PUBLICACIONES CIENTÍFICAS

SEGUNDO TRIMESTRE 2024

ABRIL

Multimodal management of giant solid hemangioblastomas in two patients with preoperative embolization

Autores: John Vargas-Urbina, John Alex Crisanto-Silva, Carlos Vásquez-Perez, Aarón Davila-Adrianzén, Daniel Alcas-Seminario, William Lines-Aguilar, Rocio Mamani-Choquepata, Giuseppe Panta-Rojas

Revista: Surgical Neurology International
DOI: https://doi.org/10.25259/SNI_28_2024
Tipo de articulo/ estudio: Articulo original/ Reporte de caso

Resumen: *Introduction.* Hemangioblastomas are benign vascular neoplasms, World Health Organization grade I, with the most frequent location in the cerebellum. Complete microsurgical resection can be a challenge due to excessive bleeding, which is why preoperative embolization takes importance. *Case Description.* Two clinical cases are presented, a 25-year-old woman and a 75-year-old man, who presented with intracranial hypertension symptoms due to obstructive hydrocephalus; a ventriculoperitoneal shunt was placed in both cases; in addition, they presented with cerebellar signs. Both underwent embolization with ethylene vinyl alcohol copolymer, with blood flow reduction. After that, they underwent microsurgical resection within the 1st-week post embolization, obtaining, in both cases, gross total resection without hemodynamic complications, with clinical improvement and good surgical outcome. It is worth mentioning that surgical management is the gold standard that allows a suitable surgical approach, like in our patients, for which a lateral suboccipital craniotomy was performed. *Conclusion.* Solid hemangioblastomas are less frequent than their cystic counterparts. The treatment is the surgical resection, which is a challenge and always has to be considered as an arteriovenous malformation in the surgical planning, including preoperative embolization to reduce perioperative morbidity and mortality and get good outcomes.

Outcomes and Experiences of Patients and Their Caregivers After Severe Stroke Requiring Tube Feeding in Peru

Autores: Nauzley C. Abedini MD, MSc, Orli M. Shulein MS, CCC-SLP, Sandra Berrú-Villalobos MD, Jorge Ramírez-Quiñones MD, Claire J. Creutzfeldt MD, Jill Portocarrero BA, MSc, Joseph R. Zunt MD, MPH, Carlos Abanto-Argomedo MD.

Revista: Journal of Pain and Symptom Management
DOI: https://doi.org/10.1016/j.jpainsymman.2024.01.001
Tipo de articulo/ estudio: Articulo original/ estudio observacional

Resumen: *Objectives.* Evaluate clinical outcomes of stroke survivors in Peru discharged with artificial nutrition via a feeding tube (FT), and explore perspectives and experiences of these patients and their caregivers. *Methods.* Retrospective chart review to describe the prevalence of FT placement and characteristics of patients admitted with stroke to the Instituto Nacional de Ciencias Neurológicas in Lima, Peru between January 2019 and 2021. Follow-up calls to stroke survivors discharged home with FTs or their caregivers included quantitative and qualitative questions to assess long-term outcome and explore perspectives around poststroke care and FT management. We analyzed quantitative data descriptively and applied thematic analysis to qualitative data using a consensus-driven codebook. *Results.* Of 812 hospitalized patients with stroke, 146 (18%) were discharged home with FT, all with nasogastric tubes (NGTs). Follow-up calls were performed a median of 18 months after stroke with 96 caregivers and three patients. Twenty-five patients (25%) had died, and 82% of survivors (n = 61) remained dependent for some care. Four themes emerged from interviews: (1) perceived suffering (physical, emotional, existential) associated with the NGT and stroke-related disability, often exacerbated by lack of preparedness or prognostic awareness; (2) concerns around compromised personhood and value-discordant care; (3) coping with their loved-one's illness and the caregiving role; and (4) barriers to NGT care and skill acquisition. *Conclusion.* We identified a high burden of palliative and supportive needs among severe stroke survivors with NGTs and their caregivers suggesting opportunities to improve poststroke care through education, communication, and support.

Diagnostic Utility of MOG Antibody Testing in Cerebrospinal Fluid

Autores: Vyanka Redenbaugh MB, B.Ch, BAO, James P. Fryer MS, Laura Cacciaguerra MD, PhD, John J. Chen MD, PhD, Tammy M. Greenwood MS, MHA, Michael Gilligan MB, BCh, Smathorn Thakolwiboon MD, Masoud Majed MD, Nicholas H Chia MBBS, Andrew McKeon MD, John R. Mills PhD, A. Sebastian Lopez Chiriboga MD, Jan-Mendelt Tillema MD, Binxia Yang PhD, Yahya Abdulrahman BS, Kai Guo PhD, Nisa Vorasoot MD, Cristina Valencia Sanchez MD, PhD, Deena A. Tajfirouz MD, Michel Toledano MD, Anastasia Zekeridou MD, PhD, Divyanshu Dubey MD, Grace Y Gombolay MD, César Caparó-Zamalloa MD, Ilya Kister MD, Sean J. Pittock MD, Eoin P. Flanagan MB, B.Ch.

Revista: Annals of Neurology
DOI: https://doi.org/10.1002/ana.26931
Tipo de articulo/ estudio: Articulo original/ estudio observacional

Resumen: *Objective.* The aim of this study was to assess the diagnostic utility of cerebrospinal fluid (CSF) myelin oligodendrocyte glycoprotein antibodies (MOG-IgG) testing. *Methods.* We retrospectively identified patients for CSF MOG-IgG testing from January 1, 1996, to May 1, 2023, at Mayo Clinic and other medical centers that sent CSF MOG-IgG for testing including: controls, 282; serum MOG-IgG positive MOG antibody-associated disease (MOGAD), 74; serum MOG-IgG negative high-risk phenotypes, 73; serum false positive MOG-IgG with alternative diagnoses, 18. A live cell-based assay assessed CSF MOG-IgG positivity (IgG-binding-index [IBI], ≥2.5) using multiple anti-human secondary antibodies and end-titers were calculated if sufficient sample volume. Correlation of CSF MOG-IgG IBI and titer was assessed. *Results.* The pan-IgG Fc-specific secondary was optimal, yielding CSF MOG-IgG sensitivity of 90% and specificity of 98% (Youden's index 0.88). CSF MOG-IgG was positive in: 4/282 (1.4%) controls; 66/74 (89%) serum MOG-IgG positive MOGAD patients; and 9/73 (12%) serum MOG-IgG negative patients with high-risk phenotypes. Serum negative but CSF positive MOG-IgG accounted for 9/83 (11%) MOGAD patients, and all fulfilled 2023 MOGAD diagnostic criteria. Subgroup analysis of serum MOG-IgG low-positives revealed CSF MOG-IgG positivity more in MOGAD (13/16[81%]) than other diseases with false positive serum MOG-IgG (3/15[20%]) ($p = 0.01$). CSF MOG-IgG IBI and CSF MOG-IgG titer (both available in 29 samples) were correlated (Spearman's $r = 0.64$, $p < 0.001$). CSF MOG-IgG testing has diagnostic utility in patients with a suspicious phenotype but negative serum MOG-IgG, and those with low positive serum MOG-IgG results and diagnostic uncertainty. These findings support a role for CSF MOG-IgG testing in the appropriate clinical setting.

Increased Prevalence of Antibodies to Hepatitis E Virus in Patients with Neurocysticercosis

Autores: Jesus Abanto, Arantxa N. Sanchez Boluarte, Yesenia Castillo, Erika Perez, Herbert Saavedra, Isidro Gonzales, Javier A. Bustos, Florence Abravanel, Jacques Izopet, Richie G. Madden, Hector H. Garcia, and Harry R. Dalton for the Cysticercosis Working Group in Peru

Revista: American Journal of Tropical Medicine and Hygiene
DOI: https://doi.org/10.4269/ajtmh.23-0856
Tipo de articulo/ estudio: Articulo original/ estudio observacional

Resumen: We explored the association between serological status for hepatitis E and neurocysticercosis (NCC) in neurologic patients attending a national neurological referral center in Lima, Perú, between the years 2008 and 2012. Anti-hepatitis E antibodies were evaluated in patients with and without NCC, and a control group of rural general population. Anti-hepatitis E IgG was found in 23.8% of patients with NCC, compared with 14.3% in subjects without NCC from a general rural population ($P = 0.023$) and 14.4% in subjects with neurological complaints without NCC ($P = 0.027$). Seropositive patients had a median age of 44 years compared with 30 years in seronegative patients ($P < 0.001$). No significant differences in sex, region of residence, or liver enzyme values were found. Seropositivity to hepatitis E was frequent in this Peruvian population and higher in patients with NCC, suggesting shared common routes of infection.

MAYO

Advancements in dementia research, diagnostics, and care in Latin America: Highlights from the 2023 Alzheimer's Association International conference satellite symposium in Mexico City

Autores: Ana Luisa Sosa, Sonia MD Brucki, Lucia Crivelli, Francisco Javier Lopera, Daisy M Acosta, Juliana Acosta-Uribe, Diego Aguilar, Sara G Aguilar-Navarro, Ricardo F Allegri, Paulo HF Bertolucci, Ismael L Calandri, Maria C Carrillo, Patricio Alexis Chrem Mendez, Mario Cornejo-Olivas, Nilton Custodio, Andrés Damian, Leonardo Cruz de Souza, Claudia Duran-Aniotz, Adolfo M García, Carmen García-Peña, Mitzi M Gonzales, Lea T Grinberg, Agustin M Ibanez, Maryenela Zaida Illanes-Manrique, Clifford R Jack Jr, Jorge Mario Leon-Salas, Jorge J Llibre-Guerra, José Luna-Muñoz, Diana Matallana, Bruce L Miller, Lorina Naci, Mario A Parra, Margaret Pericak-Vance, Stefanie D Piña-Escudero, Elisa de Paula França Resende, John M Ringman, Gustavo Sevlever, Andrea Slachevsky, Claudia Kimie Suemoto, Victor Valcour, Andres Villegas-Lanau, Mônica S Yassuda, Simin Mahinrad, Claire Sexton

Revista: Alzheimer's and Dementia
DOI: https://doi.org/10.1002/alz.13850
Tipo de articulo/ estudio: Articulo de revisión

Resumen: *Introduction.* While Latin America (LatAm) is facing an increasing burden of dementia due to the rapid aging of the population, it remains underrepresented in dementia research, diagnostics, and care. *Methods.* In 2023, the Alzheimer's Association hosted its eighth satellite symposium in Mexico, highlighting emerging dementia research, priorities, and challenges within LatAm. *Results.* Significant initiatives in the region, including intracountry support, showcased their efforts in fostering national and international collaborations; genetic studies unveiled the unique genetic admixture in LatAm; researchers conducting emerging clinical trials discussed ongoing culturally specific interventions; and the urgent need to harmonize practices and studies, improve diagnosis and care, and use affordable biomarkers in the region was highlighted. *Discussion.* The myriad of topics discussed at the 2023 AAIC satellite symposium highlighted the growing research efforts in LatAm, providing valuable insights into dementia biology, genetics, epidemiology, treatment, and care.

Exploring Levodopa-induced dyskinesia in Latin American Parkinson`s disease patients: Insights from the large-PD Consortium

Autores: H.M. Chaparro-Solano, M. Inca-Martinez, T. Peixoto-Leal, D. Martinez-Ramirez, M. González-González, M. Rodriguez-Violante, A.J. Hernández-Medrano, M.E. Rentería, S. Alcauter, P. Olguin, A. Colombo Flores, A. de la Cerda, G. Farías, J.C. Nuñez, P. Chana-Cuevas, P. Saffie, E. Gatto, N. González Rojas, G. Da Prat, F. Micheli, F. Mata

Revista: Parkinsonism & Related Disorders
DOI: https://doi.org/10.1016/j.parkreldis.2024.106121
Tipo de articulo/ estudio: Articulo original/ Estudio observacional

Resumen: *Introduction.* Even though levodopa treatment is considered the “gold-standard” for Parkinson’s disease (PD), its long-term use is associated with levodopa-induced dyskinesia (LID). Past studies on LID primarily involved white European populations, limiting generalization of the results. This project aimed to identify LID risk factors in Latin American Parkinson’s Disease (PD) patients from the LARGE-PD consortium. *Methods.* A cross-sectional descriptive and analytical study using the data of Latino PD patients from LARGE-PD, was conducted. Total sample (n = 1659), enrolled between August 2006 and September 2023, was divided according to their LID status and compared by clinical and genetic variables. Information was collected through the ‘LARGE-PD’ questionnaire. Participants were genotyped using the Illumina Neurobooster array. T-test, Chi-squared test for independence, linear regression and logistic regression were conducted. Analyses were performed using the R programming language. *Results.* Significant differences were observed in several clinical variables between groups, including 'Age at onset', 'Levodopa dosage', 'Disease duration', and 'Levodopa therapy duration' ($p<0.05$). Specifically, the LID group tended to have younger age at diagnosis, higher levodopa dosage, longer disease duration, and more extended levodopa therapy. Logistic regression revealed a statistically significant positive association between therapy duration and the probability of LID (coefficient = 0.13347, $p < 0.001$). No statistical associations were observed between carrying a variant in GBA, LRRK2, PINK1, PRKN or VPS35 genes and the presence of LID. *Conclusions.* Our analysis shows important associations between clinical variables in PD and the occurrence of LID. The observed differences in 'Levodopa dosage,' 'Disease duration,' and 'Age at onset of symptoms' between LID and non-LID groups underscore potential predictors to LID development. However, further investigations are required to elucidate the complex interplay between these and other variables, and the likelihood of LID occurrence. This study represents an important first advance towards closing the gap in understanding LID in Latinos.

Clinical characteristics of ultra-longitudinally extensive transverse myelitis in a Peruvian cohort

Autores: E. Guevara-Silva, C. Caparó-Zamalloa, V. Osorio-Marcatinco, K. Álvarez-Toledo, S. Castro-Suarez

Revista: Neurology Perspectives
DOI: https://doi.org/10.1016/j.neurop.2024.100161
Tipo de articulo/ estudio: Articulo original/ Estudio observacional

Resumen: *Introduction.* Ultra-longitudinally extensive transverse myelitis (uLETM) is defined as an inflammatory lesion involving 10 or more spinal cord segments. The aim of our study is to describe the clinical and radiological features of this atypical form of myelitis. *Methods.* We conducted a descriptive cross-sectional study of clinical data from 57 patients older than 18 years diagnosed with longitudinally extensive transverse myelitis. Nineteen cases were classified as uLETM. *Results.* Twelve of the 19 patients were women, age ranged between 18 and 76 years, and the main aetiology was neuromyelitis optica spectrum disorder (8 patients), followed by anti-MOG antibody myelitis (3 patients). The main region involved was at cervical-thoracic spinal cord. Two patients presented complete spinal cord lesion. *Conclusions.* Our results are consistent with previous reports suggesting that neuromyelitis optica spectrum disorder remains the main aetiology in uLETM; however, anti-MOG antibodies should be considered within the differential diagnosis.

Transcriptomic analysis of subarachnoid cysts of Taenia solium reveals mechanisms for uncontrolled proliferation and adaptations to the microenvironment

Autores: Miguel A. Orrego, Michal W. Szczesniak, Carlos M. Vasquez, Manuela R. Verastegui, Javier A. Bustos, Hector H. Garcia, Theodore E. Nash & Cysticercosis Working Group in Peru

Revista: Scientific Reports
DOI: https://doi.org/10.1038/s41598-024-61973-9
Tipo de articulo/ estudio: Articulo original/ Estudio observacional

Resumen: Subarachnoid neurocysticercosis (SANCC) is caused by an abnormally transformed form of the metacestode or larval form of the tapeworm Taenia solium. In contrast to vesicular parenchymal and ventricular located cysts that contain a viable scolex and are anlage of the adult tapeworm, the subarachnoid cyst proliferates to form aberrant membranous cystic masses within the subarachnoid spaces that cause mass effects and acute and chronic arachnoiditis. How subarachnoid cyst proliferates and interacts with the human host is poorly understood, but parasite stem cells (germinative cells) likely participate. RNA-seq analysis of the subarachnoid cyst bladder wall compared to the bladder wall and scolex of the vesicular cyst revealed that the subarachnoid form exhibits activation of signaling pathways that promote proliferation and increased lipid metabolism. These adaptions allow growth in a nutrient-limited cerebral spinal fluid. In addition, we identified therapeutic drug targets that would inhibit growth of the parasite, potentially increase effectiveness of treatment, and shorten its duration.

JUNIO

Multimodal minimally invasive surgery in the treatment of neurocysticercosis

Autores: William W. Lines-Aguilar, Héctor H. García, Jorge E. Medina, Luis J. Saavedra, Evelyn Vela, Miguel Lozano, John Vargas, César Cuya, Dennis Heredia, Alejandro Apaza-Tintaya, Mao Vásquez

Revista: Interdisciplinary Neurosurgery
DOI: https://doi.org/10.1016/j.inat.2023.101872
Tipo de articulo/ estudio: Articulo original/ Estudio observacional

Resumen: *Objective.* Neurocysticercosis (NCC) is still a frequent cause of neurosurgical consultations in most developing countries. Conventional approaches for the resection of large cysts have been used for many years. We report here our experience in the neurosurgical management of NCC using diverse minimally invasive approaches according to the localization of lesions: minimal craniotomy for lesions in the Sylvian fissure, stereotactic surgery for lesions in the posterior fossa, and endonasal neuroendoscopy for lesions in the basal cisterns. *Method.* We reviewed the charts of 24 consecutive NCC patients who had minimally invasive surgery to resect NCC lesions in a neurological referral center in Lima, Peru. Three approaches were used: microcraneotomies through the anterior Sylvian point (n = 16), stereotactic surgery (n = 6), and endonasal endoscopy (n = 2), between January 1, 2016, and July 31, 2022. Demographic and clinical data as well as post-surgical evolution are presented using descriptive statistics. *Results.* Clinical improvement was observed in 23 out of 24 cases, with complete resolution of symptoms in nine and partial in 14. One patient evolved poorly and worsened his symptoms. Twenty-two patients received antiparasitic treatment after surgery. Relapse of NCC lesions was observed in three patients. There were no significant complications in any of the cases. *Conclusions.* Minimally invasive surgical approaches provide an excellent alternative for the management of patients with NCC, with good surgical and functional results, also markedly reducing the parasitic mass for further antiparasitic treatment.

Arachnoid cyst of the middle fossa complicated by spontaneous subdural hematoma and intracranial hypertension: Case report

Autores: William W. Lines-Aguilar, Luis J. Saavedra, Evelyn Vela, Miguel Lozano, John Vargas, Yelimer Caucha, Alejandro Apaza-Tintaya, Mao Vásquez

Revista: Interdisciplinary Neurosurgery
DOI: https://doi.org/10.1016/j.inat.2023.101893
Tipo de articulo/ estudio: Articulo original/ Reporte de caso

Resumen: *Introduction.* Chronic subdural hematomas (CSDH) are common problems in neurosurgery, generally secondary to head trauma, although they me be in rare cases associated to underlying pathologies. Between these possible causes, arachnoid cysts (usually asymptomatic benign congenital lesions) can be a risk factor for subdural hematoma in young patients, who may spontaneously develop a CSDH and require surgery to relieve intracranial hypertension. *Case Report.* We present the case of a 23-year-old male, incidentally diagnosed two years before with a right temporal arachnoid cyst (middle fossa), asymptomatic, who began with symptoms of intracranial hypertension two weeks prior to surgery. A right fronto-parieto-temporal CSDH was verified on MRI, requiring emergency surgery with a small craniotomy, evacuation of the hematoma, and fenestration of the arachnoid cyst. *Conclusions.* In young patients with a diagnosis of an arachnoid cyst, the differential diagnosis of CSDH should be considered when presenting with acute neurological symptoms.

The crisis of scientific authorship: fraud, commerce, and academic consequences

Autores: Sheila Castro-Suarez, Carmen Paredes-Manrique, Jonathan Zegarra-Valdivia

Revista: Revista de Neuro-Psiquiatria
DOI: https://doi.org/10.20453/rnp.v87i2.5099
Tipo de articulo/ estudio: Carta al editor

The impact of clinical genome sequencing in a global population with suspected rare genetic disease

Autores: Erin Thorpe, Taylor Williams, Chad Shaw, Evgenii Chekalin, Julia Ortega, Keisha Robinson, Jason Button, Marilyn C. Jones, Miguel del Campo, Donald Basel, Julie McCarrier, Laura Davis Keppen, Erin Royer, Romina Foster-Bonds, Milagros M. Duenas-Roque, Nora Urraca, Kerri Bosfield, Chester W. Brown, Holly Lydigsen, Henry J. Mroczkowski, Jewell Ward, Fabio Sirchia, Elisa Giorgio, Keith Vaux, Hildegard Peña Salguero, Aimé Lumaka, Gerrye Mubungu, Prince Makay, Mamy Ngole, Prosper Tshilobo Lukusa, Adeline Vanderver, Kayla Muirhead, Omar Sherbini, Melissa D. Lah, Katelynn Anderson, Jeny Bazalar-Montoya, Richard S. Rodriguez, Mario Cornejo-Olivas, Karina Milla-Neyra, Marwan Shinawi, Pilar Magoulas, Duncan Henry, Kate Gibson, Samuel Wiafe, Parul Jayakar, Daria Salyakina, Diane Masser-Frye, Arturo Serize, Jorge E. Perez, Alan Taylor, Shruti Shenbagam, Ahmad Abou Tayoun, Alka Malhotra, Maren Bennett, Vani Rajan, James Avecilla, Andrew Warren, Max Arseneault, Tasha Kalista, Ali Crawford, Subramanian S. Ajay, Denise L. Perry, John Belmont, Ryan J. Taft

Revista: American Journal of Human Genetics
DOI: https://doi.org/10.1016/j.ajhg.2024.05.006
Tipo de articulo/ estudio: Articulo original/ Estudio observacional

Resumen: There is mounting evidence of the value of clinical genome sequencing (cGS) in individuals with suspected rare genetic disease (RGD), but cGS performance and impact on clinical care in a diverse population drawn from both high-income countries (HICs) and low- and middle-income countries (LMICs) has not been investigated. The iHope program, a philanthropic cGS initiative, established a network of 24 clinical sites in eight countries through which it provided cGS to individuals with signs or symptoms of an RGD and constrained access to molecular testing. A total of 1,004 individuals (median age, 6.5 years; 53.5% male) with diverse ancestral backgrounds (51.8% non-majority European) were assessed from June 2016 to September 2021. The diagnostic yield of cGS was 41.4% (416/1,004), with individuals from LMIC sites 1.7 times more likely to receive a positive test result compared to HIC sites (LMIC 56.5% [195/345] vs. HIC 33.5% [221/659], OR 2.6, 95% CI 1.9–3.4, $p < 0.0001$). A change in diagnostic evaluation occurred in 76.9% (514/668) of individuals. Change of management, inclusive of specialty referrals, imaging and testing, therapeutic interventions, and palliative care, was reported in 41.4% (285/694) of individuals, which increased to 69.2% (480/694) when genetic counseling and avoidance of additional testing were also included. Individuals from LMIC sites were as likely as their HIC counterparts to experience a change in diagnostic evaluation (OR 6.1, 95% CI 1.1–∞, $p = 0.05$) and change of management (OR 0.9, 95% CI 0.5–1.3, $p = 0.49$). Increased access to genomic testing may support diagnostic equity and the reduction of global health care disparities.

Palliative care in neurology: perspectives for the Peruvian healthcare system

Autores: Mario Cornejo-Olivas, Luz Cornejo-Olivas, Maryenela Illanes-Manrique
Revista: Revista de Neuro-Psiquiatria
DOI: https://doi.org/10.20453/rnp.v87i2.5630
Tipo de articulo/ estudio: Editortial