed with SCCOHT, however surgical management was not feasible due to her critically ill status and Oncology Service started empiric chemotherapy with Etoposide/Carboplatin. One week after initiation of chemotherapy, patient developed pancytopenia and septic shock, requiring broad spectrum antibiotics and vasopressors. Two days later she was intubated. Despite medical efforts, patient developed cardiorespiratory failure and passed away. Discussion: SCCOHT represents a rare

malignant neoplasm with a very poor prognosis. There are only 300 reported cases in the literature. The typical scenario is a young female patient in the second decade of life with hypercalcemia, abdominal distention, altered mental status and an adnexal mass. Hypercalcemia is usually related to PTH-rp. Cells origin is not clear so far, whether it is epithelial, mesenchymal or germinal. Early-stage tumors are treated with radical surgery and optional adjuvant therapy with external beam radiation. More advanced cases require neoadjuvant chemotherapy. However, due to its rarity and often late presentation, there are no established protocol treatment for SCCOHT, which confers terrible prognosis. It is estimated that the disease progression-free survival is usually very short, with a median survival of 6 - 13 months. We hope this case will help to increase awareness and promote more investigation about this deadly disease.

1027 | Impact of sex and age on High On-Treatment Platelet Reactivity (HPR) in Caribbean Hispanic patients using clopidogrel

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Clopidogrel, which is the generic for Plavix®, is an antiplatelet prescription drug commonly used to prevent stent thrombosis, heart attack and strokes in cardiovascular patients who are at the highest risk for these major adverse cardiovascular events (MACE) and, therefore, possible serious or life-threatening complications. Clopidogrel is a prodrug in the thienopyridines class of compounds that function as indirect inhibitors of platelet aggregation induced by adenosine-5'-diphosphate (ADP). A cross-sectional analysis was performed in 455 subjects of Puerto Rican, Dominican and Cuban descent that were on clopidogrel regimen. This data was utilized to perform chi-square tests and logistic regression analysis along with the initial information acquired after initial patient interviews at the time of giving consent. To perform these analyses, the software platform Intellectus was utilized. Platelet function was measured using VerifyNow© P2Y12. Utilizing Fisher's Exact test and a Two-Tailed Mann Whitney Rank Sum Test for PRU and Sex, data was found to be

significant with Females tending to have higher PRU values than Males. The results of the Fischer exact test were significant based on an alpha value of 0.05, $p < .001$. This suggest that Sex and PRU resistance are related in a significant manner. The results of the a two-tailed Mann-Whitney U test was considered significant base on an alpha value of 0.05, $p < .001$. The mean rank for Males was 183.03 and the mean rank for Females was 225.82. This suggest that the distributions diverge from one another indicating significance. An increased tendency is observed in the upper age bracket, but no statistical significance was found. This study is partially supported by grant #2U54 MD00760031 from NIMHD, NIH (RCMI Program) and the IRB Approval code is A4070417. There is no conflict of interest presented by the authors.

1029 | A Case Report: An Atypical Innervation to the Gluteus Maximus by the Sciatic Nerve and its Clinical Implications

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Purpose: Anatomical variations of gluteus maximus (GM) are rare and of clinical importance. The GM is usually innervated by Inferior Gluteal Nerve (IGN), a branch of the sacral plexus arising from the ventral rami of the L5 to S2. However, this anatomy might vary depending on its embryology, concerning the proximity of nerves and their attachment to muscles. The goal of this case report is to highlight the clinical and surgical implications of an atypical innervation to the GM by the Sciatic Nerve (SN). Case description: An abnormal innervation was identified in routine cadaveric dissection in an elderly Puerto Rican female. Here, the left and right GM were innervated by their corresponding IGN, yet both had an additional innervation by the SN. The bilateral SN branch was located proximally when compared to the IGN, and emerged by the inferior border of the Piriformis. In literature, there have been studies reporting multiple forms of innervations to the GM by the SN. Nevertheless, in most, the IGN was absent and variants were usually unilateral. Conclusion: The implications of this variation encompass both clinical and surgical correlations with respect to patient

care. Regarding clinical aspects, patients with this dual innervation to the GM can present with unique scenarios which might be easily misdiagnosed. For instance, pain caused by inflammation of the GM might be misinterpreted and associated to pain felt in other conditions related to the SN, such as sciatica and piriformis syndrome. Likewise, women considering surgical intervention in this area might be at a higher risk of an iatrogenic nerve injury due to the abnormal SN branch. Thus, physicians need to be aware of its existence so as to diagnose accurately and avoid iatrogenic nerve injuries during surgical interventions. Acknowledgements: Authors declare they have no conflict of interest.

1064 | Design, synthesis and biological evaluation of 1,4,5-trisubstituted-1,2,3-triazole derivatives as anti-cancer and anti-migration compounds

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Background: There is a critical need to develop novel therapeutics that halt cancer metastasis. The Rho family GTPases that regulate cell invasion and migration are an excellent target for anti-metastatic cancer therapy. Previously we reported the development of the 1,5-disubstituted-1,2,3-triazole derivative MBQ-167 which inhibits the GTPases Rac and Cdc42 *in vitro* and was shown to inhibit *in vivo* tumor growth in a xenograft mouse model. Objectives: The aim of the current study is to synthesize 1,4,5-trisubstituted-1,2,3-triazole derivatives in order to obtain compounds with enhanced activity. Methods: The 1,4,5-trisubstituted triazoles were synthesized via a modification of the Huisgen cycloaddition reaction using a bromomagnesium acetylide and an azide, in which the intermediate was trapped with aldehydes rather than proton. The cytotoxic and anti-migratory activity of the new compounds was analyzed on MDA-MB-231 cell line using the Sulforhodamine B and wound healing assays, respectively. Results: The synthesized compounds demonstrated moderate antiproliferative activity with GI50 values in the range of 8-50 μ M. The new compounds inhibit migration activity of metastatic cell line MDA-MB-231 by 45-60%. Conclusions: From the new compounds synthesized, one compound showed

the most potent inhibitory activity of migration of the metastatic cell line MDA-MB-231. This compound could be potentially developed as a possible anti-metastatic drug. Acknowledgements: Supported by American Association of Colleges of Pharmacy New Investigator Award, NIH/NIGMS SC2GM116712-01A1.

1066 | Síndrome de Burnout y Nivel de Compromiso del Personal de Enfermería en una Unidad de Medicina de Adultos

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Antecedentes: El estrés es una respuesta común en los seres humanos y si ocurre de manera positiva genera una respuesta fisiológica que hace que la persona realice cambios a su favor. De manera opuesta puede causar desbalances en las personas a nivel físico, mental y social. El burnout afecta negativamente muchos ámbitos en la vida del personal de enfermería, pero el más significativo a la hora de intervenir con el paciente es el compromiso. Propósito: Examinar la relación entre síndrome de burnout y el nivel de compromiso del personal de enfermería que labora en una unidad de medicina de un hospital en Puerto Rico. Hipótesis: (1) Entre más alto es el nivel de burnout en los enfermero/as, menor es el nivel de compromiso. (2) Enfermeros/as con niveles bajos de burnout presentan niveles más altos de compromiso. Hipótesis nula: No existe relación entre el síndrome de burnout y el nivel de compromiso en los enfermeros/as. Metodología: Diseño descriptivo correlacional de corte transversal. La muestra fue de 37 enfermeros/as que laboran en una Unidad de Medicina. Se utilizó la escala Inventario de Quemazón de Maslach y Escala de Compromiso Laboral de Utrecht. Resultados: Se encontró que mientras más altos eran los niveles de burnout en los participantes, menor eran los niveles de compromiso. Conclusión: La presencia de quemazón en el profesional de enfermería afecta su compromiso laboral.

1083 | Alpha band maturation in infants at risk for Autism-Spectrum Disorder

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Background & Objectives: Approximately 1 in 59 children develop Autism Spectrum Disorder (ASD). However, for children with diagnosed siblings, the risk increases to ~20-40%. The average age of ASD diagnosis is typically ~4 years of age, as identified by the emergence of atypical social and communication behaviors. Due to variability among these behaviors and their relative late manifestation, there is a need for early ASD biomarkers and predictors. Methods: Here, we recorded brain activity with high-density, resting state quantitative electroencephalography (qEEG) in awake infants at 3, 6, 9 and 12 months of age, for two cohorts: children with High Risk for Autism (HR), defined as those with siblings with previous diagnosis, and Low-Risk Controls (LR), with no familial history of ASD. We tested a natural lights-off paradigm (~2 min) and focused on the maturation of Alpha-band peaks (within 3-9 Hz, occipital topography), as it has been associated with behavioral states such as mood and irritability and could serve as a potential biomarker of ASD. Results: We observed a significant association between age and peak alpha frequency across populations ($p < 0.001$), confirming the maturation of this rhythm. We also demonstrate the validity of the natural lights-off paradigm in Alpha-wave elicitation in infants with an average power spectral density increase of $3.85 \pm 2.3 \frac{\mu V^2}{Hz}$. Conclusions: These preliminary data will help narrow down Alpha-band by age for more detailed group comparisons. Because Hispanic subjects, such as Puerto Ricans, are generally understudied, the present work contributes to the elimination of health disparities in this population.

1099 | Identification of transcriptomic profiles in HPV-positive and HPV-negative penile cancer of Puerto Rican men

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of Texas MD Anderson Cancer Center, Department of Urology, ⁷University of Notre Dame, Department of Biological Sciences, ⁸University of Puerto Rico School of Pharmacy, Department of Pharmaceutical Sciences
Background and Objectives: Penile cancer (PeCa) is a rare but highly morbid disease. A significantly higher incidence and mortality rate among Puerto Rican men has been shown in comparison to other Caucasian, African American or Hispanic US populations. The objective of this study is to determine the genome-wide expression profiles in HPV+ and HPV- PeCa. Methods: PeCa fresh tissue was obtained from surgery cases. The global gene expression profile was analyzed using the Affymetrix GeneChip® Human Gene 2.0 array. Gene set enrichment analysis (GSEA) of the clinical dataset (11 HPV+ samples, 17 HPV- samples) was performed. Results: Several categories of pathways were enriched for HPV cases: (1) Out of the 50 Hallmark gene sets of the MSigDB Collections, pathways involved in cell division were enriched for HPV+ PeCa. They include genes involved in mitotic spindle assembly, G2/M checkpoint, cell cycle targets of E2F transcription factors, and genes regulated by MYC. (2) Out of the 50 Hallmark gene sets, there were pathways involved in DNA damage response and p53 function. (3) Out of the 50 Hallmark gene sets, estrogen response genes were enriched for HPV+ cases (p -value < 0.05). (4) Out of the 1329 Canonical Pathways gene sets, the top enriched pathway was Notch signaling pathway of KEGG (p -value = 0.00192). (5) Compared with HPV+ cases, fewer pathways were found enriched in HPV- cases. Conclusions: Our transcriptomic data revealed extensive signaling changes associated with HPV in PeCa among Puerto Rican men. Our results can help in the development of diagnostic and prognostic biomarkers for HPV+ and HPV- PeCa.

1115 | Neonatal lupus erythematosus: a case with generalized cutaneous findings

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Background: Neonatal lupus erythematosus (NLE) is a rare disease mediated by the transplacental passage of maternal IgG autoantibodies anti-Ro, anti-La and/or anti-U1RNP. NLE usually appears with skin

findings but can involve other organ systems such as cardiac, hepatobiliary, hematologic and rarely, neurologic. Cutaneous NLE (CNLE) is commonly observed on head and scalp as erythematous, annular patches some with central clearing, fine scale or less commonly, atrophy. Peri-orbital involvement, described as “eye-mask” or “raccoon-like”, is considered a hallmark. Generalization to trunk and extremities is less frequent. Non-cardiac findings tend to be mild and self-limited but complete heart block is irreversible and associated to significant morbidity and mortality. Case presentation: A 1-month-old healthy, female with adequate pre-natal care presented with a 14-day history of worsening rash. Her mother denied fever or other systemic symptoms. On examination, erythematous, annular patches with central clearing, fine scale and slight atrophy were noted over face, scalp, trunk, extremities including palms and soles. Histopathology showed superficial and deep perivascular, lymphocytic infiltrate with perieccrine involvement as well as interface changes and basement membrane thickening. Her mother had a diagnosis (Dx) of systemic lupus erythematosus treated with hydroxychloroquine and prednisone. Labs showed normocytic anemia (hemoglobin level of 8.9 g/dL), thrombocytosis (platelet count of 639,000/mm³) and anti-Ro (1:320, speckled). An electrocardiogram did not show evidence of heart block. A Dx of NLE with associated autoimmune hemolytic anemia and reactive thrombocytosis was made. Conservative management (soft soaps, emollients, sun protection) was recommended with resolution of cutaneous findings, anemia and thrombocytosis noted by the patient’s 3-month follow-up. Conclusions: CNLE typically presents with lesions over sun-exposed areas although involvement of trunk, extremities, palms and soles can occur. The classic peri-orbital findings serve as a diagnostic clue which can help physicians make a prompt Dx in order to expedite assessment for cardiac involvement.

1156 | Tension Pneumoperitoneum: An Unusual Emergency

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Purpose: Tension Pneumoperitoneum is a life-threatening condition. Immediate surgical decompression is not always possible. We report a safe approach that could be standardized in the emergency department (ED), as a bridge to definitive surgical treatment. Case description: A 42-year-old female with past medical history of diabetes mellitus, hypertension, and morbid obesity who had a laparoscopic sleeve gastrectomy 13 days prior to our evaluation. This procedure was complicated with a contained stomach perforation that was managed conservatively. For this, gastroenterologist performed an esophagogastroduodenoscopy for feeding tube placement at the jejunum. During procedure, patient developed respiratory distress and severe abdominal distention. She was taken to the ED where she was found lethargic, hypotensive, tachycardic and hypoxemic. Airway was secured by endotracheal intubation and intravenous fluid resuscitation started. Patient developed pulseless electrical activity, progressing to ventricular fibrillation. After 14 minutes of advanced cardiac life support, return of spontaneous circulation was achieved. However, patient remained hypotensive and hypoxemic. Chest x ray showed massive amount of air under the diaphragm. Incision was performed through the trocar site. Immediate release of air resulted in vital signs stabilization and decreased airway pressure. Stomach perforation repair performed in the operating room by General Surgery team. Patient successfully discharge neurologically functional to a skilled nursing facility after 43 days of in-patient management. Conclusion: Surgical expertise may not be readily available for tension pneumoperitoneum management. For this reason, non-surgical treatment such as: percutaneous catheter decompression or needle decompression could be standardized to be performed in the Emergency Department as a temporary measure to reverse shock and organ dysfunction. Acknowledgements: This research did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors. None of the authors have conflicts of interest to declare.

1165 | Verbal Numerical Rating Scale as a Predictor of an Underlying Pathology in Pediatric Patients with Back Pain: a Magnetic Resonance Image-based Study

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Background & Objectives: The verbal numerical rating scale has been a common tool for assessing pediatric pain intensity. The aim of this study is to assess the verbal numerical rating scale as a predictor of underlying pathologies found by magnetic resonance image in pediatric patients with back pain. Methods: All pediatric patients with back pain lasting > 4 weeks from 2009 to 2018 were enrolled in the study. Magnetic resonance image was performed to all patients presenting with back pain without identifiable cause. Pain was graded with the use of verbal numerical rating scale from 0 to 10. Patients were divided in two groups: verbal numerical rating scale (1-5) & verbal numerical rating scale (6-10). Variables such as gender, age, pain frequency, night pain, neurological exam, scoliosis magnitude and presence of an underlying pathology were compared between both groups. Patients that presented with injury due to trauma, previous diagnosis of back pain or cervical pain were excluded. This an Institutional Review Board approved prospective study. Results: A total of 486 patients were evaluated in the study. Mean age of subjects was 15 years; 69% being female. An underlying pathology was identified in 145/334 (43.4%) patients with verbal numerical rating scale (6-10), and 55/152 (36.2%) patients with verbal numerical rating scale (1-5). Patients with verbal numerical rating scale (6-10) had two times more probability of suffering constant pain ($P < 0.01$) and three times more likely of having an abnormal neurological examination ($P < 0.05$). Conclusion: The use of verbal numerical rating scale of (6-10) is an adequate predictor for a magnetic resonance image underlying pathology in pediatric patients. A verbal

numerical rating scale of (6-10), correlates with constant pain and/or abnormal neurological exam.

1168 | Prevalence study of the variant rs324420 in the FAAH gene within the Puerto Rican population

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The fatty acid amide hydrolase (FAAH) gene rs324420 is a single nucleotide polymorphism (SNP), which according to Sadhasivam has shown associations with some substance use disorders diagnoses but has not been studied concerning these narrower phenotypes. The Majority of the genomes studied come from Europeans, which do not represent the Caribbean Hispanic population due to the admixed genetic profile, containing genes from various genetic backgrounds. This admixture can be a perplexing variable that may result in false associations due to differences in genetic background across individuals within the same population. In this study we propose the following objectives: to analyze the frequency distribution of the relevant genotypes that the rs324420 C> A polymorphism has in the Puerto Rican population, since we have seen the great Caucasian composition found in our ethnicity, and compare the prevalence of polymorphism with reference populations that are in the One Thousand Genome Project. Knowing its prevalence can help determine the appropriate pharmacotherapy for each patient. We hypothesize that the variant's prevalence in representative samples of the Puerto Rican population will be statistically similar to that of individuals of European origin of the 1,000 Genome Project. We collected around 150 representative samples of dried blood spotted on "Guthrie" filter cards from the local Puerto Rican Newborn Screening Program. We will isolate the DNA by column extraction and purification procedure, using Gentra® Generation DNA Purification Kit (QIAGEN Inc., Valencia, CA, USA) and we will quantify the data with NanoDrop. Then, a TaqMan SNP Assay will be used to detect rs324420C> A polymorphism on the FAAH gene. We predict the prevalence in the Puerto Rican population to be approximately 30% (n=150), due to the several admixture genetic profile, against the "1,000 Genome Project" database, where the European population has a prevalence of 21% (n=380).

1186 | PCOS and the metabolic syndrome in a Hispanic population: A comparison among phenotypes

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Background: Polycystic ovary syndrome (PCOS), a common endocrinopathy affecting women of reproductive age, confers increased risk for comorbidities such as cardiovascular disease, cancer and diabetes and has a strong association with metabolic syndrome (MetS). This study aimed to compare the metabolic characteristics among PCOS-phenotypes. Methods: In this cross-sectional study of women with PCOS, women were grouped into four phenotypes: A, oligo-/anovulation (OA)/menstrual dysfunction (MD) + hyperandrogenism (HA) + polycystic ovaries (PCO); B, OA/MD + HA; C, HA + PCO; D, OA/MD and PCO. PCOS and MetS were diagnosed using the Rotterdam and ATP III criteria, respectively, based on clinical and laboratory evaluation. Fisher's Exact or Mann-Whitney test were used to determine the association between PCOS-phenotypes and metabolic parameters/metabolic syndrome; Bonferroni correction was used to determine statistical significance using 14 total comparisons ($p < 0.0036$). Results: 28 women with PCOS were evaluated; mostly phenotype A (64.3%) followed by B (25.0%), D (7.1%), and C (3.6%). The prevalence of MetS was 45.5%. There was a tendency for higher median values in BMI and HOMA-IR in phenotypes B+C+D than in phenotype A (39.2 vs 31.1) kg/m^2 and 8.6 vs 3.8, respectively. No significant differences were found in anthropometric measurements, blood pressure, and metabolic parameters. Conclusion: In this sample of women with PCOS there was a high prevalence of MetS. Patients with phenotype B+C+D had a tendency for higher BMI and increased insulin resistance, but no statistically significant difference was observed. Whether this finding is associated to their difference in weight or other metabolic parameters associated to their different phenotypes needs further evaluation. Acknowledgement: Supported in part by: HCOE University of Puerto Rico

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1191 | Sigmoid Perforation due to Neutropenic Enterocolitis After Rescue Chemotherapy for Metastatic Ewing Sarcoma. A Case Report

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Background: Neutropenic enterocolitis (NEC) is an acute life-threatening condition characterized by transmural inflammation accompanied by segmental ulceration/necrosis of the cecum, often with involvement of the ascending colon and ileum. In some reports the mortality rate has reached 50%–100%. We are presenting an atypical case with NEC in an adult patient, only 7 days after chemotherapy was started with perforation in the sigmoid colon, a very rare place in this condition. Case Description: 26-year-old man patient with history of metastatic Ewing Sarcoma diagnosed on November 2018 over the left iliac bone, status post multiple radio and chemotherapies without success, admitted due to intractable pain for palliative chemotherapy and pain management. Two days after complete chemotherapy he developed severe abdominal pain, one episode of non-bloody diarrhea with associated nausea and fever. On Physical exam: temperature 39 C, heart rate 115 bpm, blood pressure 80/45 mmHg requiring vasopressor, diaphoretic, diffuse abdominal tenderness, voluntary guarding, distension and absent bowel sounds. Laboratory pertinent for Neutropenia, Acute Kidney Injury, and lactic acidosis. An Abdomino-Pelvic CT scan with oral contrast showed: diffuse bowel dilatation, multiples areas of wall thickening, intraabdominal free fluid, gross pneumoperitoneum, portal venous gas, and diffuse bowel pneumatosis. Exploratory laparotomy found sigmoid colon perforation with large amount of fecal material and findings of peritonitis. Partial sigmoidectomy with end colostomy was performed. Pathology reported an irregular perforation of 2.4 x 0.8 cm, surrounded by an ulcerated mucosa, characterized by a green to black discoloration, negative for metastasis. Unfortunately, after

developing several complications he died 11 days later at ICU. Conclusion: With the ongoing growth of more aggressive chemotherapy for hematologic and solid-organ malignancies, the incidence of NEC probably will increase, it is important to know this association, and to have high index.

1208 | Knowledge and Attitudes about Transgender Healthcare: Exploring the Perspective of Hispanic Medical Students

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Background & objectives: The aim of this study is to explore the knowledge and attitudes about transgender care among Hispanic medical students at the University of Puerto Rico School of Medicine (UPR SOM). Methods: Medical students from the UPR SOM were invited to voluntarily participate in a questionnaire to assess their attitudes and knowledge about the healthcare of transgender patients. Data was analyzed as percentages and averages using Likert scales. Results: A total of 141 medical students completed the survey. The majority of medical students (52.5%) reported that they needed to learn more about transgender health issues. Most students (60.3%) were not familiar with the hormonal regimens used for gender reassignment and transition and were not knowledgeable about the requirements prior to undergoing gender reassignment surgeries. The Likert scale scores for how comfortable students felt about working with transgender patients and becoming known among peers as a doctor that cares for transgender patients were 4.0 (95% CI: 4.0-4.2) and 4.7 (95% CI: 4.6-4.8). Almost all medical students (97.9%) thought that transgender patients deserve the same level of quality care from medical institutions as heterosexual patients. The majority of medical students (87.3%) believed that physicians are responsible for the treatment of transgender patients. Conclusions: Our study reveals that even though there is willingness to treat transgender patients among UPR SOM medical students, there are limitations in their knowledge and training regarding specific healthcare topics. Strategies to improve medical student knowledge and training about these topics must be considered.

1208 | Conocimientos y actitudes sobre el cuidado médico de los pacientes transgénero: Explorando la perspectiva de estudiantes de medicina hispanos

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Antecedentes y objetivos: El objetivo de este estudio es explorar el conocimiento y las actitudes sobre la atención transgénero entre estudiantes de medicina hispanos de la Escuela de Medicina de la Universidad de Puerto Rico (EDM UPR). Métodos: Los estudiantes de medicina fueron invitados a participar voluntariamente en un cuestionario para evaluar sus actitudes y conocimientos sobre el cuidado de salud de pacientes transgénero. Los datos se analizaron como porcentajes y promedios utilizando escalas Likert. Resultados: Un total de 141 estudiantes de medicina completaron la encuesta. La mayoría de los estudiantes (52.5%) informaron que necesitaban aprender más sobre problemas de salud transgénero. Muchos estudiantes (60.3%) no estaban familiarizados con los regímenes hormonales utilizados para la reasignación y transición de género y no conocían los requisitos antes de someterse a cirugías de reasignación de género. Los puntajes de la escala Likert para cuán cómodos se sienten los estudiantes al trabajar con pacientes transgénero y darse a conocer entre sus compañeros como médicos que atienden a pacientes transgénero fueron 4.0 (IC 95%: 4.0-4.2) y 4.7 (IC 95%: 4.6-4.8). Casi todos los estudiantes (97.9%) pensaron que los pacientes transgénero merecen el mismo nivel de calidad de atención médica que pacientes heterosexuales. La mayoría de los estudiantes (87.3%) creía que los médicos son responsables del tratamiento de pacientes transgénero. Conclusión: Aunque existe la voluntad de tratar pacientes transgénero entre nuestros estudiantes de medicina, existen limitaciones en su conocimiento y capacitación sobre temas específicos de atención médica.

1224 | Synthesis of 2,3-diaminopyridine derivatives and their use as anti-proliferative and anti-migration compounds

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Background & Objectives: Based on the efficacy of EHop-016 carbazole compound as an inhibitor of migration and Rac1 activation, a new series of carbazole derivatives has been synthesized. We hypothesize that compounds with a carbazole amide moiety ortho to an amine group will improve anti-migration potency. The objective is to synthesize and test the anti-proliferative and anti-migration activity of 2,3-diaminopyridine derivatives in metastatic breast cancer cells. **Methods:** We synthesized four compounds in which the 2-position of the pyridine ring contains a nitrogen atom and the 3-position contains a nitrogen linked to a carbazole amide group. Cytotoxic and anti-migration effects of these compounds were evaluated in MCF-7, MBA-MD-231, MBA-MD-435, and 4T1 breast cancer cell lines. **Results:** The compounds synthesized demonstrated moderate antiproliferative effects on cancer cell lines with GI50 values in the range of 14-50 μ M. Two compounds inhibit migration activity of metastatic cancer cell line MDA-MB-231 by 11% and 34%. One compound inhibits 55% of Rac activity on MDA-MB-231 and MDA-MB-435 cancer cells at 250 nM. **Conclusions:** From our results, we can conclude that EHop-016 compound is a good basis for the design of new compounds as anti-breast cancer and anti-neuroblastoma drugs. The results showed that derivatives of 2,3-diamino-pyridine carbazole derivatives could be potentially developed as an anti-metastatic cancer drug. **Acknowledgements:** Supported by American Association of Colleges of Pharmacy New Investigator Award, and NIH/NGMS SC2GM116712.

1232 | Knowledge of and Attitudes toward End of Life Care in Graduating Medical Students in Puerto Rico

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Background and Objective: Currently, medical education is mainly focused in teaching the pathophysiology, diagnosis, and management of diseases. Studies have identified that medical students and residents often feel unprepared to care for patients in the death process. The objectives of this study were to assess the knowledge and attitudes toward end-of-life care (ELOC), describe socio-demographic characteristics, and compare socio-demographic variables with knowledge and attitudes of graduating medical students. **Methods:** This is a cross-sectional study in which a questionnaire with 3 areas was developed: scales of knowledge and attitudes, and socio-demographic data. The questionnaire was administrated to graduating medical students from the 4 schools of medicine of Puerto Rico in the years 2017 to 2019. The analysis was done using descriptive statistics, Chi-square test or Fisher and STATA V.14 software. **Results:** One hundred sixty-nine students with mean age of 27 participated. The majority of participants (75.17%) answered correctly more than 70 percent of the knowledge questions. Nevertheless, only 38.46% students identified that they have the necessary knowledge to manage patients at the end of life. The self-perception about mastering the management of dying patients was higher among male (64%) than female (36%) participants ($P = 0.005$). In regards to the attitudes towards ELOC, the medical students demonstrated a positive stance. **Conclusion:** The study reflects a discrepancy between the total correct answers on the knowledge scale and the low self-perception of knowledge regarding ELOC in medical students, especially in females. These findings are relevant since they points out an area of improvement for the medical education system, and in female student's self-efficacy. **Acknowledgements:** This study was supported by the UPR-SOM EHSRC, Grants 5S21MD000242 and 5S21MD000138, from the NCMHD-NIH. Its contents are sole the responsibility of the authors and do not necessarily represent the official views of NCMHD-NIH.

1238 | Review of an Interactive Health Science Curriculum: Boys & Girls Club of Puerto Rico, Las Margaritas InSciEd Out Pilot

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Background and objectives: Children living in low-income areas are at a higher risk of suffering from the adversity of prolonged stress. This relates to neurocognitive development problems, which underlines an imperative of the community to address these experiences. The objective is developing coping strategies for the Boys & Girls Club of P.R. participants through informal health science learning and engaging in a study of health literacy and outcomes through student mentors from the University of Puerto Rico (UPR), Medical Sciences Campus. If students receive science mentorship then their problem-solving capacity, mental health literacy, and resiliency will improve. Methods: The InSciEd Out program provides access to research-based, experiential classroom learning. The Education Program of the UPR, Rio Piedras Campus culturally adapted and prepared the curriculum for the educational intervention. Students from K to 12th grade participated of a one-week curriculum that focused on emotional health, following a two-day educator and volunteer training session. Educators made daily reflections about their experiences. Results: Grades 1st to 6th showed the most engagement. Educator satisfaction –seen through their comments and ratings on the activities– support that result. A select group of children created the Science Club, where they developed their own research project. Talking drawing surveys represent student language use change related to coping mechanisms. They also continue to practice the strategies for managing emotional stress. Conclusion: Educator and student experiences portray the pilot's qualities, which help improve curriculum components for future interventions. Promoting enthusiasm for older students, specialized training for staff members, and adapting lessons according to the health priorities of the community are relevant improvement areas for the program. Acknowledgements: The CTSA Grant Number UL1 TR002377 from the National Center

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1254 | Low concentrations of aspartate in severe but not mild hypospadias

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Background & Objectives: Hypospadias is a congenital urogenital condition in which the urethral meatus is displaced anywhere alongside the mid-ventral side of the penis. It is classified depending upon severity as mild (Type I) or severe (Type II & III) hypospadias. Given that the formation of the male external genitalia is a steroid-dependent process and that aspartate increases testosterone levels, we reasoned that a rapid sensitive assay could validate previous metabolomics data from our lab that showed low levels of this amino acid in severe but not mild hypospadias. Methods: Foreskin samples were collected from boys with mild and severe hypospadias and control (circumcised) boys (Total n=27). Aspartate Assay Kit (102512; Abcam), a fluorometric quantitative assay, was used to measure aspartate concentrations. Statistical analyses were performed by a One-way analysis of variance (ANOVA), followed by Tukey post hoc test. Results: Aspartate concentration was significantly different between groups ($f=11.86$, $p<0.001$), namely, in lower concentrations in Type II and Type III hypospadias in comparison to control samples ($p=0.0037$ and $p<0.0001$, respectively), and in lower concentration in Type III hypospadias in comparison to Type I hypospadias ($p=0.0143$). Conclusion: The fluorometric quantitative assay confirmed a lowering of aspartate concentration in hypospadias that was previously detected with metabolomics. To the best of our knowledge, this is the first link between aspartate and hypospadias following a severity-dependent pattern. Further work is warranted to determine if this relationship can be used in the future to develop biomarkers or preventive measures during early pregnancy. Acknowledgments: Supported by MBRS-RISE (R25GM061838) and RCMI (U54MD007600).

1255 | A missing flexor digitorum brevis and its evolutionary and clinical implications

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Purpose: The flexor digitorum brevis (FDB) belongs to the superficial layer of muscles of the foot and serves to flex the digits II-V at the proximal interphalangeal joint. Its tendons typically insert on the sides of the middle phalanx of each of the lateral four digits. The flexor digitorum brevis develops embryologically from anterior condensations of abaxial muscle cell precursors starting at 6 weeks. The aim of this report is to emphasize the clinical and evolutionary significance of an absent FDB. As well as its potential pathological effect on normal physiologic function of the foot. Despite its significance, little is known regarding the variations of this muscle in Puerto Rican population. Case Description: An uncommon bilateral variation in the structure of the FDB were found in an elderly female cadaver, during the routine lower limb dissection. The FDB was exposed after the removal of plantar skin, adipose tissue and the central part of plantar aponeurosis. In the sole of bilateral feet, FDB had 3 muscle bellies inserting into second, third and fourth toes, and the 4th tendon to the digiti minimi of FDB muscle was absent. Further dissections were executed on an additional 10 cadavers in the gross anatomy lab to ascertain the presence or absence of this variation, which is frequent in some populations. Preliminary results indicate that the variation is present in 40% of the Puerto Rican population. Conclusion: This variation is not expected to have serious functional or evolutionary consequences in humans, as flexion of the toes is not as important in human locomotor function as it would be in chimpanzees or other hominoids. A lack of functional consequences may result in greater variation than would otherwise be expected. Clinically, the tendon of the flexor digitorum brevis to digit V is often used for flexion of the proximal and intermediate phalanges. Our results suggest that because of the variation's lack of functional adversities, the absence of this tendon might become increasingly prevalent in the population and that deeper muscles might become hypertrophied to supplement the action of the missing tendon.

1263 | Factors influencing the recovery process of organizations after Hurricanes Irma and María

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Background: Hurricanes Irma and María led to excess mortality in Puerto Rico. Low levels of resilience and preparedness of individuals and organizations could potentially explain this excess mortality incidence. Key factors related to recovery processes after natural disasters are still unknown. The PREPARE study aims to understand factors that facilitated and inhibited the recovery process of individuals and organizations in Puerto Rico. Methods: A qualitative research design was used to conduct informant interviews with organizations focused on providing healthcare and public health services at local, national and international levels. Eligibility criteria of informants included being senior-level staff and to have been involved in the emergency preparedness, relief and recovery phases post-hurricanes. Forty-three of the fifty targeted organizations have completed interviews reporting the experience prior to, during, and after the hurricanes. Analysis of content, themes, and counts of text references was performed using the Qualitative Data Analysis (QDA) Miner software. Results: The main factors that facilitated the informants' organization recovery were "Economic/Monetary" (65.1%), defined as funding support by federal and governmental agencies, donations or waivers, "Workforce/Human Resources" (60.5%), defined as health care and other professionals or volunteers, and "Prior Preparedness" (41.9%), having and implementing natural disaster plans. Conversely, main barriers for their organization recovery were "Gaps in Information" (39.5%) such as lack of general information, non-accurate media reports and duplicity of information, "Lack of Funding/Financial Stability" (37.2%) and "Government Response" (30.2%). Conclusion: Preliminary results showed internal and external factors influencing the organizations recovery process in Puerto Rico. This research demonstrated

the needs to efficiently integrate efforts and action plans to reduce barriers in the planning and response efforts in the healthcare and public health sectors to facilitate the recovery processes in the island. Acknowledgment: This research was supported by the NIMHD [R21MD01366602]. Approved by IRB of the MSC A4840218.

1268 | Opioid-Related Death and Emergencies: Data of the Puerto Rico Bureau of Forensic Science and UPR Hospital Dr. Federico Trilla Emergency Department

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Background and objectives: Opioid related deaths and morbidity have been rising steeply in many parts of the US since 2008. This trend includes both street drugs like heroin and fentanyl and prescribed opioids. We aimed to determine the trends in Puerto Rico. Methods: For trends in opioid-related deaths, the de-identified autopsy database at the Puerto Rico Bureau of Forensic Science was analyzed for cases containing opioids in tissue or body fluid and cases with opioids as the cause of death for years 2005-2017. Preliminary data on opioid-related emergencies were extracted using ICD-9 and ICD-10 billing codes from electronic records of the UPR Carolina Hospital- Emergency Department for years 2008-2018. Results: For 2010-2015, the annual rate of opioids in autopsy blood varied from 7.07 to 6.34 per 100,000 and, as cause of death, from 1.84 to 2.1. The male: female ratio for death attributed to opioids increased from 7 to 13.6. In 2015, the highest rates of opioid-related deaths were in Caguas, Humacao, Ponce, San Juan and Vega Baja. The age group from 30-40 years old had the highest rate of opioid-related deaths. For opioid-related emergencies, the number of emergency department cases increased 3.9 fold from 2008 to 2018., and from 0.29 % to 0.52 % of total cases. The male: female ratio was 3.85 overall. Of total cases, 96 % involved patients between 14 and 65 years old. Conclusions: The trends observed do not support the initial hypothesis of a steeply

rising opioid death rate. Nonetheless, opioid-related emergency department visits were found to be increasing. The male: female ratio was high compared to the continental United States. Further study is needed to better quantify the drugs involved and details of morbidity. Acknowledgements: No external funds. IRB Number: B1800118

1290 | Exploring Burnout among the UPR-School of Medicine Faculty, 2019

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Background: Burnout among physicians has garnered significant attention because of the negative impact it renders on patient care and on professional attitudes and behaviors. Prevalences range from 25-60%, varying by medical specialty and working conditions. Early identification of burnout is important because of its potential impact in the performance of clinical, academic, and institutional responsibilities. Aims: To assess burnout in the Medical School faculty by gender, age, and type of faculty. Methods: Medical School Faculty (n=177, 29% participation rate) completed a self-administered questionnaire between March-November 2019. The Oldenburg Burnout Inventory (OLBI) was used to measure exhaustion and disengagement. Means were compared using t tests and proportions using chi-square tests. Results: Most participants were female (58%), ≥55 y/o (52%), and clinical faculty (81%), most of which (67%) were non-surgical faculty. About 62% reported scores compatible with high exhaustion and 52% scored high disengagement; 44% was classified as having high burnout (had high scores in both exhaustion and disengagement). Compared to surgical faculty, non-surgical faculty had significantly higher mean scores for burnout (p=0.004), exhaustion (p=0.001), and disengagement (p=0.058). Those aged <55 had higher exhaustion mean scores (p=0.025) compared to older faculty. Females and basic sciences faculty tended (p>0.05) to have higher mean burnout and exhaustion scores than males and clinical faculty; clinical faculty scored higher for disengagement. Faculty aged <55

tended to have higher burnout and disengagement. A significantly higher ($p=0.002$) proportion of Basic Sciences faculty (73%) reported high exhaustion compared to non-surgical (69%) and surgical (40%) faculty, and more non-surgical faculty scored high ($p=0.028$) in both exhaustion and disengagement (48%) compared to surgical (32%) and basic sciences (46%) faculty. Conclusion: These findings suggest that there is a need to implement measures to further assess and address the wellbeing-related needs of Basic Sciences, Non-surgical, and younger (≤ 55 y/o) faculty.

1304 | Carcinoma Papilar de Tiroides, Variante Cribiforme – Morular: estudio de caso en mujer de 21 años

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Propósito: El cáncer papilar de tiroides representa más del 90% de las malignidades desarrolladas en la glándula tiroidea, sin embargo, la variante cribiforme-morular solo presenta una incidencia de 0.2%. Uno de los factores de riesgo asociados a la variante estudiada es el síndrome de poliposis adenomatosa familiar. El objetivo del estudio de caso fue evaluar los hallazgos citológicos de este inusual tipo de cáncer y reconocer la importancia de la correlación entre los hallazgos citológicos, el historial clínico del paciente y las pruebas auxiliares en el campo de la citopatología. Descripción del Caso: Mujer de 21 años con síndrome de poliposis adenomatosa familiar presenta un hallazgo incidental de nódulo tiroideo en el lado derecho del istmo, descubierto al realizarse una sonografía de cuello. Se realizó una biopsia por aspiración de aguja fina al nódulo tiroideo. Con la muestra citológica se realizaron extendidos procesados utilizando tinción rápida (*Diff Quick*) y tinción *Papanicolaou*. Además, se realizó la prueba inmunohistoquímica para β -catenina. Los resultados citológicos mostraron grupos de células foliculares cohesivos y desorganizados. Algunos grupos exhibían un patrón morular y papilar. Las células mostraban alta razón núcleo-citoplásmica. En varias células se presenciaban pseudo-inclusiones nucleares, característica típica del cáncer papilar

de tiroides. La prueba inmunohistoquímica con β -catenina fue positiva en el citoplasma y núcleo de las células foliculares. Conclusión: La variante cribiforme-morular del cáncer de Tiroides tiene una incidencia baja en la población puertorriqueña. Sin embargo, la literatura científica indica que la población joven diagnosticada con poliposis adenomatosa familiar tiene una probabilidad mayor de desarrollar este tipo de carcinoma. La técnica de biopsia por aspiración de aguja fina fue pieza clave para el diagnóstico de esta malignidad. Una de las limitaciones fue la falta de información, posterior al diagnóstico final, sobre el seguimiento clínico del paciente.

1311 | Lipofibromatous Hamartoma in a Hispanic Patient with macrodactyly: a rare peripheral nerve tumor causing recurrent carpal tunnel syndrome

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This is a rare case of a 42-year-old Hispanic male with macrodactyly who presented with recurrent carpal tunnel syndrome (CTS) due to Lipofibromatous Hamartoma (LFH). A slowly growing mass in his right palm with pain and numbness, along with motor and sensory deficits in the median nerve distribution, was reported since the past year prior to visit. Previous open carpal tunnel release was performed at 16 years of age due to CTS without complications. The diagnosis of LFH was made based on ultrasound, electromyography test and physical examination. An extended open carpal tunnel release with transection of transverse ligament was performed. The 24-month postoperative evaluation showed complete resolution of symptoms. This report illustrates the management of a recurrent CTS due to LFH in a Hispanic adult patient with macrodactyly that was successfully treated with a carpal tunnel decompression.

1313 | Vinculación y alianza entre la academia y centros de salud primaria para el desarrollo de capacidades y la promoción de la salud comunitaria

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Trasfondo: Mediante un proyecto piloto colaborativo de investigación participativa entre el Hospital de Castañer y el RCM se indagó sobre vinculación comunitaria, desarrollo de relaciones sostenibles y esfuerzos de promoción de salud en contextos comunitarios. Objetivos: Conocer las opiniones, experiencias y recomendaciones del personal de salud y líderes comunitarios acerca de condiciones de salud que afectan la comunidad de Castañer y sus esfuerzos de promoción de salud y prevención y manejo de condiciones. Método: Se realizaron dos grupos focales en mayo de 2019. Uno con el personal de educación y alcance comunitario del Hospital de Castañer y clínicas afiliadas y otro con líderes comunitarios reconocidos en Castañer. Hubo audio-grabación y las transcripciones fueron analizadas individual y grupalmente. Las meta-categorías identificadas mediante el análisis de contenido y la validación de jueces fueron: Perfil del líder y de la comunidad, Necesidades, Barreras, y Recursos y Oportunidades. Resultados: Participaron 16 personas con diversos trasfondos personales y académicos. Entre las categorías emergentes resaltan: ‘solidaridad comunitaria’, lo cual permea las acciones voluntarias y de apoyo; ‘vinculación con el Hospital de Castañer’, como centro de desarrollo económico y servicio de salud comunitaria; ‘características socioculturales’ y su impacto normativo en la interacción y conducta social; y las barreras que representan el ‘acceso geográfico’, el ‘aislamiento físico y social’ y la falta de ‘atención gubernamental’. Entre las necesidades prioritarias se identificó la recuperación post Huracán María, atender el deterioro de las facilidades comunitarias y las condiciones sociales y de salud entre adultos mayores. Conclusión: Algunas oportunidades para la acción incluyen la identificación conjunta de estrategias colaborativas entre grupos organizados y rehabilitar las áreas recreativas para actividades y

manejo del ocio. Se propuso fortalecer la promoción y disseminación de los servicios y capacitar al personal en el manejo de diversidad ideológica y en creación de recursos educativos. Reconocimientos: U54MD007587-NIMHHD. Aprobado por el IRB del Recinto de Ciencias Médicas (A9360118)

1336 | Creutzfeldt Jakob Disease masquerading as Post-Disaster Depression

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The overlap between primary psychiatric disorders and neurological disorders may confound the presentation of other serious. The incidence of Creutzfeldt-Jakob Disease (CJD) is 1 in 1 million. The rarity of CJD and its rapid progression to death makes it an important diagnosis to be aware of. The variant and sporadic forms of CJD may present with psychiatric manifestations leading to diagnoses of pseudo-dementia or MDD. This is the case of a patient who was diagnosed with MDD however it was later determined that his MDD was likely due to CJD. 82-year-old male with medical history of Hypertension who was brought to ER due to worsening functional and mental status of six months duration. The patient was previously independent in activities of daily living but was now fully dependent. His family described personality changes including loss of interest and apathy in the past months. Patient had been seen by a psychologist due to feelings of sadness after losing his land after Hurricane Maria and was diagnosed with MDD. During this visit patient was quiet with his partner providing most of the history. Patient was then seen by a Neurologist and brain MRI showed findings suggestive of possible CJD. During a follow-up PCP visit patient was only oriented to person and with an ataxic gait concerning for rapidly progressive dementia or organic brain disorder. Patient was admitted to medicine ward, physical exam remarkable for patient with marked dysarthria, right hand dysmetria, startle myoclonus and bilateral hand tremor. Brain MRI with hyperintensity at the left cerebral hemisphere correlating with CJD. Lumbar puncture and EEG were negative. By CDC criteria patient had multiple factors in favor of CJD. Patient

was discharged to home hospice. A high index of suspicion and a thorough history is paramount to ensure this rare diagnosis is not missed.

1338 | Leave No Stone Unturned: Xanthogranulomatous Pyelonephritis

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General malaise, anemia and a history of nephrolithiasis are symptoms that require a high rate of clinical suspicion to arrive at the correct diagnosis. It is important to be aware of Xanthogranulomatous Pyelonephritis (XP) when observing patients with above symptoms. XP is a very rare form of chronic pyelonephritis that left untreated may result in kidney failure and kidney destruction if nephrectomy is not performed on time. 69-year-old male with medical history of hypertension who came to ER due to recurrent vomiting episodes. Patient reported nausea and vomiting after breakfast and abdominal pain. Patient reported daily alcohol use and using cocaine and cannabis in the prior week. Labs were remarkable for no leukocytosis with a chronic anemia. Renal function consistent with CKD 3, AST 255, ALT 177, Alkaline phosphatase 396, Total Bilirubin 4.6, Amylase 151, Lipase 86, CPK 94, ESR 57. Physical exam remarkable for bilateral scleral icterus, no CVA tenderness, no palpable abdominal masses. Patient was admitted with suspected cannabinoid hyperemesis syndrome. Patient denied having abruptly quit cannabis use or relief of symptoms with showers making initial diagnosis less likely. Abdominal imaging showed a large staghorn calculus occupying the pelvis and lower pole collecting system of the left kidney (3.6 cm vertically x 3.2 cm AP) with hydronephrosis. Kidney vascular flow studies revealed the left kidney was completely devoid of perfusion. Historical imaging revealed that the calculus had been present for years and the patient had XP. The latter could have been a source for the liver function abnormalities reflecting mild biliary retention that occurs in XP. XP is often confused with renal cell carcinoma and can be secondary to chronic inflammation such as amyloidosis. Routine imaging should always be performed when this diagnosis is suspected as delay in diagnosis and treatment can result in destruction of the kidney.

1345 | Use of potentially inappropriate medications (PIMs) and adverse health outcomes among older adults residing in PR long-term care facilities, 2018

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Background and objectives: Older adults, particularly those who reside in long-term care facilities, represent the segment of the population with the highest use of prescription and over-the-counter (OTC) medications, usually between 3-5 medications. Due to complex therapies, older adults possess a higher risk of being prescribed potentially inappropriate medications (PIMs). In PR, about 45% of older adults who are hospitalized and 99% who are in long-term care facilities (LTC) have at least one PIM as part of their medication therapy. Our study aimed to estimate the prevalence of PIMs use among older adults residing in long-term care centers in PR and to determine if there is an association between the use of PIMs and adverse health outcomes. Methods: A pilot cross-sectional study was conducted in a sample of 18 facilities in the five regions as distributed and established by the PR Health Department: North (3), South (4), East (5), West (3) and Metro (3). LTC personnel completed self-administered questionnaires for a total of 406 residents. BEERS Criteria 2015 was applied to identify PIMs. Adverse health outcomes in the 6 months prior to survey were assessed. Results: Residents had an average of 7 prescribed medications in their therapy. At least one PIM was prescribed to 91.5% of LTC residents as part of their pharmacological therapy and almost half (45.6%) of the medications prescribed were classified as PIMs. The majority of the reported PIMs were medications for the central nervous system (62.9%), cardiovascular agents (13.6%), and gastrointestinal agents (12.1%). A significant association was found between the use of PIMs and changes in behavior (mood swings, confusion among others) ($p=0.0022$). Conclusions: Potentially

inappropriate drug prescribing on older adults, particularly benzodiazepines, can affect negatively on their health and safety with a potential increase in drowsiness, falls, confusion, and hospitalizations. Acknowledgements: The authors wish to thank the *Asociación de Dueños de Centros de Cuidado de Larga Duración en Puerto Rico* (ADCCLD) for their participation in the study.

1352 | Taking Care of the Puerto Rican Patient: Historical Perspectives, Health Status, and Health Care Access

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Background & Objectives: Hispanics are the largest minority group in the US making up 18% of the population. From these, Puerto Ricans are the second-largest group comprising 9.5% of the population. Puerto Ricans have poorer health status than other Hispanic and Non-Hispanic populations in the US. Thus, health care providers need to know the health care problems of Puerto Ricans to improve their health. Although there are some published curricula addressing how to provide health to Hispanic/Hispanic populations, none address specific health needs of Puerto Ricans. Methods: We developed a 60-minute interactive workshop aimed at increasing healthcare providers' confidence and understanding of the historical perspective that led to the Puerto Rican identity, health issues and disparities, and health care access problems of Puerto Ricans on the US mainland and the island. Recommendations on how to improve the healthcare of Puerto Rican patients were provided. The workshop consisted of a PowerPoint presentation and an interactive discussion of three patient cases. Participants completed pre-/postworkshop questionnaires. Results: The workshop was presented at multiple medical schools in New York. There was a total of 64 participants from diverse races/ethnicities and roles. Participants reported a statistically significant ($p < .05$) increase in confidence in their abilities to meet all learning objectives. Increase in knowledge base, measured by comparing correct answers between the pre and post questionnaires, was overall statistically significant ($p < .05$). Participants appreciated the

interactive nature of the workshop, the case discussion, and the historical perspective provided. Conclusion: With the increasing migration of Puerto Ricans to the U.S. mainland, and following the Liaison Committee on Medical Education requirements in Element 7.6, this module can uniquely improve the preparation of current and future health care providers to provide culturally competent care to the Puerto Rican community.

1356 | Incidencia de fungemia luego de utilizar profilaxis con fluconazol en infantes con un peso de 1,500 gramos o menos

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Antecedentes y objetivos: Las infecciones fúngicas invasoras se consideran infecciones de tipo oportunista que acontecen casi exclusivamente en el paciente inmunodeprimido. Profilaxis con fluconazol parece ser el programa más seguro y efectivo para prevenir las infecciones invasivas. Se sugiere que en Unidades de Cuidado Intensivo Neonatal (NICU) con incidencia de $>5\%$ de candidiasis invasiva consideren este tratamiento preventivo. Desde el 2008 el NICU del Hospital Pediátrico Universitario (HOPU) implementó el uso de profilaxis con fluconazol como tratamiento preventivo contra la fungemia. El objetivo de este estudio es determinar qué tan efectivo ha sido el uso de profilaxis con fluconazol en infantes de bien bajo peso en la actualidad. Métodos: Expedientes médicos de infantes <1500 gramos de peso al nacer admitidos a HOPU-NICU durante 2017-2018 con estadía >2 semanas fueron revisados. Statistix 8.0 fue utilizado para análisis estadístico. Aprobado por IRB. Resultados: Se incluyeron 107 sujetos con edad gestacional promedio 29 semanas (24-34) y peso 1165 gramos (600-1495). Un 94% recibió profilaxis. La incidencia de fungemia fue 8% [8% en pacientes con profilaxis y 17% en no profilaxis; $p = NS$]. Los infantes que desarrollaron fungemia tenían una edad gestacional menor [26 vs. 29 semanas; $p < 0.01$] y estadías más prolongadas [125 vs. 64 días; $p < 0.01$]. Conclusiones: La profilaxis con fluconazol reduce la incidencia de fungemia en infantes de bien bajo peso. Pacientes con edad gestacional menor

están más expuestos a desarrollar fungemia. La incidencia de fungemia en pacientes que recibieron profilaxis debe ser analizada para identificar factores asociadas a la misma.

1358 | Is Brain Death A Reliable Diagnosis In A Neonate?: A Case Report

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Brain death (BD) is permanent loss of brainstem and cortical function. Loss of brain function is loss of human life, even though heart and spinal cord may still operate. It is relatively uncommon in newborns with percentage among deaths being 1-6%. We present the case of a preterm female baby born at 32 weeks by spontaneous vaginal delivery, APGAR score 7/8 and a suspected diagnosis of skeletal dysplasia. The patient arrived to our Neonatal Intensive Care Units (NICUs) at 40 weeks postmenstrual age with neurologic impairment and severe pulmonary compromise, requiring mechanical ventilation treatment among others. She continued critically ill and had sudden cardiorespiratory arrest, with difficult restitution of heart rate. The baby developed status epilepticus requiring multiples anticonvulsants for seizures control also developed severe hypoxic encephalopathy evidenced in magnetic resonance imaging with poor prognosis. After 4 weeks on mechanical ventilation, multiples failed attempts for extubation and multiples electroencephalograms indicative of electrocerebral silence with a Brain perfusion scintigraphy without evidence of intracerebral perfusion, brain death (BD) assessment was initiated. The patient, without sedatives, unresponsive to all neurologic tests but upon apnea test she had one spontaneous breathing after 90 seconds, reason why the apnea test was stopped and BD diagnosis could not be done. Ethical dilemmas arise in NICUS and the neonatologist is asked to work in moral and medical framework within which guidelines should be followed. Availability of cardiorespiratory support in NICUs, difficulties for BD diagnosis in neonates, and even more in preterm, make imperative to define BD criteria in newborns.

1360 | Massive Fetal-Maternal Hemorrhage: An Under-Recognized Event

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Purpose: Fetomaternal hemorrhage (FMH) is the transfusion of fetal blood into the maternal circulation. It presents multiple challenges due to its presentation, usually without an evident precipitating factor, non-specific symptoms, and identified only after its occurrence. Currently, there are no guidelines or protocols to aid in its management. Case description: We present the case of 33 weeks of gestation male singleton, born via an emergency cesarean section due to category 3 tracing with sinusoidal wave pattern on electronic fetal monitoring on routine obstetric appointment, from a 25-year-old Gravida 2 Para 1 diabetic mother. Prior Level II sonogram performed at 27 WGA evidenced adequate growth and normal Doppler flows of umbilical and middle cerebral arteries peak systolic volume. APGAR scores were 7, 7, 7 at 1, 5 and 10 minutes, respectively. At birth, the 1.8 Kg neonate was remarkably pale, with respiratory distress, requiring intubation and ventilation. In the post-resuscitation care, the infant remained tachycardic and hypotensive requiring intravenous fluid resuscitation and emergency blood transfusions. Initial hematocrit was 13.5%. In spite of aggressive management, including: surfactant, inhaled nitric oxide, inotropics and sodium bicarbonate infusions; severe acidosis, anemia and hypoxia persisted. The patient died at 6 days old from complications from a massive fetomaternal hemorrhage leading to severe neonatal anemia. Conclusion: While identification of FMH remains challenging, we emphasize the importance of close follow up of high risk pregnant women, high index of suspicion and communication between the maternal-perinatal physicians for prompt management of suspected anemia in order to improve fetal-neonatal outcomes.

1363 | Feasibility of Conducting In-home Telemedicine-Based Delirium Assessment

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Background: Telemedicine-based assessments may be an essential mechanism to study and evaluate delirium in the home setting in the future. This study assessed the feasibility and acceptability of utilizing a telemedicine-based delirium assessment tool in the home setting. Methods: A prospective pilot study was conducted at the University of North Carolina (UNC) from July-August, 2019. All subjects residing within 50 miles of the study site, who were 65 years of age and older scheduled for major surgery and requiring at least overnight admission, were included. Subjects were assessed daily for delirium while hospitalized. During a single home visit occurring within 72 hours of hospital discharge, all subjects were assessed for delirium via a telemedicine platform. The participants then answered a Questionnaire for User Interface Satisfaction (QUIS) and a semistructured interview with open-ended questions to evaluate their attitude towards the telemedicine-based delirium assessment. Results: Nineteen subjects were enrolled, 12 (63.1%) female, during the 6 week study period. A majority of participants held positive attitudes towards the telemedicine-based delirium assessment. On the scaled survey, 47.1% of participants considered the telemedicine tool wonderful, 64.7% considered it easy, 52.9% found it satisfying, 58.8% thought it adequate, 48.1% considered it helpful, and 64.7% found it flexible. Conclusion: This study demonstrates the feasibility of enrolling subjects and conducting in-home telemedicine delirium assessments in a timely manner. The QUIS results indicate that the majority of participants held positive reactions towards the telemedicine-based mental assessment. Thus, a larger study validating this assessment approach is warranted.

1377 | Factores que influyen en la intensidad del dolor postoperatorio en pacientes con diagnóstico de osteoartritis o artritis reumatoide sometidos a cirugías de reemplazo de rodilla o cadera

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Trasfondo y objetivo: Los reemplazos de cadera y rodilla son cirugías ortopédicas dolorosas. Nuestro objetivo fue identificar qué factores (fisiológicos, psicológicos y situacionales) influyeron en la intensidad del dolor postoperatorio en pacientes con diagnóstico de osteoartritis (OA) o artritis reumatoide (AR) sometidos a cirugía de reemplazo. Método: Se realizó un estudio longitudinal de segmento en un hospital de gobierno del área metropolitana. La intensidad de dolor, utilizando la escala de valoración numérica (0 al 10), se midió en tres períodos: preoperatorio y a las 24 y 72 horas postoperatorias. La ansiedad, utilizando el Inventario de Ansiedad Rasgo-Estado (IDARE), se midió en dos periodos: preoperatorio (rasgo y estado) y a las 72 horas postoperatorias (estado). Resultados: Se evaluaron 64 participantes con una mediana de edad de 62 (RIQ, 52.8- 67.3), 55% fueron mujeres. La intensidad del dolor preoperatorio en descanso fue de 8 (7-9). La intensidad de dolor postoperatorio compuesto (promedio de intensidad de dolor promedio y máximo) fue mayor a las 24hrs (9 [8.5-9.5]) comparado con las 72hrs (8 [7.5-8.5]), p<.001. La ansiedad (estado) preoperatoria fue mayor a la ansiedad postoperatoria, aunque ambas medidas fueron clasificadas como moderadas. La ansiedad (rasgo), el BMI elevado y el aumento en la intensidad de dolor preoperatorio contribuyeron individualmente al dolor postoperatorio a las 24hrs luego de ajustar por otras variables incluidas en el modelo de regresión (edad, diagnóstico y tipo de cirugía). En cambio, para el dolor postoperatorio a las 72hrs los factores predictores fueron mayor edad, ansiedad (rasgo) y dolor preoperatorio. Conclusiones: A pesar de que la intensidad de dolor disminuyó de las 24 a 72 horas postoperatorias, el nivel se mantuvo severo en

ambos períodos. La contribución de los factores en el dolor postoperatorio, aunque estadísticamente significativo, el aumento fue menor de 1 en la escala de dolor. IRB# A5570216

1379 | Síndrome de “Burnout” y competencia clínica en enfermeras/os de la unidad de cuidado intensivo neonatal

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Antecedentes: El Síndrome de “Burnout” es una enfermedad emocional, causado por la sobrecarga física o mental y estrés excesivo en el entorno laboral. Este a su vez hace que se afecte la competencia clínica al brindar cuidado al paciente. El propósito de esta investigación fue explorar la asociación entre el nivel de “burnout” y la competencia clínica en el profesional de enfermería que labora en una unidad de cuidado intensivo neonatal (UCIN) de Puerto Rico. Objetivos: Medir el nivel de burnout del profesional de enfermería en una UCIN, Evaluar la competencia clínica del profesional de enfermería en una UCIN y Explorar la asociación entre el nivel de agotamiento y la competencia clínica del profesional de enfermería en una UCIN. Metodología: Diseño descriptivo correlacional. Participaron 37 enfermeras/os que laboran en una UCIN. Se utilizaron el Maslach Burnout Inventory - Human Services Survey y la escala de seis dimensiones del desempeño de enfermería. Resultados: Se observó la presencia de al menos una dimensión del síndrome de agotamiento en el 64.9% de las enfermeras encuestadas. Las escalas de agotamiento emocional y despersonalización fueron altas en 51.3% y 56.8% de los encuestados respectivamente. El 43.2% demostró una baja realización personal. En términos de competencia clínica, sólo 8 de los participantes completaron esta sección. Se encontró una asociación estadísticamente significativa entre la despersonalización y el componente de liderazgo ($p=0.02$) y entre la realización personal y el componente situaciones críticas ($p=0.02$). Conclusiones: Se sugiere que los administradores de enfermería realicen programas educativos y de apoyo que brinden estrategias dirigidas a la disminución del síndrome de burnout.

1381 | Simulación de Paciente Estandarizado y el “Debriefing” para el Desarrollo de Autoconfianza y Reducción de la Ansiedad en Estudiantes de Enfermería

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Antecedentes y Objetivos: Los conflictos de autoconfianza al igual que niveles de ansiedad elevados pueden ser una barrera para el aprovechamiento académico de los estudiantes de enfermería. Los objetivos de la investigación fueron describir y comparar el nivel de autoconfianza y de ansiedad en la toma de decisiones clínicas en los estudiantes de enfermería a nivel subgraduado, antes y después de la participación en una simulación de paciente estandarizado seguido por un “debriefing”. Métodos: Se utilizó un diseño quasi-experimental, con pre y post prueba. La muestra consistió de 11 estudiantes de enfermería de la UPR-RCM, divididos en dos grupos. Se utilizó el cuestionario *Nursing Anxiety and Self-Confident with Clinical Decision Making Scale* (NASC-CDM). Resultados: El 90.9% eran féminas ($n=10$), el 54.5% de los participantes se encontraban en el grupo de edad de 22-25 años. El nivel de autoconfianza general, antes y después de la simulación de paciente estandarizado aumentó de 81.82 a 84.73 ($p=0.50$); para el grupo 1 disminuyó de 75.33 a 74.50 ($p=0.91$) y en el grupo 2 aumentó de 89.6 a 97 ($p=0.27$), sin significancia estadística. El nivel de ansiedad general, antes y después de la simulación de paciente estandarizado disminuyó significativamente de 46.7 a 34.09 ($p=0.004$); para el grupo 1 disminuyó significativamente de 54.83 a 44.50 ($p=0.03$) y en el grupo 2 disminuyó, pero no significativamente de 37.0 a 21.6 ($p=0.12$). Conclusiones: Aunque no todos los resultados fueron estadísticamente significativos, el uso de la simulación de paciente estandarizado seguido por un “debriefing” es útil para fomentar la autoconfianza y reducción de ansiedad en los estudiantes de enfermería. Es una estrategia de aprendizaje que se debe incluir en el currículo de las instituciones académicas para obtener buenos resultados de aprendizaje.

1396 | Validity and Reliability of the Critical Pain Observation Tool (CPOT)- Spanish Version

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Background & Objective: Some patients in the intensive care unit (ICU) cannot self-report pain. Behavioral assessment instruments, such as the Critical-Care Pain Observation Tool (CPOT), are recommended to detect the presence of pain in these patients. Our objective was to evaluate the validity (criterion and discriminant) and the CPOT- Spanish version's reliability. **Methods:** We included patients from the ICU of the University District Hospital and the Trauma Hospital in the Medical Center of Puerto Rico. Patients were measured using the CPOT- Spanish version simultaneously, but independently, by two researchers before and during two procedures: a nociceptive (change of position) and a non-nociceptive (low-intensity massage in a non-injured limb for five seconds). Patients able to self-report rated their pain with the 0-10 numeric rating scale (NRS) or pain categories (mild, moderate, severe). **Results:** We evaluated 30 patients, with a median age of 47.5 (IQR, 38.0 - 66.5; the majority (80%) were male. For criterion validity, pain intensity scores reported by 13 patients were significant correlated with the CPOT scores during the nociceptive procedure ($r_s=.78, p=.002$) and during the non-nociceptive procedure ($r_s=.63, p=.02$). CPOT score during the nociceptive procedure was 3 (2-3) and 0 (0-.75) before the nociceptive procedure. We found a statistically significant increase in the CPOT score during the nociceptive procedure compared to the before nociceptive procedure scores ($p<.0005$), supporting the tool's discriminant validity. Interrater reliability was excellent, demonstrated by high intraclass correlation coefficients (ICC) before and during the non-nociceptive procedure ($ICC=1$), before the nociceptive procedure ($ICC=1$), and during the nociceptive procedure ($ICC=0.98$). **Conclusion:** The Spanish version of the CPOT had acceptable reliability and validity to assess pain in this sample of ICU patients. IRB# A5570119.

1400 | IL-1 beta levels are significantly associated to Gardnerella, Sneathia, Atopobium and Prevotella in patients with Cervical intraepithelial neoplasia

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Background & Objectives: Cervical cancer (CC) is the fourth most frequent cancer in women and its etiologic agent, Human Papilloma Virus (HPV), is the most common sexually transmitted disease (STD). Besides HPV, there are other factors that contribute to the development of CC, including the dysbiosis of the epithelial-associated microbial communities. We characterized the microbiota and the inflammatory milieu of the cervix in relation to HPV and cytology status. **Methods:** Cervical swabs and lavages were collected from 51 patients coming to colposcopy clinics in San Juan, Puerto Rico. Genomic DNA was extracted from swabs using the Qiagen DNeasy PowerSoil Kit and 16S rDNA V4 region genes were amplified and sequenced by Illumina MiSeq. Inflammatory cytokines were measured from cervical fluid, using Bio-Plex Pro Human Cytokine Screening Panel. Bioinformatic analysis were performed in Python using different packages including QIIME and QIITA. Cytokines were related to microbes via a genital inflammation scoring index based on the quartile distribution of the cytokines concentration. **Results:** Samples were dominated by *Lactobacillus*, followed by *Gardnerella*, *Prevotella* and *Sneathia*. Although no significant diversity nor composition changes were found with HPV risk, differences in the microbiota were found associated to cervical cytology. Among the seven evaluated cytokines, only IL-1 β levels were significantly higher in patients with CIN3, namely those with dominant levels of *Atopobium vaginae*, *Sneathia*, *Gardnerella* and *Prevotella*. **Conclusions:** Our preliminary data confirms that inflammation is a critical component of tumor progression, as we found higher scoring levels of cytokines such as IL-1

beta associated to CIN3 lesions and with bacteria associated to cervical dysplasia. Our study provides evidence of a complex host-microbe interaction via cytokine signaling response in cervical cancer development with great translational potential. Acknowledgements: HiREC S21MD001830; The Puerto Rico Sciences and Technology Trust, PR-INBRE P20GM103475; RCMU U54 MD007600.

1405 | Potts Puffy Tumor: A Case Report with Extensive Intracranial Complications

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Purpose: Potts Puffy tumor (PPT) is osteomyelitis of the frontal bone with an associated sub-periosteal abscess, usually seen as an uncommon complication of infectious sinusitis. Case Presentation: We present the case of a 14-year-old male who developed painless swelling in the center of the forehead associated with fever and headaches. Patient was treated for sinusitis with antibiotics in a primary care setting without improvement. Patient was transferred to our institution due to altered mental status and a Glasgow coma scale (GCS) of 12. A non-contrast head CT was done showing opacification of left maxillary sinus, both frontal and ethmoid sinuses with high density material. Large frontal extra cranial abscess was identified. Also seen, were 2 epidural frontal abscesses with associated periosteal reaction of frontal bones. Due to progressive deterioration of patient's GCS and findings on MRI of leptomeningitis with subdural empyema, patient was taken to OR for a craniectomy with empyema evacuation and sinus drainage. The culture obtained was positive for *Streptococcus intermedius*. After one week, patient's neurological status had not improved. New imaging showed reaccumulation of abscess, warranting a second operative drainage. Patient's GCS improved but developed left facial palsy, left hemiplegia and moderate expressive aphasia. He completed 90 days of antibiotics with partial improvement of neurological deficits. Conclusion: We emphasize on the value of having a high clinical suspicion for PPT due to risks of complications

such as the ones presented in this case: epidural abscesses and subdural empyema which led to neurological deficits secondary to infectious stroke. Acknowledgements: The authors declare they have no conflict of interest.

1418 | Lifestyle risk factors for oropharyngeal cancers in patients attending sexually transmitted infection clinics in Puerto Rico

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Background & Objective: Incidence of oropharyngeal cancers in the United States have increased an average of 0.7% per year over the last decade. Various lifestyles increase the risk of these malignancies, including tobacco, marijuana, and alcohol use, poor oral hygiene, and a diet low in fruits and vegetables. This study assessed lifestyle risk factors for oropharyngeal cancers in patients attending sexually transmitted infection (STI) clinics in Puerto Rico. Methods: Data from an ongoing cross-sectional study (November 2018-present) among patients receiving services at STI clinics in the San Juan metropolitan area was analyzed. Individuals aged 21-49 years, sexually active, and HIV-negative were eligible for this study. Up to this date, 208 patients have been recruited. Sociodemographic and lifestyle characteristics were collected through a questionnaire. Results: The mean age of participants was 32 ± 8.06 years. The majority of participants were men (57.7%), single (63.5%) and reported having an annual income below \$20,000 (73.0%). Oropharyngeal cancers' risk factors reported by participants included current tobacco use (22.2%), recent (30 days) binge drinking (59.8%), concurrent use of tobacco and alcohol use (18.8%), current marijuana use (48.1%), and vegetable consumption at least once a day (29.7%). Regarding oral health, 88.5% of the sample did not follow recommendations about oral care by the American Dental Association (ADA), 57.2% reported visiting their dentists every six months or less and 2.8% had severe periodontal disease. Conclusion: Given the high prevalence of modifiable risk factors

for oropharyngeal cancers in this population, it is crucial to improve risk factor awareness and encourage behavior change. STI clinics represent an important venue for identifying at-risk populations that might benefit from cancer prevention efforts (NIDCR Grant 1R21DE027226-01A1).

1426 | Colorectal Cancer Risk Factors, Preventive Measures, and Screening Practices in a Population in Central-Eastern Puerto Rico

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Introduction: Colorectal cancer (CRC) is the second most common cancer in incidence for each sex and one of the most deadly in Puerto Rico (PR). Caguas health region (Central-Eastern PR) has an age-adjusted incidence rate of CRC of 36.9 for 2016, higher than in PR overall (37.6). Therefore, it is a public health concern. The aim of this presentation is to show the risk factors, preventive measures, and screening practices for CRC in a sub-population in Central-Eastern PR. The results of this study may lead to the development of effective educational programs and a comprehensive CRC control program. Materials and Methods: This is a sub-analysis from an annual descriptive cross-sectional questionnaire of risk factors, preventive measures, and screening practices for cancer in PR administered at a private hospital using a convenience sample of healthy and non-healthy adults. Results: Out of 345 enrolled subjects in 2019 for the questionnaire, 84 were enrolled by the first author, from which 57 (17%) subjects qualified for this sub-analysis for been eligible for CRC screening. Among them, 61% were females, 61% had recommended daily intake of fruits and vegetables, 65% did the recommended weekly moderate intensity physical activity, 74% had colonoscopy every 10 years, and 75% had annual fecal occult blood test. Discussion/Conclusion: Considering the limitations of this study and the small sub-analyzed sample size, these partial results are encouraging, while showing the need for more education of the population about the importance of compliance with preventive measures and screening practices for CRC. IRB # EMSJBIRB-5-2019

1433 | Physicians' and Patients' Knowledge and Perceptions of Saharan Dust and Diesel Particulate Matter Impact on Public Health: A Qualitative Approach

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Background&Objectives: An estimated seven million people worldwide die annually due to air pollution. Thus, the impact on climate, human health, and on the ecosystem are public health priorities for society. Epidemiological studies show significant correlations between atmospheric particulate matter (PM) and emergency rooms (ER) visits, hospitalizations, and deaths due to exacerbation of respiratory and cardiovascular diseases; however, studies assessing the health effects exclusive due to Saharan dust and Diesel Particulate Matter (DPM) are limited in Puerto Rico and the Caribbean probably due to the lack of information, data accessibility, awareness and risk perception. This study assessed physicians' and patients' knowledge, awareness, and perceptions regarding the public health impact of Saharan dust in Puerto Rico. Methods: Key informant interviews were performed with ten physicians from six sub-specialties (cardiology, pediatric pulmonology, pediatric and adult oncology, pediatric nephrology and pediatric emergency medicine), and focus groups were performed with eight cardiology patients from one private practice. Results: Although physicians' knowledge varied by age, they consistently reported an increased number of exacerbations of respiratory conditions during Saharan dust events. On the other hand, patients acknowledged limited knowledge about the Saharan dust and DPM due to difficulties in understanding available educational material and warning messages. Conclusion: As part of a research project funded by NASA, gaps in knowledge, perceptions, and awareness will help us to better design a support tool using state of the art technology from Earth Observation Data.

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1447 | Caries Prevalence in Oral Cleft Pediatric Patients: A systematic review

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Aim: To conduct a systematic review of scientific literature to evaluate the present evidence of caries prevalence in pediatric patients with oral clefts. **Methods:** The research question was What is the prevalence of caries in oral clefts pediatric patients? A search of PubMed, Ebscohost, Ebsco (Journal), Science Direct, and Scopus databases was conducted. A search string using the keywords: cleft; children; cleft lip; palate; oral-facial cleft; infant; dental decay; mouth caries was done. The inclusion criteria for the relevant studies were pediatric population, oral clefts, case-control studies, papers from 2000 to 2019. **Results:** From a total of 72 studies, after removing duplicates, thirteen case-control studies met the inclusion criteria and were analyzed. Eleven studies found that children with CLP have a higher prevalence of caries in comparison to those without it. Furthermore, two out of thirteen studies did not find any correlation between CLP and caries. Additionally, one paper specified that children with CLP have a higher risk of developing caries, due to the bacteria found in their saliva. **Conclusion:** Based on the results, there is evidence to suggest a relationship between dental caries and CLP. However further research is required to establish a linear correlation between the two factors.

1452 | La población de veteranos residiendo en Puerto Rico para el 2013-2017: sus características sociodemográficas

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Antecedentes y objetivos Puerto Rico cuenta con el servicio militar desde la época de los colonizadores españoles. Al caer en manos de los estadounidenses

la historia no fue un tanto diferente, como colonia se utilizó y utiliza nuestra población para acompañar a la fuerza militar estadounidense en sus batallas. Los veteranos muestran ciertas características que los hacen distintos a los otros grupos de la población que reside en la Isla. El objetivo de este estudio fue describir el perfil sociodemográfico de la población de veteranos en Puerto Rico. **Métodos:** La fuente de datos fue la Encuesta de la Comunidad de Puerto Rico, 2013-2017. El estudio fue transversal descriptivo. **Hallazgos:** En Puerto Rico residen 83,641 veteranos, representando el 3.1% de la población de 18+. Más de la mitad sirvió en las guerras de Vietnam (34%) y Corea (20%). Estos residen en mayor proporción en Vieques (7.2%), Culebra (5.7%) y Fajardo (5.2%). El 94% son hombres. Seis de cada 10 tiene 54 años o más, con una mediana de edad de 67. El 76% está casado y 15% es viudo. El 11.2% tiene un nivel de escolaridad menor de escuela superior y 33% bachillerato o más. El 19% muestran ingresos bajo el nivel de pobreza. Un 43% presentó alguna discapacidad. **Conclusión:** Los veteranos que residen en Puerto Rico son una población con una estructura de edad vieja, a su vez poseen niveles relativamente bajos de escolaridad y altos de pobreza, además un alto porcentaje de estos tiene alguna discapacidad. Este grupo estuvo expuesto a conflictos bélicos que representan una diversidad de riesgos para su salud; a esto le añadimos que poseen características sociodemográficas que abonan a su vulnerabilidad. Es imprescindible el análisis de las características de esta población para poder entender y atender sus necesidades particulares por su bienestar y el del país en general.

1459 | Cost Analysis of an Antimicrobial Stewardship Program in an Acute Care Hospital in Puerto Rico

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Background & Objectives: Antimicrobial stewardship programs (ASPs) are implemented to improve clinical outcomes and reduce the emergence of

antimicrobial resistance, while having the potential of saving hundreds of thousands of dollars to hospitals by averting inappropriate antimicrobial use. Demonstrating a reduction in unnecessary antimicrobial expenses is often required to secure administrative support for the ASP. The aim of this study was to determine the economic impact of a recently implemented ASP at the Adult University Hospital. The main objective was to evaluate trends in antimicrobial expenses for two years (pre and post ASP implementation), to determine if the program led to savings during its first year. Methods: Costs were obtained from pharmacy expenses reports for the following periods: 09/01/2017 - 08/31/2018 (control year) and 09/01/2018 - 08/31/2019 (ASP year). Expenses per 1,000 patient days were calculated. Linear regression analysis was conducted to compare actual vs forecasted expenses per patient days (PPD). Results: There was a 29% reduction in total annual antimicrobial expenses one year post ASP implementation. Costs per 1,000 patient days during ASP year were \$38,531.76, compared to \$52,191.84 during control year. Linear regression analysis showed a statistically significant negative linear relationship between time and total expenses PPD for the ASP year ($p < 0.05$), as opposed to control year ($p = 0.079$). When comparing the forecasted expenses PPD with the actual expenses PPD, savings started to materialize from February 2019 onward, with reductions as high as 32% for August 2019 (forecasted: \$34.25 PPD vs actual: \$23.33 PPD). Conclusion: Based on this study and comparable literature reports, the hospital's ASP could potentially lead to savings in direct antimicrobial expenses of approximately \$3 million in three years, if program support is maintained. Acknowledgements: Sofía Lang, Sofía Marrero, and ASP members Dr. Santana, Dr. Bertrán, Ms. Reyes, and Ms. Troche.

1469 | Diabetic Ketoacidosis Induced by a Bacteremia of Unknown Origin

Ian Da Silva Lugo, Juan Santiago Gonzalez, Juan Rivera Torres, José Colón Márquez

Bacteremia of Unknown Origin (BUO) has a high mortality rate and gram-negative bacteria are the leading causes. We herein present a case of *Escherichia coli* (*E. coli*) bacteremia acquired at the community without infectious foci that induced

a Diabetic Ketoacidosis (DKA). A 22-year-old female with history of type I diabetes, hypothyroidism and diabetic neuropathy presented with a three-day history of weakness, general malaise, and emesis. The physical examination was remarkable for sustained tachycardia, dry oral mucosa, bilateral calf tenderness, acetone-like smell and tachypnea. Initial laboratories showed a leukocytosis of 17.60 cells/microL, blood glucose of 382 mg/dL, HCO₃⁻ of 5 mEq/L, pH of 7.107, anion gap of 28.5 with a delta ratio of 0.9. Urine analysis resulted in ketones of more than 160, glucose of 1000, negative leukocyte esterase, negative nitrite, WBCs of 0-2 cells/microL, and few bacteria. The DKA resolved successfully. After admission the patient had episodes of documented fever. In addition, IgM class-antibodies resulted borderline positive for leptospirosis followed by blood cultures with growth of *E. coli*. The patient was initially treated with Piperacillin-Tazobactam for one day. Upon the result suggestive of leptospirosis, the antibiotic therapy was changed to Ceftriaxone. Nevertheless, the fever and tachycardia episodes persisted. Thus, therapy was escalated to Vancomycin and Zosyn. Upon improvement of symptoms Vancomycin was discontinued and Zosyn was completed afterwards. The leukocytosis, tachycardia, and fever resolved as well as blood cultures resulted in no growth. BUO is associated with significant morbidity when compared to bacteremia with known infectious focus. The clinical findings are essential for an early adequate antibiotic therapy, more importantly in seriously ill patients as the one described above. As there is scarce literature of BUO and its characteristics, further reports are necessary to improve the description of this presentation and tailor an effective treatment.

1471 | Early Onset of Inflammatory Bowel Disease - Ulcerative Colitis in a 4-Year-Old Patient

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Inflammatory Bowel Disease (IBD) is an idiopathic chronic inflammation of the gastrointestinal tract, consisting of both Ulcerative Colitis (UC) and Chron's Disease (CD). The onset of presentation is

between the ages of 15 and 30 years of age. Case of a 4-year-old female patient without systemic illness and vaccines up to date; presented with a three-week history of increased loose bowel movements, hematochezia, abdominal pain, and decreased oral intake, for which she was taken to a community hospital. The patient was admitted and treated with antibiotics for a suspected bacterial gastroenteritis, and discharge home after 6 days. Upon discharge, the hematochezia and frequency of loose stools persisted. She became pale and hypoactive, and was taken to a different hospital, then transferred to our tertiary pediatric hospital for further management. Upon admission, the patient was found with symptomatic anemia, requiring one unit of packed red blood cells. She underwent a colonoscopy with multiple biopsies that was consistent with moderate-to-severe pancolitis. The patient was initially treated with intravenous steroids, resulting in improvement in frequency of bowel movements and hematochezia. She was eventually discharged home on oral steroids and mesalamine, with outpatient follow up at the gastroenterology clinics. Early onset IBD is increasing among pediatric patients. Around 25% of patients with IBD present before the age of 20. In the pediatric population, the peak onset is in adolescence. About 18% of patients present before the age of 10 and 4% before the age of 5. Children with IBD have a more aggressive course of the disease compared to adults. A high index of suspicion should be considered when a child presents with this clinical scenario. IBD in children can result in growth failure, delay puberty, poor bone health, depression, anxiety and a greater increase of colon cancer.

1483 | TSH values as a potential indicator of thyroid nodules production

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Background and Objectives: The thyroid is an organ in the neck which is accountable for the production of thyroid hormones such as thyroxine (T4), and triiodothyronine (T3). The thyroid stimulating hormone (TSH) controls the release of T3 and T4. TSH levels typically range from 0.4 – 4.0 mIU/L. Studies have advised of the relationship between high levels of TSH and the production of nodules.

The objective of our study was to find out if patients with TSH greater than 5 mIU/L who undergo biopsy develop malignant nodules, and if TSH values greater than or equal to 5 mIU/L are a potential indicator of having two or more thyroid nodules. Methods: A retrospective analysis was held by De-identifying records of patients between 35 – 80 years from a single private endocrinologist practice. A bivariate analysis was generated with the chi-square test (χ^2) for categorical variables and logistic regression test (OR; 95%CI) crude and adjusted for sex and age. All analyzes were carried out with the STATA version 15 program. Results and Conclusions: In the end we found there is a possibility of having TSH values >5mIU/L as age increases but there were no differences of statistically significant when it came to comparing sex and number of thyroid nodules found. Because of lack of statistical power, the malignancy could not be evaluated. Approved Protocol by the IRB of RCM. Acknowledgments: None.

1489 | Oxygen Dependent Pediatric Population Arriving to the Emergency Department at the University Pediatric Hospital after Hurricane Maria

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Background & Objectives: Hurricane Maria hit landfall on September 20, 2017, causing a negative impact on the health of acute and chronic patients. The Task Force for Mass Critical Care found that most countries do not have space, staffing, and supplies necessary to care for a large number of victims; while stating that oxygen remains the critical consumable resource in disaster management. Pediatric patients who are oxygen-dependent are at increased risk of adverse effects after a natural disaster. The study sought to identify diagnoses and complications occurring in this population leading to visits to the University Pediatric Hospital Emergency Department (ED). Methods: A retrospective record review of oxygen-dependent pediatric patients, less than 21 years who were diagnosed with ventilator-associated disease arriving at the ED from June 1, 2017, to November 30, 2017. Results: A total of 76 visits to the ED department related to ventilator-associated disease, with a median age

of 4 years old (0.8-21). Most common diagnosis were upper respiratory tract infection (22.4%), tracheitis (13.2%) and pneumonia (10.5%). Visits due to lack of equipment were 2.6%, all in the post-hurricane period. There was no difference in Emergency Severity Index, antibiotic use, imaging, and admission rate. Conclusion: This is the first documented account of the pediatric oxygen-dependent population during a natural disaster in P.R. Our findings suggest that EDs must be prepared to treat medically complex patients, but at the same time ensure the availability of equipment and resources. Future goals include creating a registry of these patients to ensure adequate care and equipment while educating parents for emergency preparedness to improve resource limitations during natural disasters. Acknowledgments: Lourdes Garcia, MD.

1494 | Familial VHL Case Report: Call for Action & Cancer Surveillance

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Purpose: Von Hippel-Lindau Syndrome (VHLS) is an autosomal dominant hereditary neoplastic disorder with high penetrance caused by a mutation in the VHL gene. This syndrome can present as a myriad of benign and malignant tumors involving various organ systems. Case Description: VHL gene mutation was found in our subject's (male of 45 years) family when his sister (the proposita) was diagnosed with renal cell cancer (RCC) and CNS hemangioblastoma at the age of 35. Genetic testing performed on the proposita revealed VHL gene mutation however, no family surveillance was recommended. Five years later the subject underwent an abdominal ultrasound and CT scan with contrast that revealed renal mas. This led to a total left nephrectomy, which revealed RCC on histology. This prompted the surgeon to refer the subject for evaluation by a medical oncologist. Revision of past medical and family history revealed prior endophthalmitis and a sibling who died of metastatic RCC. On PE a surgical gauze was observed over his abdomen. Current surveillance and management is underway with a multidisciplinary medical group and pertinent

imaging studies according to current VHL surveillance guidelines. Concern for future family events has led to genetic testing of the whole kindred with enrollment in surveillance studies if VHL mutation is confirmed. Conclusion: This case reveals a possible lack of knowledge in Puerto Rican doctors' capacity to recognize VHLS in a patients presenting with VHL related tumors resulting in a lack of propositus and family surveillance. Future research should include creating a tool for classification of hereditary cancers within Puerto Rico's Cancer Registry (approximately 10% of cancer in the general population is hereditary); and create a multidisciplinary team to manage genetic testing after diagnosis. This would facilitate following patients with genetic syndromes with increased cancer risk and impact effectiveness of family surveillance. Acknowledgement: No funding or conflicts of interest to acknowledge.

1501 | Discharge Preparedness Evaluation And Parental Satisfaction Of Patients Admitted To The Neonatal Intensive Care Unit And Its Outcomes

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Introduction: The neonatal intensive care unit (NICU) has become a highly specialized unit with advanced medical technologies. Therefore, parents are faced with a challenge of caring for babies with significant morbidity. The discharge process can be stressful. Parental discharge readiness has been associated with infant safety, family emotional wellbeing, fewer readmissions, less incidence of parental mental health and lower health care costs. Objective: To explore the perceived readiness for NICU discharge in parents of medically complex infants. Methods: Cross-sectional study at the University Pediatric Hospital NICU involving infants' medical record review and a questionnaire to parents before and after discharge. Statistix 8.0 used for analysis. IRB approved. Results: Participants included 22 subjects (91% mothers), mean age 29y/o (22-42). Infants' mean gestational age 34 weeks (25-39), mean birth weight 2319 grams (810-4740) and median hospitalization days 36 (14-153). Caregivers (95%) reported feeling very prepared to take patient home. Highest concern

was giving medications and weight gain monitoring. After discharge, parents expressed infants' medical conditions and transition to home had been stressful. Parents reported that 67% visited the emergency room (ER), mostly due to gastrostomy issues and respiratory symptoms, and 1/3 were readmitted. Conclusion: Our findings describe parents initially feel ready to take patient home. However, after discharge parents referred doubts about medical conditions, nutritional challenges and a high rate of ER visits and readmissions. These findings will be used to develop strategies to improve the NICU discharge process in order to empower parents for caring for their infants at home. IRB Protocol: 2020219

1510 | A Preliminary Assessment of Drug Use Practices and ART Adherence among PLWHIV Pre and Post Hurricane María

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Background & Objectives. Puerto Rico (PR) was impacted by two major hurricanes in 2017. Complex emergencies like this may exacerbate HIV-related vulnerabilities, including behavioral risks, co-occurring conditions & illnesses, and health services disruptions. We conducted a preliminary assessment of data from an ongoing study that examines the impact of the hurricanes on people living with HIV (PLWHIV). The objective of this presentation is to describe drug use and antiretroviral therapy (ART) adherence in the pre and post hurricane periods. Methods. Data was collected from patient populations at two out-patient HIV clinics in the San Juan metro area. The sample consists of 61 individuals who were enrolled in HIV care at the time of the 2017 hurricanes and who completed detailed assessments of history and current drug risk practices and self-reported treatment adherence. Results. When compared to pre-hurricane, drug use increased for tobacco (+3.27%), alcohol (+4.92%) and marijuana (+8.20%). In the 30 days post hurricane, 31.7% had their treatment interrupted for a mean of 11.26 days (SD=12.18). Most frequent reasons for interruption were having no medication (17.86%), transportation barriers (17.85%), being busy doing something else (17.86%) and forgetting to take the

medication (14.29%). Conclusion. The ongoing study provides us with a unique opportunity to examine the short- and potentially sustained impact of the hurricanes among a quasi-treatment sample of PLWHIV. Collectively, this data will allow us to construct a preliminary profile on the impact on continuity in care and clinical status among multiple groups of PLWHIV in PR. This information is needed to improve planning and policy for those at risk or living with HIV. Acknowledgements. This research was supported by the NIMHD grant R21MD013657 and the collaboration of the Central Office for AIDS Affairs and Transmissible Diseases and PR CONCARA. The authors have no conflict of interest to disclose.

1514 | Trilemma: Relapsing Polychondritis, IGG4 Disease and Aortitis

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Relapsing polychondritis (RP) is a rare inflammatory multiorgan disorder affecting cartilaginous structures and other connective tissues. Serious cardiovascular complications have been reported in patients with RP, including aortic or mitral regurgitation and aortic aneurysms; Aortitis is a very rare complication. IGG4 related diseases (IGG4-RD) are systemic, immune-mediated diseases and up to 35% of patients with RP may have coexisting autoimmune disease. Reports of coexisting IGG4-RD and RP are exceedingly rare and herein we report a case with the confluence of multiple complications of rare systemic conditions occurring simultaneously; relapsing polychondritis with IGG4-RD complicated by aortitis. Case of a 73-year-old male patient with RP who was being followed at rheumatology clinics. A Gallium scan showed a new gallium avid process on the right retroperitoneum involving the inferior pole of the right kidney. Said findings were concerning for IGG4 related disease for which IGG4 levels were sent and found >300. Shortly after, patient presented to ER with retrosternal chest pain, located at the left upper quadrant abdomen and later radiating to chest and upper back. EKG without acute ischemic changes, HS Troponins were elevated, first at 28 and 46 at 3 hours. Chest CT without evidence of aortic dissection and found with low attenuating material around entire thoracic aorta, consistent with abnormal mediastinal

soft tissue. MPI was negative. Rheumatology evaluated patient and recommended that prior to starting treatment histological evaluation of aortic tissue was warranted and Interventional radiology was consulted for CT guided biopsy. Anatomical Pathology results of biopsy showed tissue fragments showing scanty lymphoplasmacytic infiltrate and fibrocollagenous material most likely consistent with aortitis secondary to IGG4-RD. Although 25% to 35% of patients with RP have a concurrent autoimmune disease, coexistence of RP and IgG4-RD is rare and aortitis developing secondary to these conditions has rarely been reported.

1515 | Conceptualización y desarrollo de un programa de formación en Preceptoría Clínica para estudiantes de Bachillerato en Ciencias de Enfermería: estudio exploratorio de métodos mixtos

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Antecedentes y Objetivo: El propósito de este estudio de métodos mixtos con diseño anidado, o incrustado, concurrente de modelo dominante (DIAC) fue identificar y auscultar a base de la percepción de los participantes los componentes conceptuales y prácticos para el desarrollo de un Programa de Formación de Preceptores Clínicos para estudiantes de Bachillerato en Ciencias de Enfermería por medio del Instrumento: Identificación de Componentes Conceptuales y Prácticos para el Desarrollo de un Programa de Formación de Preceptores Clínicos para Estudiantes de Ciencias de Enfermería. Este instrumento sirvió para recopilar datos cuantitativos y cualitativos del tema de estudio. Dentro del Marco Conceptual, la investigadora definió y describió los conceptos de coach, preceptor y mentor. Además, investigó la formación del preceptor en Estados Unidos, Latinoamérica y algunas zonas de Europa. El instrumento se suministró a enfermeros graduados de Bachillerato en Ciencias de Enfermería y Profesores Universitarios. La prueba piloto obtuvo un Alfa de Cronbach de 0.911. Como parte del análisis cuantitativo se realizaron tablas de frecuencia, medidas de dispersión tendencia central y porcentajes; se utilizó, además, la prueba no paramétrica de Mann-Whitney para grupos independientes. En la parte cualitativa, se realizó un

análisis de las preguntas abiertas del instrumento, emergieron diversas categorías. Como parte de los hallazgos, se encontró que los grupos de profesores universitarios y enfermeros graduados muestran convergencias en lo que entienden deben ser las habilidades, temas y estrategias que formen parte de un Programa de Formación de Preceptores Clínicos para Estudiantes de Bachillerato en Ciencias de Enfermería.

1518 | Methylxanthines Use in Neonatal Intensive Care Unit: What Are We Doing and Where Shall We Go?

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Background and objectives: Apnea of prematurity (AOP) is a temporary cessation of breathing for >20 seconds. This phenomenon is observed mostly in infants born at <34 weeks of gestation and is associated to intermittent hypoxia. Although there are concerns about the effects of methylxanthines for AOP, there is strong evidence supporting its benefits. However, there are no clear guidelines for when to discontinue therapy. Commonly, clinicians discontinue therapy around 33-34 weeks' post menstrual age (PMA) with a 5-7 days observation period. Limited information exists about the recurrence of apnea after a specific event-free period. This project aims to determine AOP incidence during a 5 days off-methylxanthines observational period. Methods: Retrospective medical record review of infants <34 weeks gestational age (GA) admitted to the University Pediatric Hospital Neonatal Intensive Care Unit during 2015-2017 who received methylxanthines for AOP. Statistix 8.0 used for analysis. Results: Subjects included 253 infants; mean birthweight (BW) 1254 grams; mean GA 29 weeks. Median treatment length was up to 34 weeks PMA. AOP post treatment incidence was 4% and was not associated to GA, BW, PMA when treatment stopped or maximum methylxanthines dose. Infants weaned after 34 weeks PMA were more likely to have lower birth weights and be on higher methylxanthines doses ($p < 0.05$). Conclusions: AOP is a common problem affecting preterm neonates. The incidence of AOP after discontinuing treatment was

low and not directly associated to PMA suggesting safety in discontinuing treatment at 34 weeks PMA. Still, more research is necessary to clarify optimal treatment regimens.

1520 | Exploration the meaning of “loss” after Hurricane María by a group of recent and expecting mothers

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Background: Hurricane Maria was one of the strongest Hurricane that impacted Puerto Rico in a long time and its impact was unprecedented. A study to explore hurricane related stress, infant outcomes and resilience factor was developed. The objective of this presentation is to explore the evolution of meaning of “loss” among a group of pregnant and recent mothers during the hurricane. Methods: Interpretative Phenomenological Analysis (IPA) was used to explore the impact of hurricane Maria in the lives of recent mothers and expecting mothers before, during and after the hurricane. Thirteen in-depth interviews were conducted to nine pregnant women and four recent mothers. The interviews were audio recorded and transcribed. Interrelation, connections and patters were assessed using IPA. The study has IRB approval (#1350218). Results: Almost all participants mentioned in their narratives experiencing “loss or losses.” They were categorized into four areas: 1) fear of losing lives; 2) material loss; 3) loss of essential services; and 4) loss of daily routine. Most of the participants expressed fear of losing their pregnancy. Almost all of them informed some material losses such as their house, furniture, and baby items. All of them narrated how they lost essential services like water, power and their daily routine. Their interpretation of “loss” evolved as time passed. Participants expressed being more prepared for future events and to minimize their impact based on the losses they experimented with the hurricane Maria. Conclusion: The concept of “loss” took many meanings going from loss of daily routine to loss of life. Its transformed from a negative feeling to one focused on learning and action. Acknowledgments: Minority Health and Health Disparities Grant #: 1R21MD013675. No conflict of interest.

1522 | Urban Heat Island and Ambient Temperature Distribution in San Juan, Puerto Rico

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Background and Objectives: Episodes of extreme heat have become more common in San Juan, Puerto Rico, and are triggering public health problems. Traditional urbanization methods throughout urban land development and land cover has affected the local climate and encourage high temperatures while causing the effect of urban heat islands in different areas of the municipality. Scientific evidence suggests that the effect of urban heat island, which leads to higher temperature sources in some areas, increases heat-related mortality. The objective of this study was to determine the distribution of the ambient temperature and the effects of the urban heat island in the municipality of San Juan. Methods: A heat monitoring campaign was conducted in collaboration with the UREx-SRN, the Portland State University Institute for Sustainable Solutions and the CAPA Heat Watch Program to obtain data from the soil surface. Using machine learning algorithm, the data acquired was combined with state-of-the-art Earth observation data from satellite images of the land cover to produce detailed maps of the urban heat island and the heat index for the municipality of San Juan. Results: High-density urban areas in San Juan are the warmest, reaching temperatures to 96°F. At 6am maximum temperatures reached 82°F, while the minimum temperatures were 70°F. At 2pm, minimum temperature increased up to 84°F, while the maximum temperature can be at 96°F. In the morning, low-density urban areas and southern areas of SJ are the coolest of the city. During afternoon, the central part of the city is much hotter than the northern and southern. Wind patterns and relative humidity can play an important role in temperature distribution around the municipality. Conclusion: The information obtained is a powerful tool to identify geographic areas exposed to high temperatures where adaptation and mitigation measures can be promoted. Acknowledgements: Research is supported by NSF #AGS-1444755.

1525 | Perceptions of PrEP use among HIV-negative men who have sex with men with experience using PrEP in Puerto Rico

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Background and objectives: Until 2018, male-to-male contact was the principal HIV mode of transmission in Puerto Rico (PR). Pre-Exposure Prophylaxis (PrEP) is an effective method to prevent HIV infection, yet its use is limited in PR. Stigmatizing perceptions about people who use PrEP could be a barrier for its use among men who have sex with men (MSM). The objective of this analysis was to describe perceptions about PrEP use among MSM with experience using PrEP in PR, and the potential impact of those perceptions on their decision for its sustained use as an HIV prevention tool. Methods: A qualitative study was conducted using in-depth interviews. Participants were sexually active adults, cisgender HIV-negative MSM, with experience using PrEP in PR. Interviews were digitally recorded and transcribed for content analysis. Data collection is ongoing. The current analysis emphasizes on questions about stigma and perceptions regarding PrEP use. Results: Nine men have been interviewed. Mean age was 39 y/o, most completed a bachelor's degree and half reported an annual income below \$10,000. Most expressed positive perceptions towards MSM using PrEP. However, some reported that PrEP users use condoms less often and are more sexually active than non-users. Most claimed that others think they will "burn in hell" and perceive them as "promiscuous". Some participants delayed starting PrEP because of these perceptions. All participants agreed that education about PrEP is key to change negative perceptions. Conclusions: Overall perceptions about PrEP users were positive. However, some had ambivalent opinions. Internalized HIV and gay stigma seem to be associated with this ambivalence. These barriers should be addressed in order to improve access to PrEP services. Education about PrEP for those who can benefit the most might help change negative perceptions and reduce barriers for PrEP use.

1526 | Association between Maternal Diabetes, Hypertension, and BMI with Oral Clefts Risk in Puerto Ricans

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Introduction: Oral clefts (CL/P) are prevalent birthdefects with multifactorial etiology. Literature has found a relationship between the mothers' body mass index (BMI), metabolic syndrome during pregnancy, and the risk of having a child with CL/P. Study's aim was to identify a relationship between maternal diabetes mellitus (DM), hypertension, and BMI with CL/P risk. Methods: Mothers of children with/without non-syndromic CL/P provided information from a pregnancy history questionnaire conducted in a case-control study (N=450). Chi-square tests and frequencies were calculated for each variable. Logistic regression analysis with confidence intervals (CI) at 95% were performed to estimate risk. Analysis were adjusted for age, education level, household income, marital status and child's sex. STATA (v.14) was the statistical program used for analyses. Results: Mothers interviewed were mostly married (35.6%), with High School degree (34.3%) and annual income below \$10,000 (42.5%). Among case (n=237) and control (n=213) mothers, a difference was found for education level (p=0.03), but for BMI (p=0.38), DM (p=0.49), DM type (p=1.00), hypertension (p=0.22), and gestational diabetes (GDM) (p=0.35) no differences were observed. Logistic regressions for each maternal condition were not significant (p>0.05). Only after adjusting, the regression model by cleft type, GDM was significant (p=0.02) increasing risk (ORAdj=5.45; 95% CI:1.19-24.91) for isolated cleft lip. Conclusions: GDM was identified as risk factor for cleft lip. Future studies need to evaluate maternal diet and metabolic syndrome during pregnancy to identify factors that modulates risk. Acknowledgements: NIDCR R00DE024571, NIMHD S21MD001830, and NIMHD U54MD007587, partially supported by Caribbean Oral Health Initiative (COHI), NIDCR K99/R00DE022378, and Robert Wood Johnson Foundation Grant number 72429.

1527 | Disruption of essential services after Hurricanes Irma and María and quality of life among women with gynecologic cancer receiving care in Puerto Rico

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Background and Objective: Cancer patients have increased risk of poor outcomes after disasters. On September 2017 Hurricanes Irma and María affected Puerto Rico (PR), causing the population to experience major stressors. We describe the disruption of essential services and the quality of life (QoL) of women with gynecologic cancer in PR after these events. Methods: This ongoing cross-sectional study is recruiting women aged ≥ 21 years with gynecologic cancer; we have conducted 103 phone interviews from September 2019 - December 2019. Patients' interviews address psychosocial and environmental stressors and multi-level responses experienced by the women in the aftermath of the hurricanes. QoL was measured by using a scale from the Behavioral Risk Factor Surveillance, which includes 6 items within two domains: physical and mental health; these were assessed for the time period 30 days and 3 months after the hurricanes. Results: From recruited participants, 63.1% have endometrium cancer, 16.5% cervical, 15.5% ovarian, 3.9% vulvar, and 1.0% vaginal cancer. We found that 99% of patients reported disruptions in electric power, 83.5% in potable water, and 75.7% in telecommunications. On average, patients endured 106 days (± 77.5) without electric power and 64 days (± 63.7) without potable water. In the physical domain, 41.8% of patients reported frequent physical distress, 49.5% fair or poor general health and 38.8% frequent activity limitations. In the mental health

domain, 60.2% of women reported frequent mental distress, 21.7% being dissatisfied/very dissatisfied with their life, and 86.4% of patients stated that they received social or emotional support always/ almost always after the hurricanes. Conclusion: Most of the patients experienced long interruptions in essential services, after hurricanes Irma and María, and poor QoL. The impact of these stressors on QoL will be further evaluated. Study results should guide the development of a disaster management plan for cancer patients. Acknowledgement: NCI Grant #R21CA239457.

1531 | Caries Experience in Oral Cleft Pediatric Patients: A pilot study

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Aim: The purpose of this study was to evaluate the caries experience of oral cleft pediatric patients compared to healthy children in PR. Methods: A case-control study was performed between April 2017 to present (December 2019). A dental exam using ICDAS criteria for caries diagnosis was done on patients with oral clefts and healthy individuals from the Orthodontic Clinic at the UPR School of Medicine. A questionnaire of 27 questions was given to parents of participants including questions of socio-demographic variables and oral hygiene habits. Statistical analysis was performed using chi-square tests, percentages, and means. The sample consisted of 70 oral clefts cases and 99 healthy controls. Results: The sample consisted of 87 females and 78 males. A prevalence caries rate for oral clefts patients was 51.5% and for healthy children 47.4%. Mean Decay surfaces (ICDAS 3-6) was 1.81 for cleft patients and 1.87 for children without cleft. Mean restored surfaces, mean number of missing teeth due to caries, and mean surfaces with ICDAS lesions 1 and 2 were 3.83, 0.6 and 4.86 respectively for cleft patients. Mean restored surfaces, mean number of missing teeth due to caries, and mean surfaces with ICDAS lesions 1 and 2 was 4.0, 0.19, and 8.57 respectively for children without cleft. No statistically significant differences were found for caries experience and caries indexes between cases and controls ($p > 0.05$) except for early carious lesions (ICDAS 1 and 2) where healthy children

presented more white spots lesions than children with cleft. Low socioeconomic level was associated with high caries experiences in the whole sample. Conclusion: No significant differences were found in caries experiences between oral cleft patients and children without cleft. Further studies with large samples size are recommended.

1535 | Bilateral Fetal Posterior Cerebral Artery in a Neonate Presenting with Hyperbilirubinemia

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Fetal Posterior Cerebral Artery (fPCA) has been described as a common variant of the cerebral circulation. A fPCA originates from the Internal Carotid Artery with limited or complete lack of connection to the Basilar vessel. Various studies have reported incidence rates of 15-35%. Bilateral fPCA (bfPCA) is less frequent than the unilateral form. Conflicting evidence exists regarding the association between fPCA and stroke. A 3 day-old male term neonate presented with poor sucking and severe indirect hyperbilirubinemia (> 30mg/dL) without incompatibility with a diagnostic impression of breastfeeding jaundice requiring intense phototherapy and exchange transfusion. A Magnetic Resonance Imaging and Angiography (MRI/MRA) showed Bilateral fPCA anatomy associated with small focus of subacute ischemic infarct in the right periatlial white matter; no signs of kernicterus on the study. The neonate recovered clinically. Most probably, the cerebral infarct caused the inappropriate breastfeeding and hence the hyperbilirubinemia. High index of suspicion is required in the evaluation and management of clinical presentations that do not correlate with common laboratory or radiological findings. Considering that the MRI/MRA found an anatomical variant of the cerebral circulation, the association between fPCA and the brain infarct in this case should be considered. Accordingly, knowledge of this normal variance is important when addressed with other risks factors for cerebrovascular pathologies.

1540 | Bone Remodeling Under Screw-Fixed Chin Implants in Patients With Microgenia: A Cross-Sectional Study

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Introduction: The use of alloplastic chin implants has been associated with a risk of bone resorption. The aims of this study were to evaluate, in patients with microgenia, the association between chin implants and bone resorption and identify the associated risk factors for such resorption. Materials and Methods: The sample consisted of 51 patients with microgenia: 17 with chin implants (group A, placed over the course of a 15-year period [2002–2017]) and 34 without implants (group B). Cone-beam computed tomography was used to evaluate bone erosion in different areas of the chin. The patients were evaluated, and their medical records were reviewed to identify risk factors. A chi-square or Fisher's exact test and the Mann-Whitney test were used to compare groups; resorption sites were compared with Friedman's test. Linear regression models were used to evaluate associations between potential risk factors and resorption. Results: Bone resorption was higher in group A than in group B (mean \pm SD: 0.98 \pm 0.63mm vs. 0.03 \pm 0.12mm; $p < 0.0001$). Symphyseal buccal cortical bone in group A was thinner (1.66 \pm 0.34mm) than it was in group B (2.07 \pm 0.45mm), $p < 0.001$. Group A showed appositional bone growth and no cortical bone perforation. The mean of the amount of bone resorption of chin implants patients compared to that of those without implants was, on average, 0.99mm greater (95% CI: 0.64–1.35; $p < 0.001$). Discussion: Although statistically significant differences in bone resorption were observed between groups, these differences were not clinically significant. Thinning of symphyseal buccal cortical bone without perforation and appositional bone growth occurred in chin-implant patients suggesting bone remodeling. Conclusion: Our results suggest that bone that is in contact with chin implants remodels and remains stable throughout the years,

instead of undergoing progressive resorption. Key words: chin implant, bone resorption, microgenia, bone remodels

1541 | Cross-sectional association between diabetes self-care perceptions and glycemic control in adult Puerto Rican residents with type 2 diabetes

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Background: Insignificant glycemic control, commonly encountered in minorities with type 2 diabetes, may be related to lack of diabetes self-care activities. Objectives: This study relates self-care activities in adults with type 2 diabetes residing in Puerto Rico with their glycemic control. Methods: A cross-sectional sample of 228 individuals with type 2 diabetes, aged 40 to 65 years were evaluated. Participants were asked about their diabetes self-care over eight weeks regarding: 1) glucose level check with care; 2) compliance with medications; and 3) perception of diabetes self-care. Fasting blood glucose and glycated hemoglobin (HbA1c) measures were defined as high at $\geq 130\text{mg/dL}$ or $\geq 7\%$, respectively. The association between each self-care activity and fasting glucose or HbA1c was assessed using logistic regression analysis (adjusted for age, gender, smoking and alcohol status, BMI, and education). Results: 27% of the participants reported not checking their glucose levels with care; 8% did not take their medications as prescribed; and 30% perceived poorly their diabetes self-care. More women reported self-checking their glucose levels than men (52% vs. 48%, $p=0.03$). Participants with lower education levels (<high school) lacked knowledge of their glucose levels (28% vs. 72%; $p=0.03$) and perceived poorly their diabetes self-care (27% vs. 73%; $p=0.006$) compared to subjects with higher education. 60% and 65% of the participants had high glycemic and hbA1c levels, respectively.

Participants with poor diabetes self-care had higher HbA1c levels than those with good diabetes self-care perception [adj.OR: 2.05(1.04-4.04); $p=0.038$]. Conclusions: Individuals with diabetes might believe taking medications as prescribed is enough to control their glucose. However, poor diabetes self-care perception, possibly related to low education, might explain their poor glycemic control.

1548 | Risk factors, prevention, and screening practices for Human Papilloma Virus associated cancers in Central-Eastern Puerto Rico

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Background and Objective: Human Papilloma Virus (HPV) can lead to six types of cancer: cervix, vagina, vulva, penis, anus, and oropharynx. In the United States (US), HPV causes nearly 35,000 cases of cancer annually, while HPV vaccination can prevent more than 32,000 of those. In 2018, 51.1% of US teens were up to date on HPV vaccination. However, HPV vaccination rates in Puerto Rico (PR) lag behind the US rate. The objective of this study is to assess risk factors, preventive measures, and screening practices for HPV associated cancers in a sub-population in Central-Eastern PR. Methods: This is a sub-analysis from an annual descriptive cross-sectional questionnaire of risk factors, preventive measures, and screening practices for cancer in PR administered at a private hospital campus using a convenience sample of healthy and non-healthy adults. Results: Out of 345 enrolled subjects in 2019 for the questionnaire, 67 were enrolled by the first author, from which 66 (19%) subjects qualified for this sub-analysis for completing the study: 79% females. When analyzing HPV risk factors, 5% of the participants were smokers. Eleven percent of the subjects received the preventive HPV vaccine. Among those non-vaccinated and eligible for vaccination, 95% were willing to get it. Seventy one percent of females 21-29 years old and 97% of 30-65 years olds had age-appropriate cervical cancer screening. Conclusion: The low prevalence of HPV vaccination found is concerning. Remarkably, almost all of the subjects within the age range for HPV vaccination were willing to get it. Also, there was a lower prevalence of cervical cancer screening in females 21-29 years old when compared with 30-

45 years old. In conclusion, there is a need for more education about HPV associated cancers, its risk factors, vaccine, and screening.

1549 | Differences in mental health indicators associated with levels of family support among LGBTQ+ youth in Puerto Rico

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Background and objectives: In Puerto Rico (PR) lesbian, gay, bisexual, trans and queer youth (LGBTQ+) face significant disparities in mental health outcomes. Moralistic discourses, lack of inclusive education, and misogynistic ideology often found in society, including family environments contribute to promote stigma and discrimination against these populations. Considering the influence of family on youth wellbeing, the objective of this study was to identify differences in levels of anxiety, depression, suicide ideation and suicide attempts in LGBTQ+ youth with differentiated levels of family support. Method: A cross-sectional retrospective study was conducted in 2016. Data was collected using an online survey. Participants had to self-identified as LGBTQ+ youth between 21 and 25 y/o, residing in PR. The survey included assessments for sociodemographic characteristics, perceptions on social support from family members during middle and high school, depression and anxiety symptomatology, suicide ideation and suicide behavior. Results: A total of 148 participants completed the survey. Over a quarter of participants (27.0%) perceived high levels of support from family, while 34.5% perceived moderate support and 38.5% perceived low support. The vast majority presented anxiety (70.3%) and depression (80.4%) indicators. However, neither showed statistically significant associations with family support in bivariate analyses. Participants with history of suicide ideation (50.7%, $p=0.004$) and suicide attempt (51.6%, $p=0.063$) reported low family support. Conclusions: Findings suggest that low family support during school years might be related with suicide ideation and suicide attempts in young LGBTQ+ individuals. It is important to develop interventions for families of LGBTQ+ youth aiming at creating supportive environments for this vulnerable population. It is also imperative to provide support to address symptoms of anxiety and depression among LGBTQ+ youth.

1558 | Early Diagnosis of Leptospirosis: A Diagnostic Challenge

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Leptospirosis is an underreported but harmful zoonotic disease of temperate and tropical regions that is caused by a spirochete that infects a variety of domestic animals and rodents. Incubation period ranges from 3 to 30 days and the clinical course is so variable, precluding an early diagnosis. We present a case of a 49-years-old male without known systemic illness who works in construction and reports exposure to rats, bats, and horses. He presents with a 2-week history of general malaise and myalgia, associated with subjective fever, anorexia, headaches, red eyes, gastric-content vomiting, non-bloody diarrhea, and arthralgia. Physical exam was remarkable for tachycardia, conjunctival suffusion, dry mucous membranes, pulmonary auscultation with bilateral crackles, and diffuse abdominal tenderness. Laboratory workup revealed leukocytosis of 19.2 thou/uL with neutrophilia and deteriorated renal function markers (BUN 27 mg/dL & Cr 1.71 mg/dL), but no hepatic involvement. Even though IgM test for *Leptospira* was negative, the patient was treated as such with IV ceftriaxone due to the high clinical suspicion. The day after admission, the patient acutely deteriorates with shortness of breath and severe hypoxemia. Chest x-ray was performed with findings of bilateral diffuse patchy opacities, concerning for ARDS. Echocardiogram showed normal ejection fraction (55-60%). Chest CT was performed with findings of diffuse interstitial and ground glass opacities suggestive of hemorrhage vs atypical pneumonia. IV antibiotic therapy was optimized to Doxycycline for atypical coverage. *Leptospira* IgM test was repeated but this time the result turned out to be positive. Leptospirosis is a challenging disease to diagnose. Initial presentation is nonspecific and resembles a viral syndrome. The fact that Leptospirosis can be so complicated as mentioned above and that diagnostic tests can be negative, puts a great responsibility on the clinicians' index of suspicion as it is a common disease in Puerto Rico.

1560 | Molecular profiling of Tumor Mutations in PR Hispanics with Cancer: Moving towards Precision Oncology

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Background and Objectives: Molecular profiling techniques such as next-generation sequencing to identify somatic mutations in tumors from oncologic patients allows physicians to have a better understanding of the tumor carcinogenic pathway and thus design therapeutic treatment strategies. The objective of our study was to provide data on common somatic alterations and carcinogenic pathways in a sample of Puerto Rican Hispanics patients with solid tumors. Methods: We conducted a single-institution clinical study based on results of molecular tumor profiling of 592 known mutations using next-generation sequencing testing (CARIS Life Sciences©). Mutations in actionable genes were highlighted as they have current or developing molecular therapies for oncology patients. Results: Tumors from a sample population of 50 Puerto Rican patients were evaluated using CARIS Life Science testing. The median age of our study population was 55 (range 21-84) with 54% (27) males and 46% (23) females. The primary tumor sites found among the population were in colorectal (n=24), gastric (n=5), breast (n=4), lung (n=3), unknown primary (n=3), and others (n=13). The most common genetic mutations identified were TP53 (44%), APC (38%), and KRAS (32%); followed by alterations in EGFR (EGFR 4% and Her2 6%) and Homologous recombination deficiency (HRD) genes (BRCA2 6%). Genetic alterations were found in multiple signaling pathways particularly in the Cell cycle control pathway, MAPK signaling and Wnt / β -Catenin signaling. Conclusion: Molecular profiling techniques such as next-generation sequencing has allowed for massive parallel sequencing of the human genome to further study the cancer genome. Although there were similarities in the most prevalent genomic alterations observed in our Hispanic patients compared to non-Hispanic cohorts, important mutations in key carcinogenic

pathways including the mismatch repair gene pathway were not present. Our findings support the integration of somatic mutation profiling in the evaluation of Hispanic cancer patients to help guide therapeutic options.

1562 | Deadly abdominal pain; Hemorrhagic Necrotizing Pancreatitis

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In the United States the overall mortality in acute pancreatitis is approximately 5%. In patients that develop complications, such as necrotizing pancreatitis, mortality can increase up to 30% and in those who develop hemorrhagic pancreatitis mortality can reach 86% within 7 days. Prompt diagnosis and treatment is imperative to decrease associated mortality. Case description: This is a 56-year-old man with medical history of hypertension that was brought to ED after 10 hours of evolution of sudden burning epigastric abdominal pain. At the moment of evaluation patient was found diaphoretic, uncomfortable, and oliguric, but remained talkative and cooperative. Initial abdominal ultrasound revealed a 9 mm calculus that moved freely along the dependent portion of a normally distended gallbladder without dilation of the common bile duct. Laboratory showed leukocytosis of 22.4 cells/10-3uL, Lipase >18,000, transaminitis, and worsening renal function. He was diagnosed with acute pancreatitis and started on aggressive fluid resuscitation. Rapid clinical deterioration requiring mechanical ventilation, vasopressors, hemodialysis and intensive care unit admission were required. Computerized tomography demonstrated multiple air lobes within the peritoneum, concerning for infected pancreatitis versus fistulous connection at adjacent bowel. Intravenous antibiotics were started, and surgical intervention was considered. Subsequently he developed Fox and Grey-Turner signs both highly suggestive of hemorrhagic pancreatitis. He unfortunately passed away within 28 hours of arrival despite aggressive treatment. Although most

common after 4 weeks, this is a rare case of walled off necrotizing pancreatitis that occurred in the acute phase of the disease that transformed into hemorrhagic pancreatitis with rapid deterioration. Conclusion: This case illustrates the catastrophic potential complications of acute pancreatitis in a healthy patient. Prompt identification of possible complications related to acute pancreatitis is essential to ensure early aggressive treatment and improve disease outcomes.

1564 | Características sociodemográficas de los adultos mayores de 65 años o más que participan en la fuerza laboral en Puerto Rico entre el 2013 al 2017

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Introducción y justificación: En los últimos años hemos visto cómo las personas de edad avanzada han ido en aumento, para 2017 estos representaban 18.2% (629,621) de la población. Los cambios económicos y sociales han provocado que recurran a la búsqueda de empleo. Un 6.8% (42,814) pertenece a la fuerza trabajadora. El 92.6% (39,666) cuentan con un empleo remunerado. Objetivos: Describir la población de 65 años o más que participan en la fuerza trabajadora. Método: Esta investigación es de tipo descriptivo. Los datos provienen del archivo de la Encuesta de la Comunidad de Puerto Rico (PUMS) del 2013-2017. Las variables estudiadas fueron edad, sexo, empleo y desempleo, pobreza, seguro social, retiro, PAN entre otras. Se utilizó para el análisis el paquete de datos estadísticos SPSS. Resultados: La participación de los adultos mayores en la fuerza trabajadora se reduce según aumenta la edad. Aún trabajando 11.5% se encuentra bajo los niveles de pobreza. De los que están en la fuerza laboral y trabajan 68.9% reciben seguro social; de los desempleados 64.4% reciben seguro social. De los que trabajan 85.1% participan del Programa de asistencia nutricional. Son más los hombres que trabajan que las mujeres 60.4% vs 39.6%. Conclusión: Son pocas las personas de edad mayor que aún en pobreza suplementan sus ingresos. Sin embargo, muchos de los que participan en la fuerza

trabajadora cuentan con seguro social. El empleo no necesariamente garantiza salir de los niveles de pobreza.

1566 | Ethnic & Racial disparities in Gastric Cancer: A 15-year population based analysis

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Background & Objectives: While gastric cancer (GC) is uncommon in the US, it is one of the leading malignancies among Puerto Rican Hispanics (PRH). Despite the decreasing GC incidence, mortality rates continue to be high and disproportionately affect Hispanics. The aim of this study was to compare GC incidence and mortality rates between Puerto Rican Hispanics (PRH) and other racial/ethnic groups in the US, including Non-Hispanic White (NHW), Non-Hispanic Blacks (NHB), Hispanics (USH), and Non-Hispanic Asian or Pacific Islanders (NHAPI). Methods: Data was obtained from the Puerto Rico Central Cancer Registry and Surveillance, Epidemiology and End Results database from January 1, 2002 to December 31, 2016. Primary cases with diagnostic confirmation of GC (ICD-O-3 codes C16.0 to C16.9) were included in the analysis. The Joint Point Regression Program was used to estimate Annual Percent Changes (APC). Standardized rate ratios were used to estimate differences in GC incidence and mortality among racial/ethnic groups. Results: A total of 83,369 subjects with GC were analyzed (PRH n=4,202; NHW n=43164; NHB n=10,414; NHAPI n=11,548; USH n=14,041). USH had highest number of cases among individuals <50 years, whereas NHW and PRH had the highest percentage among individuals >50 years old. PRH were the only group with increasing APCs overall, with a significant increase in distant stages among males <50 years. Conclusion: GC continues to be a common cancer among PRH, despite the overall decrease among other racial/ethnic groups. Studies evaluating the

GC risk factors among high-risk groups are necessary to establish health policy and modify GC screening algorithms among Hispanics.

1570 | The Use of Indomethacin as a Prophylactic Treatment in the Neonatal Intensive Care Unit to Reduces Intraventricular Hemorrhage

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Background: Intraventricular Hemorrhage (IVH) is considered the most common multifactorial complication in premature neonates with ≤ 32 weeks of gestation. The IVH is graded from I to IV, being type I-II mild in comparison with the type III-IV, which are severe for their detrimental effect on neurodevelopmental outcome. Indomethacin, nonsteroidal, anti-inflammatory drug (NSAID) is used to treat Patent Ductus Arteriosus (PDA) and to prevent IVH in premature infants with low birth weight. Hypothesis: The use of Prophylactic Indomethacin (PI) as a treatment in the Neonatal Intensive Care Unit (NICU) reduces the incidence of severe IVH in low birth weight premature infants. Objectives: Determine if premature infants admitted to the NICU received the recommended doses of PI and analyze whether their use shows a reduction in the incidence of severe IVH through the head sonograms. Methods: Using the Vermont Oxford Network Database from 2015 to 2018 were selected infants with $\leq 1,500$ grams of weight, excluding those with congenital anomalies. Results: Of a total of 148 infants admitted to NICU between 2015 and 2018, only 80 (54%) were administered the three recommended doses of PI. The remaining 68 infants (46%) only received the first dose of Indomethacin at or before 6-12 hours of life. Sonograms of 54% that received the recommended doses of PI are being analyzed to see if the incidence of severe IVH was reduced. Conclusions: These data suggest that a significant number of preterm neonates are not receiving the PI treatment as recommended. It is crucial to analyze what factors are interfering with the compliance of the use of PI. Additional studies will be carried out to assess the

association of IVH with PDA, gestational age, APGAR score, and neurodevelopment outcomes to have a broad picture of the effects of PI. Acknowledgments: NICU (University Pediatric Hospital) and Proyecto Título V.

1580 | Knowledge About Vaccine Safety and Efficacy and How It Influences Pregnant Women Living in Puerto Rico

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Hesitancy towards vaccines has been an obstacle and an area of serious concern within the public health community. The spread of misinformation in the internet and social media have been associated with a resurgence of the anti-vaccination movement which has led to numerous measles outbreaks within the United States. A crucial step in tackling the recent upsurge of such sentiment is making an objective measurement of public attitudes as well as knowledge about immunizations in general. Methods: To better understand this phenomenon and establish a baseline in the island, we created a cross sectional study with 64 female patients at the Adult University Hospital (AUH) prenatal clinics in Puerto Rico Medical Center using two previously developed and validated instruments to assess for our populations knowledge and attitudes about vaccination while exploring their association with each patient's sociodemographic characteristics. Results: Our study, in accordance with previous publications, suggests that attitudes towards immunization remain generally positive. However, knowledge about its safety and its interaction with the immune system remains unacceptably low. Conclusion: Notwithstanding the encouraging findings regarding attitudes, insufficient knowledge is of high concern given the increased susceptibility to misinformation. Efforts should be made to increase health literacy within this population to limit the increasing prevalence of preventable diseases. Acknowledgements: The authors declare they have no conflict of interest. Approved by IRB.

1581 | Asociación entre índice de masa corporal materno previo al embarazo y malformaciones congénitas cardíacas en el primer año de vida, Puerto Rico, 2006

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Trasfondo: Según el Sistema de Vigilancia de Defectos Congénitos de Puerto Rico (SVDCPR), las malformaciones congénitas del corazón (MCC) representan el defecto congénito más común en PR. Los hallazgos de estudios epidemiológicos sobre la asociación entre el peso materno antes del embarazo y las MCC son inconsistentes. Objetivo: Evaluar si existe asociación entre el índice de masa corporal materno previo al embarazo (IMCM) y la presencia de al menos una MCC en bebés nacidos vivos en PR durante el año 2006. Métodos: Estudio caso-control poblacional pareado por frecuencia (mes de nacimiento y región de salud) a razón de 4 controles por caso usando datos provistos por SVDCPR y Registro Demográfico de PR. Un caso fue definido como un bebé con al menos un tipo de MCC exclusivamente, según ICD-9, nacido dentro de la cohorte de nacimientos vivos en PR entre 1 de enero y 31 de diciembre de 2006. El grupo control, seleccionado al azar, estuvo compuesto de bebés nacidos en la misma cohorte sin diagnóstico de MCC durante el primer año después del nacimiento. El IMCM se dividió en las categorías bajo peso, peso normal (referencia), sobrepeso y obesidad. Los odds ratios (IC95%) ajustados por edad gestacional, edad materna y tipo de plan médico fueron estimados mediante análisis de regresión logística incondicional. Esta investigación fue aprobada por el IRB-RCM, con número de protocolo A8330114. Resultados: El análisis se basó en 338 casos y 1,352 controles. No se evidenció una asociación entre el IMCM y la presencia de al menos una MCC (ORajustado: 0.89, IC95%:0.53-1.43 bajo peso; ORajustado: 0.97, IC95%:0.72-1.32 sobrepeso;

ORajustado: 1.15, IC95%:0.84-1.59 obesidad). Conclusión: Los hallazgos de este estudio no apoyan una asociación entre el IMCM y la presencia de MCC en bebés nacidos vivos luego de ajustar por edad materna, edad gestacional y tipo de plan médico.

1587 | Aumento de la presión intraocular en un paciente con glaucoma de ángulo abierto después de la ingesta de carbamazepina.

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Objetivo: Los fármacos psicotrópicos y más específicamente los fármacos antiepilépticos se han asociado previamente a aumentos en la presión intraocular ocular (PIO) por mecanismos de cierre de ángulo. Hasta la fecha, ha habido un número limitado de casos que relacionan la carbamazepina con aumentos en la presión intraocular en ausencia de cierre de ángulo iridocorneal. Hasta el momento no habido informes en la población hispánica. Presentación del caso: Informamos sobre una paciente hispana que tuvo un aumento progresivo de la presión intraocular bilateralmente luego de la introducción de carbamazepina en su régimen farmacológico. Entre 14/03/17 y 04/04/17 se observó un aumento progresivo en la PIO hasta 25mmHg en ambos ojos aun continuando con su régimen de bimatoprost 0.01% y brinzolamide 1%. Registros anteriores indican estabilidad en la PIO bilateralmente con lecturas en 18mmHg. Además, el aumento de la presión intraocular se observó sin reducción del ángulo iridocorneal del paciente. Una vez que se sospechó que la carbamazepina era el agente causante, se suspendió. Posteriormente, con la eliminación de la carbamazepina y la implementación de brimonidina 0.2% por gotas, la presión intraocular se redujo significativamente en ambos ojos hasta llegar a 12mmHg bilateralmente. Exploramos el régimen de nuestro paciente para determinar el posible mecanismo del glaucoma de ángulo abierto de nuestro paciente. Conclusiones: Determinamos que las propiedades anticolinérgicas leves de la carbamazepina podrían tener un efecto sobre los cuerpos ciliares inervados enormemente por neuronas colinérgicas induciendo el aumento

presión intraocular en ausencia de cierre de ángulo iridocorneal. Además, exploramos la posibilidad de que el metoprolol, un bloqueador β comúnmente prescrito, interactúe con el mecanismo relacionado con la salida del humor acuoso. Este es el primer caso reportado en una paciente hispánica con aumento de la presión intraocular después de la implementación del fármaco anticonvulsivo carbamazepina. Los médicos de atención primaria, neurólogos y oftalmólogos deben conocer los posibles efectos secundarios de la carbamazepina en el control de la PIO.

1592 | Use of aspirin to prevent risk of preeclampsia in expecting mothers

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Background: In 2018 premature births rate in Puerto Rico was 11.4%. One of the leading causes of preterm births is preeclampsia, a high blood pressure disorder affecting expecting mothers after the 20th week of gestation. Complications due to this condition may be fatal for mother and baby. With the purpose of reducing cases of preeclampsia, the use of low dose aspirin prophylaxis has been recommended for pregnant women with certain risk factors. Objectives: 1. Determine low-dose aspirin use by women during pregnancy. 2. Promote the use of aspirin in populations with risk factors for preeclampsia to reduce premature births. Methods: Cross-sectional study using a self-administered survey to mothers of infants admitted to the University Pediatric Hospital Neonatal Intensive Care Unit. Statistix 8.0 was used for analysis. IRB approved. Results: Subjects included 82 mothers, mean age 28 y/o (21-43). Aspirin was recommended to 32% and 28% used it during pregnancy starting at 20 weeks (16-28). Aspirin was recommended to 48% of women with history of preeclampsia, 44% of obese women, 26% of Black race women, 45% of women with multiples pregnancy and 52% of women with chronic hypertension, all risk factors for preeclampsia. Conclusion: These data suggest that the use of aspirin prophylaxis is not being recommended to a significant number of mothers despite presenting risk factors that increase

the probability of developing preeclampsia. This represents a great educational opportunity for these women to know their risks factors for preeclampsia and be empowered to seek prophylaxis in a next pregnancy. Acknowledgments: NICU (University Pediatric Hospital).

1595 | NISCH Syndrome: Case of a 22-Year-Old Male with a Novel CLDN1 Mutation Manifesting Scarring Alopecia

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Purpose: Neonatal Ichthyosis and Sclerosing Cholangitis (NISCH) syndrome is an exceedingly rare autosomal recessive condition caused by mutations in the CLDN1 gene.1 CLDN1 encodes for Claudin-1, a protein involved in the formation of tight junctions, and its absence leads to paracellular leakage, inflammation, and fibrosis.2,3 Scarring and non-scarring subtypes have been reported. Other common findings are enamel dysplasia, oligodontia, and hypodontia.2,4,5 Case description: An East-Indian 22-year-old male with history of ichthyosis presented with lifelong, progressive xerosis, pigmentary changes, and diffuse pruritus. As a newborn, he had two episodes of peeling and cholestasis secondary to congenital bile duct paucity. Since birth, he had chronic scaling and xerosis, enamel hypoplasia with >80 cavities, and severe myopia. Punch biopsy was consistent with an ichthyotic disorder, and genetic testing revealed a novel, likely-pathogenic homozygous deletion in exon 1 of CLDN1, consistent with NISCH syndrome. In adolescence, he began to experience hair thinning, and scalp biopsies revealed scarring alopecia. On exam, his scalp had inflamed patches and perifollicular erythema, spaced follicles of the vertex and frontal scalp, and lateral eyebrow thinning. Legs had ichthyotic scale with bright pink eczematous patches. His ichthyosis is managed with a skin barrier optimization regimen. Tretinoin cream is used for pigmentary changes. His hair loss is treated with fluocinolone oil, minoxidil, and ketoconazole

shampoos. Conclusion: Currently, only 16 cases from Moroccan, Persian, Turkish, and Swiss patients have been reported.^{2,4,5,6,7,8} Four of these patients had complete regression of their cholestasis, while the remaining experienced mild cholestatic symptoms. Variable expressivity is seen in hepatic disease even amongst relatives with the same mutations.⁴ Isolated bile duct paucity has also been described.⁵ Alopecia was noted in all reported cases except one. Patients can have sparse eyebrows, thin brittle hair, or scarring alopecia in part due to decreased proliferation and increased apoptosis of hair keratinocytes.⁹

1603 | ¿Y las pruebas pa' cuándo? Desarrollo de mensajes de comunicación en salud sobre ITS

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Trasfondo: Las tasas de infecciones de transmisión sexual (ITS) se mantienen altas entre jóvenes puertorriqueños de 13-24 años. Según el Departamento de Salud (2017), las más altas son de la Región Metropolitana: 210.2 para clamidia, 46.1 para sífilis, 27.0 para gonorrea y 92.8 para herpes. El uso de estrategias innovadoras de prevención en las redes sociales, por centros comunitarios de salud primaria puede aportar significativamente a contrarrestar esta tendencia. Objetivo: Elaborar mensajes de prevención ("Facebook posts") dirigidos a jóvenes entre 15-19 años que fomenten su interés en buscar información y realizarse las pruebas de detección de ITS. Método: Se realizaron conversatorios de pre-prueba con dos grupos de jóvenes de Loíza para obtener su opinión y recomendaciones sobre los mensajes ("posts") de prevención desarrollados para Facebook. Estos evaluaron con un cuestionario la pertinencia y adecuación de los mensajes desarrollados para la campaña de comunicación en salud ¿Y las pruebas pa' cuándo? Resultados: Se generaron seis mensajes ("posts") según las recomendaciones recibidas y con aplicabilidad a ciertas temporadas o eventos para ser difundidos en Facebook por el Concilio de Salud Integral de Loíza (CSILO). Las imágenes y textos utilizados aluden a: la interacción de parejas; la importancia de hacerse las pruebas y divulgar los

resultados a la pareja; y a que las pruebas se perciban como un paso necesario y valioso en el cuidado de la salud. Incluyen también un llamado a la acción para la realización de las pruebas y el que no se dilate la realización de las mismas - ¿Y las pruebas pa' cuándo? Conclusión: La difusión de estos mensajes de CSILO y encuesta evaluativa en las redes sociales para los jóvenes permitirá validar su alcance y contribución potencial a reducir la incidencia de las ITS en este sector de la población.

1610 | Social Support does not Moderate the Positive Association between Discrimination and Depressive Symptoms in U.S. Latinos

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Background & Objectives: Discrimination has been associated with depressive symptoms in U.S. Latinos. Social support is an important cultural value that may buffer this association, but associations between discrimination, depressive symptoms and social support have not been examined. We aimed to examine the moderating effect of social support on the association between discrimination and depressive symptoms in a sample of Latino adults. Methods: Data from 598 Latinos of Lawrence, Massachusetts, were analyzed. Perceived discrimination was measured with the Everyday Discrimination Scale and depressive symptoms with the Center for Epidemiologic Studies Depression Scale. Social support was computed with a 4-point Likert scale of 12 items about partner, family, and friend support, and then categorized into tertiles (low, moderate, or high). Logistic regression was used to estimate odds ratios (OR) of depressive symptoms, adjusting for sex, age, Latino group, education level, marital status, perceived income, and years living in Lawrence. Moderation was assessed by adding an interaction between discrimination and social support to the models. Results: Over two-thirds of adults (69.1%) reported having experienced discrimination. Those

who experienced discrimination were twice as likely to have depressive symptoms in comparison to those who did not (OR=2.21, 95% CI: 1.47-3.33). The association between discrimination and depressive symptoms did not significantly differ by social support level. Conclusions: Discrimination was associated with depressive symptoms in U.S. Latinos, but social support did not have a moderating effect on this association. Longitudinal studies are needed to confirm these findings. Acknowledgements: None.

1630 | Waiting for a Miracle: A Palliative Care Approach to Explore Spiritual Beliefs

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Purpose: Physicians often feel uncomfortable and unskilled discussing patient and family's spiritual beliefs when a patient is critically ill and has poor prognosis. Family's hope for a miracle, despite the prognosis, could be perceived as denial by the medical staff. It is important to acknowledge the patient and family's spiritual beliefs to strengthen the therapeutic relationship and explore their wishes and values without interfering with personal beliefs. Developing a palliative care approach, with the adequate communication skills to explore family's motive behind their decision-making process, can help physicians respectfully guide the family to decide what is best for the patient. Case Description: A 22-year old female sustained a motor vehicle accident which resulted in a severe traumatic brain injury and anoxic injury. The patient underwent neurosurgical intervention and developed many complications, including severe acute respiratory distress syndrome. Despite her dismal prognosis for recovery and recommendations for comfort care, the mother insisted on aggressive measures in the hopes for a miracle, and frequently cited scripture when approached to make a clinical decision. This created tension between her and the clinical staff; her wishes and expectations appeared to be unreasonable. By defining the miracle and exploring her spiritual beliefs, we were able to connect with her values and reframe her expectations for recovery. The miracle consisted of the patient's survival, regardless of her functionality. Even though the team disagreed with the mother's view, they understood her values and the tension

was eased. The patient was eventually discharged home in persistent vegetative state and later expired during another hospital admission. Conclusion: Regardless of the patient's prognosis, physicians should empathetically listen to the family to explore and acknowledge their spiritual beliefs. Defining the miracle can help the physician understand the family's decision process and establish a plan with shared goals of care. Acknowledgements: None.

1632 | Plasma Exosomes from HIV-Seropositive Patients with Cognitive Impairment Increase sIR and HIV-1 Tat Levels in Monocytes from Healthy Donors

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Background & Objectives: Previously we showed that plasma exosomes of HIV-seropositive patients with cognitive impairment (CI) and insulin resistance (IR) contain higher levels of soluble insulin receptor (sIR) and HIV-1 Tat (Tat). However, the possibility that these exosomal soluble receptor and viral toxin can enter monocytes from healthy donors to release these proteins has never been investigated. We hypothesized that exosomes from plasma of HIV-seropositive patients with CI enter monocytes from healthy donors and increase sIR and Tat levels. In this study we investigated if sIR and Tat increase in monocytes from healthy donors exposed to plasma exosomes of HIV-seropositive patients with CI. Methods: Plasma exosomes from HIV-seropositive patients (20µg) were labeled using PKH-67 Fluorescent Cell Membrane (30nM) prior to incubation with human PBMCs (2.5x10⁵ cells) from healthy donors. Monocytes were identified using anti-CD14-PE antibody and exosome uptake was analyzed by flow cytometry at different times (0.5-24h). In addition, monocytes were permeabilized with Cytofix/Cytoperm solution and sIR and Tat levels were quantified using anti-sIR-PerCPCy5.5 or anti-Tat-PerCPCy5.5 antibodies. Results: No significant changes were observed in exosome uptake by monocytes from healthy donors from 0.15-3h incubation time. However, a significant increase (p<0.05) was observed in the levels of exosomes in

monocytes at 24h. The levels of sIR in monocytes significantly increase when they were exposed to exosomes at 24h, but no significant changes were observed between 0.15 and 3h. Similarly, Tat increased significantly in monocytes from healthy donors when plasma exosomes of HIV-seropositive patients were incubated only at 24h. Conclusion: Our findings suggest that exosomes derived from HIV-seropositive patients with CI enter the monocytes and release sIR and Tat. Our results may help to better understand the mechanisms responsible for the pathogenic process of IR and CI in HIV-seropositive population. Acknowledgements: This research was supported by R01NS099036, R21MH095524, U54MD007587, U54NS043011, S11NS046278, U54MD007600, R25GM061838.

1635 | What lies beneath the mask of sepsis: Haemophagocytic Lymphohistocytosis

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Purpose: Haemophagocytic Lymphohistocytosis (HLH) is a rare, life-threatening disorder. Presentation varies from asymptomatic to septic shock-like scenario. Adult-onset HLH has a high mortality rate of 41-75%. We report the case of an adult patient with HLH, with initial presentation of community acquired pneumonia and Acute Respiratory Distress Syndrome. Case description: A 56-year-old Hispanic male with history of obstructive sleep apnea, Non-Hodgkin Lymphoma status post splenectomy and chemotherapy, presented with three days of fever, night sweats, chills, nonproductive cough and shortness of breath. A month prior, he was treated for community acquired pneumonia. He also reported unquantified weight loss. On ED, he developed acute hypoxemic respiratory failure and was endotracheally intubated. He was admitted with Severe Septic shock secondary to CAP. Bronchoscopy within first 24 hours revealed sterile sample with negative pathology. Patient developed Acute Kidney Injury stage 3, which required continuous renal replacement therapy. Laboratories showed hypertriglyceridemia (1,234 mg/dL), hyperferritinemia (32,488 ng/dL), panhypoglobulinemia, and hypofibrinogenemia

of 0.77 g/dL. These findings were suggestive of Haemophagocytic Lymphohistocytosis. Bone Marrow biopsy showed macrophages with phagocytosis and refractory cytopenias with multilineage dysplasia. He was treated successfully for seven weeks with clinical improvement. Ferritin levels decreased to 1,099 ng/mL. Despite early recognition patient relapsed, where ferritin reached impressive levels of 100,000ng/mL leading to multiorgan failure, alveolar hemorrhage and death. Conclusion: This case illustrates a complicated clinical scenario in which a hematologic etiology can imitate sepsis. Cost effective and widely available markers as ferritin and triglycerides can be used to suspect, monitor and assess severity of HLH. Ferritin levels greater than 10,000ng/mL are 90% sensitive and 96% specific for this condition. Although a very rare condition, HLH should not be overlooked and should be included in differential diagnosis of apparent septic shock without improvement despite adequate treatment.

1644 | Percepción de beneficio en pacientes que utilizan el cannabis medicinal como opción terapéutica

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Las investigaciones científicas en Puerto Rico sobre la percepción de los pacientes que utilizan cannabis medicinal para el tratamiento de sus condiciones médicas son limitadas o inexistentes. Esta investigación tiene un diseño descriptivo y el objetivo principal fue evaluar la percepción de beneficio en pacientes que utilizan el cannabis medicinal como opción terapéutica en el área metropolitana de Puerto Rico. Con este propósito se les administro un cuestionario a participantes que visitaban una de las cuatro oficinas médicas seleccionadas en el área metropolitana de Puerto Rico y que cumplían con los criterios de inclusión. La edad promedio de los participantes fue 46.6 años y el porcentaje de participación entre ambos géneros fue similar. Las condiciones de salud con mayor prevalencia en la muestra de estudio fueron las siguientes: dolor crónico (52.5%), espasmos musculares (30%) y ansiedad (17.5%). En cuanto a efectividad, tanto a través de los comentarios como usando una escala Likert, se encontró que la gran mayoría de

los pacientes (87.5%) tiene una percepción positiva en cuanto a esta alternativa terapéutica. Por otro lado, en términos de seguridad se demostró un perfil favorecedor ya que solo trece pacientes reportaron efectos secundarios. Los efectos adversos más comúnmente reportados fueron cambios en estado de ánimo, ganancia de peso no deseada y cambios en el patrón de sueño. Los hallazgos de este estudio demuestran que el cannabis medicinal es considerado como una opción terapéutica efectiva y con un perfil de seguridad favorable, según la percepción de los participantes.

1645 | Some Things are Better Left Dormant

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Acute promyelocytic leukemia (APL) is considered the most aggressive variant of acute myeloid leukemia (AML) and it comprises 5 to 20 percent of all cases of AML. There are approximately 600-800 new cases of APL per year in the United States. Without treatment, patients with APL have a median survival of less than one month. This is a 67-year-old male with past medical history of coronary artery disease and acute ischemic stroke in 2017 who was found with leukopenia and thrombocytopenia during routine labs while receiving home IV therapy with ertapenem for prostatitis. Associated symptoms included watery, non-bloody diarrhea and an erythematous pruritic rash throughout the chest. Physical exam and vital signs were within normal limits. Labs exhibited a white blood cell count of $1.2 \times 10^3/\mu\text{l}$, a platelet level of 54,000, and hemoglobin was within normal limits. The peripheral smear was unremarkable. Platelets and white blood cells had been decreasing since 3 weeks prior to present evaluation, which coincided with start of ertapenem therapy for prostatitis. Abdominopelvic CT scan was negative. Ertapenem was discontinued and patient was started on G-CSF (TBO-filgrastim). After administration, white blood cells exhibited an increasing trend, but platelet levels exhibited an acute decline. Peripheral smear showed promyelocytes, Auer rods, and no schistocytes. G-CSF was discontinued. FISH t15;17, DIC workup, and flow cytometry were performed. Patient was diagnosed with DIC and acute promyelocytic leukemia. G-CSF likely caused manifestation of APL in a patient

with “dormant” APL. Patient’s initial peripheral smear was unremarkable and DIC could not be attributed to other causes such as sepsis, trauma, and intravascular hemolysis. Few cases have been reported in the literature regarding G-CSF activation of dormant APL. Therefore, this case report serves to stress the importance of considering APL in patients with neutropenia and when the response to G-CSF is not as expected.

1646 | When a Trend Goes Awry

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There has been a recent surge in the use of implantable testosterone pellets to combat decreased sexual drive, fatigue and weakness. As a result, there has been an increase in complications related to elevated testosterone levels. Among therapy side effects, is an increased risk of secondary polycythemia, which may present as cerebrovascular accidents. This is the case of a 66-year-old male with past medical history of hypertension, prostate cancer in remission and coronary artery disease who presented with a 2-day history of left arm weakness, numbness, and tingling sensation. Vital signs were unremarkable and physical exam showed decreased motor strength (2/5) and sensation in the left upper extremity. Head CT was unremarkable. Brain MRI showed multiple small acute infarctions at the right temporoparietal, frontal cortex and at the right frontoparietal white matter in a deep interhemispheric watershed distribution. Carotid doppler, echocardiogram, and neck CT angiogram showed no evidence of cardio-embolic nor atherosclerotic sources. Labs were remarkable for hemoglobin (HGB) at 19.0 g/dL and hematocrit (HCT) at 56.0%. HGB and HCT had been exhibiting an increasing trend for the past few months. Jak 2 mutation was not present. The patient reported recent subcutaneous testosterone pellet insertion to achieve enhanced sexual performance despite having adequate testosterone levels. Testosterone was markedly elevated with free testosterone at 364 pg/mL (35.0-155.0 pg/mL) and total testosterone at 1,597 ng/mL (250-1100 ng/mL). Patient was prescribed antiplatelet therapy and did not have any further pellets implanted. Patient was diagnosed

with secondary polycythemia due to exogenous testosterone. Testosterone subdermal implants deliver the longest duration of action when compared to other delivery systems. However, secondary polycythemia is a side effect seen in all formulations. Recommendations state that if HCT increases above 54% testosterone replacement should be held. Patients must be educated on the consequences of exogenous testosterone therapy.

1647 | Hurricane María leaves High Levels of Indoor Mold Spores and Aspergillus Species in Moisture Damaged Homes in San Juan, Puerto Rico

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The extensive flooding caused by Hurricane María in Puerto Rico created conditions favourable for the indoor growth of filamentous fungi. This is of public health concern because environmental fungal contamination, including high fungal spore concentrations in the air, are associated with a high prevalence of asthma and allergic rhinitis. We hypothesized that houses with severe moisture damage would have significantly higher indoor fungal concentrations when compared with houses without moisture damage. The MicroBio MB2 Bioaerosol Air Sampler was used to collect air samples from 50 houses in a neighborhood in San Juan, PR. Based on self-report, 13 houses were flooded, 24 houses had water damage, and 13 houses were dry and non-flooded. At each home, air samples were collected from the bedroom, bathroom, kitchen, living room, and an outdoor control using Maltose Extract Agar (MEA) and 25% Glycerol Nitrate Agar (G25N) media. After sampling, the Petri plates were incubated at 28 ± 2°C for up to 2 weeks and fungal colonies were counted and identified at the genus level and reported per cubic meter of air. Our results showed that compared to dry homes, indoor fungal spore concentrations were 59% and 28% higher in water-damaged and flooded homes, respectively (p-value = 0.003968). Moreover, fungal identification showed

that *Aspergillus* species were 3.8 times higher inside flooded homes when compared to the outdoor control (p-value = 0.0003581). Together, this data highlights the importance of flood clean-up and removal of damaged materials as an essential part of the home recovery plan, in order to prevent indoor mold amplification and reduce asthma exacerbations or allergies due to fungi. Acknowledgements: This research is supported by the National Institutes of Health (NIH) Grant number R21 ES029762-0101 and the MBRS-RISE program of UPR-MSU (award number R25GM061838).

1656 | Adaptación Cultural y Fiabilidad del Índice de Calidad de Sueño de Pittsburgh Versión Español (ICSP-VE)

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Antecedentes y objetivos: Más de la mitad de las mujeres embarazadas refieren pobre calidad del sueño. Ésta se asocia a resultados negativos en el embarazo, parto y post parto. Puerto Rico carece de instrumentos adaptados a nuestra cultura que sirvan para identificar los problemas del sueño. El Índice de Calidad de Sueño de Pittsburgh (ICSP) es un instrumento con excelentes propiedades psicométricas que evalúa calidad del sueño (calidad subjetiva, latencia, duración, eficacia, disturbios, uso de medicamentos y disfunciones diurnas). Los objetivos fueron llevar a cabo el proceso de adaptación cultural del ICSP versión español y medir la calidad de sueño en una muestra de embarazadas en su tercer trimestre. Métodos: Un panel de expertos (especialista en redacción, salud obstétrica y en el fenómeno del sueño) evaluaron la versión castellana del ICSP y desarrolló la adaptación cultural para Puerto Rico (ICSP- VE). Una muestra de 27 embarazadas completó el instrumento y mediante una planilla evaluó el instrumento por claridad de las palabras u oraciones, calidad de redacción y entendimiento de las palabras u oraciones para nuestra cultura. Resultados: Los expertos recomendaron la síntesis de instrucciones y cambios de algunas palabras y en el orden de éstas. El 96% de las embarazadas afirmaron que cada reactivo era claro y que la redacción era clara y apropiada para nuestra cultura. El ICSP- VE fue exitosamente adaptado. El 89% de las participantes

presentó privación de sueño con un resultado igual o mayor de 5 en el ICSP-VE. El 55% de las embarazadas mostró dormir alrededor de 5 a 7 horas durante la noche. Conclusión: El ICSP-VE fue adaptado adecuadamente en el dominio cultural y lingüístico de Puerto Rico. Los profesionales de la salud podrán contar con un instrumento de fácil aplicación e interpretación en Puerto Rico (ICSP-VE) para valorar el sueño. IRB Protocol A5580318

1659 | Not a Simple Sinus Bradycardia

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Aortic dissection is lethal condition in which the layers of the aortic wall create a false lumen that disrupts adequate blood flow to vital organs. It has a variety of clinical manifestations that make its diagnosis a challenge for most physicians. This 80-year-old non-smoker male with arterial hypertension presented an acute, mild, oppressive, sub-sternal chest discomfort with loss of consciousness while waiting at a medical appointment. Associated symptoms were dizziness and diaphoresis. He had no prior myocardial infarction or family history of sudden cardiac death. Physical exam revealed bradycardia of 44/minute and blood pressure of 108/68mmHg. Cardiac auscultation revealed a 2/6 diastolic murmur at 2nd intercostal space. Lungs were clear to auscultation and peripheral pulses were diminished in extremities bilaterally. Electrocardiograms showed sinus bradycardia with right bundle branch block and chest radiography showed cardiomegaly. Laboratories were unremarkable including troponins. Surprisingly, a 2D-echocardiogram showed an enlarged ascending aorta, a moderate aortic regurgitation and a generalized pericardial effusion. Chest CT angiography showed a Type A Aortic Dissection. Therefore, patient was transferred to a facility with cardiothoracic surgeons where emergent replacement of the aortic arch and repair of the aortic valve was successfully performed. Patient recovered well and was discharged several days after surgery. Aortic dissection is a challenging diagnosis due to its multiple clinical manifestations. Atypical presentations or unexpected findings are responsible for misdiagnosis and recognition delays.

Bradycardia is not a typical finding and usually occurs when coronary artery supply is affected by the dissection. Although bradycardia would serve as a protective mechanism by reducing the shearing forces, its uncommonness could lead to a delayed diagnosis and catastrophic consequences. Therefore, patients who present with syncope and a significant bradycardia should be screened for aortic dissection particularly if there is evidence of an underlying heart disease such as in those with atrio-ventricular block.

1676 | Chronic Pulmonary Embolism, A Silent Killer

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Chronic thromboembolic pulmonary hypertension (CTEPH) is a rare complication of acute pulmonary embolism (PE). Its rarity and nonspecific presentation make misdiagnosis a common practice. A 72-year-old male patient without history of chronic disease and a lifelong non-smoker, presented to the ED complaining of a 1 year history of progressive dyspnea on exertion and bilateral leg edema. Physical examination revealed sinus tachycardia, jugular venous distention, holosystolic murmur III/IV at the left lower sternal border, and pitting edema in both lower extremities. Blood tests revealed D-dimer at 2.69 µg/mL. ABGs revealed pH 7.43, PCO₂ 29.4 mmHg, PO₂ 66.8 mmHg, and O₂saturation 93%. Factor V Leiden was negative and protein C and S levels, anticardiolipin antibodies and lupus anticoagulant were within normal limits. Malignancy workup negative. Electrocardiogram showed sinus tachycardia, right axis deviation, and right ventricle hypertrophy. Chest X-ray revealed enlargement of the right ventricle and both main pulmonary arteries. Chest CT angiogram showed large pulmonary emboli involving the distal right main pulmonary artery with associated occlusion of the right middle and lower lobes arterial branches. Venous duplex ultrasound showed no DVT. Transthoracic echocardiography showed interatrial septum bowing to the left atrium consistent with increased right atrium pressures, enlarged right chambers with right overload, severe tricuspid regurgitation, and right ventricular free wall hypokinesis with preserved motion of the apex (McConnell's sign); mPAP= 60 mmHg, and RVSP = 126 mmHg indicative of CTPEH. PE was likely unprovoked.

Patient refused pulmonary endarterectomy. Thus, he was started on Riociguat, full anticoagulation and diuresis. CTEPH is a progressive potentially fatal disease observed in 2-4% of patients after acute PE and related with significant morbidity and mortality.

Patients are mostly asymptomatic during initial development and symptoms are largely nonspecific. Unlike other types of PH, CTEPH is potentially curable via surgical intervention. However, without treatment, prognosis is poor.

Abstracts that reported IRB protocol number

SID	Title	SID	Title
1001	Post-Hurricane María Power Outages Frequency in Puerto Rico: A Public Health Problem	1313	Vinculación y alianza entre la academia y centros de salud primaria para el desarrollo de capacidades y la promoción de la salud comunitaria
1014	Correlations between Navigational Spatial test (MI) and Visuospatial performance in HIV-seropositive (HIV+) women	1345	Use of potentially inappropriate medications (PIMs) and adverse health outcomes among older adults residing in PR long-term care facilities, 2018
1021	Characteristics Upon Presentation in a Cohort of Hispanic Patients with Birdshot Retinopathy	1352	Taking Care of the Puerto Rican Patient: Historical Perspectives, Health Status, and Health Care Access
1027	Impact of sex and age on High On-Treatment Platelet Reactivity (HPR) in Caribbean Hispanic patients using clopidogrel	1363	Feasibility of Conducting In-home Telemedicine-Based Delirium Assessments
1029	Case Report: An Atypical Innervation to the Gluteus Maximus by the Sciatic Nerve and its Clinical Implications	1377	Factores que influyen en la intensidad del dolor postoperatorio en pacientes de OA o AR bajo cirugías de reemplazo de rodilla o cadera
1066	Síndrome de Burnout y Nivel de Compromiso del Personal de Enfermería en una Unidad de Medicina de Adultos	1379	Síndrome de “Burnout” y competencia clínica en enfermeras/os de la unidad de cuidado intensivo neonatal
1083	Alpha-band Maturation in Infants at Risk for Autism-Spectrum Disorder	1396	Validity and Reliability of the Critical Pain Observation Tool (CPOT)- Spanish Version
1099	Identification of transcriptomic profiles in HPV-positive and HPV-negative penile cancer of Puerto Rican men	1400	IL-1beta levels are significantly associated to Gardnerella, Sneathia, Atopobium and Prevotella in patients with Cervical intraepithelial neoplasia
1165	Verbal Numerical Rating Scale as a Predictor of an Underlying Pathology in Pediatric Patients with Back Pain: a Magnetic Resonance Image-based Study	1418	Lifestyle risk factors for oropharyngeal cancers in patients attending sexually transmitted infection clinics in Puerto Rico
1168	Prevalence study of the variant rs324420 in the FAAH gene within the Puerto Rican population	1433	Physicians’ and Patients’ Knowledge and Perceptions of Saharan Dust and Diesel Particulate Matter Impact on Public Health: A Qualitative Approach
1208	Hispanic Medical Student’s Knowledge and Attitudes Towards Transgender Patient’s Care	1447	Caries Prevalence in Oral Cleft Pediatric Patients: A systematic review
1232	Knowledge of and Attitudes Toward End of Life Care in Graduating Medical Students in Puerto Rico	1483	TSH values as a potential indicator of thyroid nodules production
1238	Review of an Interactive Health Science Curriculum: Boys & Girls Club of Puerto Rico, Las Margaritas InSciEd Out Pilot	1510	A Preliminary Assessment of Drug Use Practices and ART Adherence among PLWHIV Pre and Post Hurricane María
1268	Opioid-Related Death and Emergencies: Data of the Puerto Rico Bureau of Forensic Science and UPR Hospital Dr. Federico Trilla Emergency Department	1515	Conceptualización y Desarrollo de Programa de Formación en Preceptoría Clínica para Estudiantes Subgraduados de Enfermería: Estudio de Métodos Mixtos
1290	Exploring Burnout among the UPR School of Medicine Faculty, 2019		

SID	Title	SID	Title
1526	Association between Maternal Diabetes, Hypertension, and BMI with Oral Clefts Risk in Puerto Ricans	1549	Differences in mental health indicators associated with levels of family support among LG-BTQ+ youth in Puerto Rico
1527	Disruption of Essential Services After Hurricanes Irma and Maria and Quality of Life among Women with Gynecologic Cancer Receiving Care in Puerto Rico	1560	Molecular profiling of Tumor Mutations in PR Hispanics with Cancer: Moving towards Oncology Precision Medicine
1531	Caries Experience in Oral Cleft Pediatric Patients: A pilot study	1566	Ethnic and Racial Disparities in Gastric Cancer: a 15-year Population-based Analysis
1540	Evaluation of Bone Resorption in Patients with Microgenia With and Without Chin Implants Using A Cone Beam CT scan: A Cross-Sectional Study	1570	The Use of Indomethacin as a Prophylactic Treatment in the Neonatal Intensive Care Unit to Reduce Intraventricular Hemorrhage
1541	Cross-sectional association between diabetes self-care perceptions and glycemic control in adult Puerto Rican residents with type 2 diabetes	1580	Knowledge About Vaccine Safety and Efficacy and How It Influences Pregnant Women Living in Puerto Rico
1548	Human Papilloma Virus Associated Cancers Risk Factors, Preventive Measures, and Screening Practices in a Population in Central-Eastern Puerto Rico	1632	Plasma Exosomes from HIV-Seropositive Patients with Cognitive Impairment Increase sIR and HIV-1 Tat Levels in Monocytes from Healthy Donors
		1647	Hurricane Maria Leaves High Levels of Indoor Mold Spores and Aspergillus Species in Moisture Damaged Homes in San Juan, Puerto Rico

