BICENTENARIO DEL PERÚ 2021 - 2024

Instituto Nacional de Ciencias Neurológicas

Lima – Perú

Desde 1700

Vista original del patio y al fondo una sala de pacientes. Fuente: Sociedad de Beneficencia de Lima Metropolitana. ARKINKA Nº 273 • AGOSTO 2018

Fuente: INCN. 2021.

OEAIDE **UNIDAD DE INVESTIGACION**

Boletín de Publicaciones Científicas

2021

2021 (1): Pág. 1-54

CONTENIDO

DIRECTORIO DEL INSTITUTO NACIONAL DE CIENCIAS NEUROLOGICAS

M.C. ESP. JORGE ENRIQUE MEDINA RUBIO
DIRECTOR GENERAL DEL INSTITUTO NACIONAL DE CIENCIAS NEUROLÓGICAS.

M.C. ESP. JOSE CARLOS DELGADO RIOS
DIRECTOR DE LÍNEA DE NEUROLOGÍA.

M.C. ESP. LUIS ALBERTO ANTONIO TOLEDO
DIRECTOR DE LÍNEA DE NEUROCIRUGÍA.

M.C. ESP. JUAN MANUEL SIFUENTES MONGE
DIRECTOR DE APOYO AL DIAGNÓSTICO.

M.C. ESP. JESÚS BENIGNO FELIX RAMIREZ
DIRECTOR EJECUTIVO DE LA OFICINA EJECUTIVA DE APOYO A LA INVESTIGACIÓN Y DOCENCIAS ESPECIALIZADA.

EQUIPO DE EDICION DEL BOLETIN

M.C. ESP. ISIDRO GONZALES QUISPE
Jefe de la Unidad de Investigación de la Oficina Ejecutiva de Apoyo a la Investigación y Docencia Especializada del Instituto Nacional de Ciencias Neurológicas.

SRTA. KERLY DIANA VERGARAY RETTO
Asistente Administrativo de la Unidad de Investigación de la Oficina Ejecutiva de Apoyo a la Investigación y Docencia Especializada del Instituto Nacional de Ciencias Neurológicas.

Lima, 01 de octubre del 2022.

PRESENTACION

El presente Boletín de Publicaciones Científicas del 2021, desarrollado por la Unidad de Investigación de la Oficina Ejecutiva de Apoyo a la Investigación y Docencia Especializada (OEAIDE) constituye un documento de gran importancia y referente para a actividad de los Centros Básicos de Investigación (CBI) y de investigadores no adscritos a los centros de nuestro Instituto Nacional de Ciencias Neurológicas.

Además, en esta versión, se describe brevemente los logros de los CBI en cuanto al desarrollo de todas las actividades vinculadas a la investigación que desarrollan y que se ve reflejada en la evaluación anual que se viene implementando desde el 2019.

Así mismo, se presenta un resumen de los aportes de los cuatro CBI que forma persistente durante los últimos tres años vienen realizando al conocimiento científico.

Esperamos que la presente publicación sea de estímulo para nuestros investigadores y continúen produciendo conocimiento en favor de la sociedad y que aquellos que aún no lo hacen se animen a desarrollar investigación. En la OEAIDE, a través de la Unidad de Investigación y de los CBI, podrán encontrar el apoyo a sus iniciativas y gustosos lo estaremos apoyando.

M.C.Esp Jesús Félix Ramirez
Director ejecutivo de la Oficina Ejecutiva de Apoyo a
la Investigación y Docencia Especializada

Página en blanco

INDICE

1. PRODUCCION CIENTIFICA 2021

Página en blanco

1.1. INTRODUCCION

La investigación es una actividad muy antigua como el hombre mismo, y viene desarrollandose grandes cambios a medida que mejora el grado de conocimiento de los fenimenos naturles y el abordaje de estos de manera ordenada y sistematica. En las neurociencias, estos cambios han sido muy drásticos en algunos casos y en otros ha tomado demasiado tiempo en desarrollarse.

El Instituto Nacional de Ciencias Neurológicas (INCN) tiene como objetivo princilal, entre otros, el desarrollo de la investigación en neurociencias, y a lo largo de los años se ha ido desarrollando hasta que hace 12 años se conforman los Centros Basicos de Investigación (CBI) con la finalidad de impulsar las lineas de investigación especificas, sin embargo, como es de esperar las reacciones fueron diversas. A pesar de las limitaciones propias del sector, en los ultimos años se han ido incrementando el número de publicaciones de los CBIs y de investigadores independientes.

A continuación tenemos la lista de las publicaciónes procedentes del MEDLINE y Scopus para el 2021, se hizo la busqueda teniendo como palabras clave de filiacion a "INSTITUTO NACIONAL DE CIENCIAS NEUROLOGICAS" y luego de depurar uno a uno, se fueron excluyendo aquellos que no correspondian al INCN obteniendose 52 publicaciones que a continuación presentamos los resumenes disponibles.

1.2. LISTA DE PUBLICACIONES EN EL 2021

1.- Current Diagnostic Criteria for Neurocysticercosis.

Guzman C, Garcia HH; Cysticercosis Working Group in Peru.

Res Rep Trop Med. 2021 Aug 10;12:197-203. doi: 10.2147/RRTM.S285393. eCollection 2021.

PMID: 34408532 Free PMC article. Review.

ABSTRACT: Neurocysticercosis (NCC) causes significant neurological morbidity around the world, and is the most common preventable factor for epilepsy in adults. It is endemic in most developing countries, and also diagnosed with some frequency in industrialized countries because of travel and migration. The clinical manifestations of NCC are extremely variable and may include almost any neurological symptom, depending on the number of lesions, location, size and evolutive stage of the infecting parasitic larvae and the immune response of the host. Thus, the diagnosis of NCC relies mostly on neuroimaging and immunological tests. Despite being a disease with a known etiology, the lack of specificity of clinical manifestations and auxiliary examinations makes its diagnosis difficult. In an attempt for developing a standard diagnosis approach, a chart of diagnostic criteria for NCC was initially published in 1996, and revised in 2001 and 2017. This chart of diagnostic criteria systematized the diagnosis of NCC and became widely used worldwide. This manuscript describes the structure of the chart, the principles behind the changes for each revision, as well as the context of its use and potential for improvement.

KEYWORDS: Taenia solium; cysticercosis; diagnosis; epidemiology; epilepsy; neurocysticercosis.

2.- Mortality in Parenchymal and Subarachnoid Neurocysticercosis.

Abanto J, Blanco D, Saavedra H, Gonzales I, Siu D, Pretell EJ, Bustos JA, Garcia HH; Cysticercosis Working Group in Peru.

Am J Trop Med Hyg. 2021 Jul 7;105(1):176-180. doi: 10.4269/ajtmh.20-1330.

PMID: 34232912 Free PMC article.

ABSTRACT: Neurocysticercosis (NCC) is endemic in many parts of the world, carrying significant neurological morbidity that varies according to whether lesions are located inside the cerebral parenchyma or in extraparenchymal spaces. The latter, in particular subarachnoid NCC, is assumed to be more severe, but no controlled studies comparing mortality between types of NCC exist. The aim of this study was to compare all-cause mortality between patients with intraparenchymal NCC and those with subarachnoid NCC. Vital status and sociodemographic characteristics were evaluated in patients with intraparenchymal viable, intraparenchymal calcified, and subarachnoid NCC attending a neurological referral hospital in Lima, Perú. Survival analyses using Kaplan-Meier curves and Cox proportional regression models were carried out to compare mortality rates between groups. From 840 NCC patients followed by a median time of 82.3 months, 42 (5.0%) died, six (1.8%) in the intraparenchymal viable group, four (1.3%) in the calcified group, and 32 (16.6%) in the subarachnoid group (P < 0.001). Older age and lower education were significantly associated with mortality. The age-adjusted hazard ratio for death in the subarachnoid group was 13.6 (95% CI: 5.6-33.0, P < 0.001) compared with the intraparenchymal viable group and 10.7 (95% CI: 3.7-30.8, P < 0.001) when compared with the calcified group. We concluded that subarachnoid disease is associated with a much higher mortality in NCC.

KEYWORDS: No available

3.- Neurocysticercosis and HIV/AIDS co-infection: A scoping review.

Jewell PD, Abraham A, Schmidt V, Buell KG, Bustos JA, Garcia HH, Dixon MA, Walker M, Ngowi BJ, Basáñez MG, Winkler AS.

Trop Med Int Health. 2021 Oct;26(10):1140-1152. doi: 10.1111/tmi.13652. Epub 2021 Aug 23.

PMID: 34228854 Review.

ABSTRACT: Objectives: Neurocysticercosis (NCC) and human immunodeficiency virus (HIV) have a high disease burden and are prevalent in overlapping low- and middle-income areas. Yet, treatment guidance for people living with HIV/AIDS (PLWH/A) co-infected with NCC is currently lacking. This study aims to scope the available literature on HIV/AIDS and NCC co-infection, focusing on epidemiology, clinical characteristics, diagnostics and treatment outcomes. Methods: The scoping literature review methodological framework, and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines were followed. A total of 16,969 records identified through database searching, and 45 additional records from other sources were reduced to 52 included studies after a standardised selection process. Results: Two experimental studies, ten observational studies, 23 case series/case reports and 17 reviews or letters were identified. Observational studies demonstrated similar NCC seroprevalence in PLWH/A and their HIV-negative counterparts. Of 29 PLWH/A and NCC co-infection, 17 (59%) suffered from epileptic seizures, 15 (52%) from headaches and 15 (52%) had focal neurological deficits. Eighteen (62%) had viable vesicular cysts, and six (21%) had calcified cysts. Fifteen (52%) were treated with albendazole, of which 11 (73%) responded well to treatment. Five individuals potentially demonstrated an immune-reconstitution inflammatory syndrome after commencing antiretroviral therapy, although this was in the absence of immunological and neuroimaging confirmation.

KEYWORDS: Taenia solium; AIDS; HIV; co-infection; neurocysticercosis; taeniosis.

4.- Frequency and Determinant Factors for Calcification in Neurocysticercosis.

Bustos JA, Arroyo G, Gilman RH, Soto-Becerra P, Gonzales I, Saavedra H, Pretell EJ, Nash TE, O'Neal SE, Del Brutto OH, Gonzalez AE, Garcia HH; Cysticercosis Working Group in Peru.

Clin Infect Dis. 2021 Nov 2;73(9):e2592-e2600. doi: 10.1093/cid/ciaa784.

PMID: 32556276 Free PMC article.

ABSTRACT: Background: Neurocysticercosis is a major cause of acquired epilepsy. Larval cysts in the human brain eventually resolve and either disappear or leave a calcification that is associated with seizures. In this study, we assessed the proportion of calcification in parenchymal neurocysticercosis and risk factors associated with calcification. Methods: Data for 220 patients with parenchymal NCC from 3 trials of antiparasitic treatment were assessed to determine what proportion of the cysts that resolved 6 months after treatment ended up in a residual calcification at 1 year. Also, we evaluated the risk factors associated with calcification. Results: The overall proportion of calcification was 38% (188/497 cysts, from 147 patients). Predictors for calcification at the cyst level were cysts larger than 14 mm (risk ratio [RR], 1.34; 95% confidence interval [CI], 1.02-1.75) and cysts with edema at baseline (RR, 1.39; 95% CI, 1.05-1.85). At the patient level, having had more than 24 months with seizures (RR, 1.25; 95% CI, 1.08-1.46), mild antibody response (RR, 1.14; 95% CI, 1.002-1.27), increased dose albendazole regime (RR, 1.26; 95% CI, 1.14-1.39), lower doses of dexamethasone (RR, 1.36; 95% CI, 1.02-1.81), not receiving early antiparasitic retreatment (RR, 1.45; 95% CI, 1.08-1.93), or complete cure (RR, 1.48; 95% CI, 1.29-1.71) were associated with a increased risk of calcification. Conclusions: Approximately 38% of parenchymal cysts calcify after antiparasitic treatment. Some factors associated with calcification are modifiable and may be considered to decrease or avoid calcification, potentially decreasing the risk for seizure relapses.

KEYWORDS: Taenia solium; Peru; calcification; cysticercosis; risk factors.

5.- The Neuropsychiatric Features of Behavioral Variant Frontotemporal Dementia.

Peet BT, Castro-Suarez S, Miller BL.

Adv Exp Med Biol. 2021;1281:17-31. doi: 10.1007/978-3-030-51140-1_2.

PMID: 33433866

ABSTRACT: Behavioral variant frontotemporal dementia (bvFTD) is a syndrome defined by a set of core clinical criteria, which include disinhibition; apathy or inertia; loss of sympathy or empathy; perseverative, stereotyped, or compulsive/ritualistic behavior; and hyperorality. The clinical features of bvFTD overlap substantially with those of psychiatric disease, particularly major depressive disorder and bipolar affective disorder. The similarities between bvFTD and primary psychiatric disease results in a significant diagnostic challenge for clinicians. Understanding the neuropsychiatric aspects of bvFTD may assist in differentiating bvFTD from a primary psychiatric disorder.

KEYWORDS: Behavioral symptoms; Dementia; Frontotemporal dementia; Frontotemporal lobar degeneration; Neuropsychiatry; Psychiatric disorders.

6.- Clinical characteristics and plasma exchange response in Guillain-Barré patients.

Guevara-Silva E, Castro-Suarez S, Caparó-Zamalloa C, Cortez-Escalante J, Meza-Vega M.

Rev Peru Med Exp Salud Publica. 2021 Jan-Mar;38(1):89-94. doi: 10.17843/rpmesp.2021.381.6233. Epub 2021 Jun 25.

PMID: 34190931 English, Spanish.

ABSTRACT: The objective of the study was to describe the clinical characteristics, treatment response and possible associated factors of patients with Guillain-Barré syndrome at the National Institute of Neurological Sciences. A descriptive study on hospital discharges was conducted during the period 2017-2019. Treatment response was evaluated based on Hughes' disability scale. From 31 patients 61.3% were males and the mean age was 50 years. At admission, 87.1% of patients were on grade 3 or 4 of Hughes scale, most of them with axonal compromise which was associated to disability. Only 22 patients received plasma exchange; 6 months thereafter, 90.9% of patients decreased by at least one degree in Hughes scale and 42.8% were left without disability. In conclusion, a male and axonal subtype predominance was found, been the latter associated to disability.

KEYWORDS: No available

7.- Brainstem syndrome at onset is related to an early MS diagnosis in Peru: A national referral center cohort.

Caparó-Zamalloa C, Castro-Suarez S, Cortez-Escalante J, Aguirre-Quispe W, Guevara-Silva E, Osorio-Marcatinco V, Meza-Vega M.

Heliyon. 2021 Sep 29;7(10):e08069. doi: 10.1016/j.heliyon.2021.e08069. eCollection 2021 Oct.

PMID: 34765756 Free PMC article.

ABSTRACT: MS is unpredictable regarding clinical symptoms; however, certain symptoms represent the preferred localization of white matter lesions such as brainstem, spinal cord; or optic nerve. Objectives: To investigate the epidemiological, clinical, and imaging characteristics of MS patients in a national referral center in Peru, and to evaluate whether the type of symptom at onset relates with the time to making an MS diagnosis. Methods: Retrospective study of MS patients at the Instituto Nacional de Ciencias Neurológicas between January 2010 and December 2018. Four different syndromes were selected for analysis as symptom onset (optic neuritis, brainstem syndrome, myelitis, and others). Results: we identified 268 patients for whom a diagnosis of MS had been given; after excluding misdiagnosed patients (33 Neuromyelitis optica), lost or incomplete records, 121 patients were included. The majority of patients (46.6%) were born in Lima. Female to male ratio was 1.37 to 1, mean age at diagnosis was 31 years. At onset, myelitis was present in 35% of RRMS patients, followed by brainstem syndrome (25%) and optic neuritis (18%). Brainstem syndrome was statistically significant predictor for earlier diagnosis (adjusted HR: 2.09; p = 0.015). Conclusion: Brainstem syndrome as an initial presentation of MS in Peru is related to an earlier diagnosis.

KEYWORDS: Brainstem syndrome; Clinical characteristics; Early diagnosis; Multiple sclerosis; Peru.

8.- Motor Features in a Peruvian Cohort of Parkinson's Disease Patients.

Torres L, Velez M, Suarez R, Nunez Y, Cosentino C.

Mov Disord. 2021 Aug;36(8):1994. doi: 10.1002/mds.28691.

PMID: 34409686 No abstract available.

ABSTRACT: No abstract available

KEYWORDS: Parkinson's disease; motor symptoms; onset.

9.- Response to ATXN10 Microsatellite Distribution in a Peruvian Amerindian Population.

Véliz-Otani D, Cubas-Montecino D, Milla-Neyra K, Ashizawa T, Saraiva-Pereira ML, Jardim LB, Cornejo-Olivas M.

Cerebellum. 2021 Dec;20(6):946-947. doi: 10.1007/s12311-021-01258-3. Epub 2021 Mar 17.

PMID: 33728569 No abstract available.

ABSTRACT: No abstract available

KEYWORDS: No available

10.- Neurocysticercosis. A frequent cause of seizures, epilepsy, and other neurological morbidity in most of the world.

Bustos J, Gonzales I, Saavedra H, Handali S, Garcia HH; Cysticercosis Working Group in Peru.

J Neurol Sci. 2021 Aug 15;427:117527. doi: 10.1016/j.jns.2021.117527. Epub 2021 Jun 17.

PMID: 34147957 Review.

ABSTRACT: Neurocysticercosis is endemic in most of the world and in endemic areas it accounts for approximately 30% of cases of epilepsy. Appropriate diagnosis and management of neurocysticercosis requires understanding the diverse presentations of the disease since these will vary in regards to clinical manifestation, sensitivity of diagnostic tests, and most importantly, therapeutic approach. This review attempts to familiarize tropical neurology practitioners with the diverse types of neurocysticercosis and the more appropriate management approaches for each.

KEYWORDS: Cysticercosis; Epilepsy; Neurocysticercosis; Taenia solium; Tropical neurology.

11.- Characterizing the Genetic Architecture of Parkinson's Disease in Latinos.

Loesch DP, Horimoto ARVR, Heilbron K, Sarihan EI, Inca-Martinez M, Mason E, Cornejo-Olivas M, Torres L, Mazzetti P, Cosentino C, Sarapura-Castro E, Rivera-Valdivia A, Medina AC, Dieguez E, Raggio V, Lescano A, Tumas V, Borges V, Ferraz HB, Rieder CR, Schu

Ann Neurol. 2021 Sep;90(3):353-365. doi: 10.1002/ana.26153. Epub 2021 Jul 22.

PMID: 34227697

ABSTRACT: Objective: This work was undertaken in order to identify Parkinson's disease (PD) risk variants in a Latino cohort, to describe the overlap in the genetic architecture of PD in Latinos compared to European-ancestry subjects, and to increase the diversity in PD genome-wide association (GWAS) data. Methods: We genotyped and imputed 1,497 PD cases and controls recruited from nine clinical sites across South America. We performed a GWAS using logistic mixed models; variants with a p-value <1 × 10-5 were tested in a replication cohort of 1,234 self-reported Latino PD cases and 439,522 Latino controls from 23andMe, Inc. We also performed an admixture mapping analysis where local ancestry blocks were tested for association with PD status. Results: One locus, SNCA, achieved genome-wide significance (p-value <5 × 10-8); rs356182 achieved genome-wide significance in both the discovery and the replication cohorts (discovery, G allele: 1.58 OR, 95% CI 1.35-1.86, p-value 2.48 × 10-8 ; 23andMe, G allele: 1.26 OR, 95% CI 1.16-1.37, p-value 4.55 × 10-8). In our admixture mapping analysis, a locus on chromosome 14, containing the gene STXBP6, achieved significance in a joint test of ancestries and in the Native American single-ancestry test (p-value <5 × 10-5). A second locus on chromosome 6, containing the gene RPS6KA2, achieved significance in the African single-ancestry test (p-value <5 × 10-5). Interpretation: This study demonstrated the importance of the SNCA locus for the etiology of PD in Latinos. By leveraging the demographic history of our cohort via admixture mapping, we identified two potential PD risk loci that merit further study. ANN NEUROL 2021;90:353-365.

KEYWORDS: No available.

12.- A case of hemiballism associated with temporal lobe infarction.

Crispin B, Mattos J, Nuñez Y, Suarez R, Torres L, Cosentino C.

Rev Neurol (Paris). 2021 Nov;177(9):1205-1206. doi: 10.1016/j.neurol.2021.01.018. Epub 2021 Jun 30.

PMID: 34215431

ABSTRACT: No abstract available

KEYWORDS: No available

13.- Neurocysticercosis as an Eradicable Cause of Epilepsy: A Plan and Actions Are Needed.

Garcia HH, Gonzalez AE, Gilman RH.

JAMA Neurol. 2021 Sep 1;78(9):1045-1046. doi: 10.1001/jamaneurol.2021.2349.

PMID: 34309627

ABSTRACT: No abstract available

KEYWORDS: No available

14.- Case Report: Anti-LGI1 Limbic Encephalitis Associated With Anti-thyroid Autoantibodies.

Otiniano-Sifuentes R, Cuba Antezana A, De La Cruz Ramirez WF, Pacheco-Barrios K, Segura Chavez DA.

Front Neurol. 2021 Jan 15;11:620483. doi: 10.3389/fneur.2020.620483. eCollection 2020.

PMID: 33519701 Free PMC article.

ABSTRACT: Anti-LGI1 encephalitis is an autoimmune encephalitis with antibodies against leucine-rich glioma-inactivated 1 (LGI1), first described in 2010. It is a non-frequent and poorly understood entity that represents the second most frequent cause of autoimmune encephalitis. This entity is characterized by the presence of limbic encephalitis, hyponatremia, and faciobrachial dystonic seizures. Herein, we present the case of a male patient with an onset of epileptic seizures (generalized tonic-clonic seizure), and involuntary dystonic movements that affect the right side of his face and right upper limb associated with mental disorder, and affectation of higher functions. The electroencephalogram showed continuous generalized slowing of the background activity. The brain magnetic resonance imaging showed signal hyperintensity at the level of both mesial temporal lobes and hippocampi and in the head of the right caudate nucleus. Anti-thyroglobulin antibodies were positive, and he was initially diagnosed as Hashimoto's encephalopathy (HE). However, the response to corticosteroids was not completed as it is usually observed in HE. For that, antibodies for autoimmune encephalitis were tested, and the anti-LGI1 antibodies were positive in serum and cerebrospinal fluid. HE is an important differential diagnosis to consider. Furthermore, the presence of Anti-thyroglobulin antibodies should not be taken as the definitive diagnostic criteria, since these antibodies could be associated with other autoimmune encephalopathies, which include in addition to anti-LGI1, anti-NMDA and anti-Caspr2.

KEYWORDS: anti-LGI1; anti-thyroid autoantibodies; autoimmune encephalitis; hashimoto's encephalopathy; limbic encephalitis.

15.- Mapping the Diverse and Inclusive Future of Parkinson's Disease Genetics and Its Widespread Impact.

Elsayed I, Martinez-Carrasco A, Cornejo-Olivas M, Bandres-Ciga S.

Genes (Basel). 2021 Oct 23;12(11):1681. doi: 10.3390/genes12111681.

PMID: 34828286 Free PMC article. Review.

ABSTRACT: Over the last decades, genetics has been the engine that has pushed us along on our voyage to understand the etiology of Parkinson's disease (PD). Although a large number of risk loci and causative mutations for PD have been identified, it is clear that much more needs to be done to solve the missing heritability mystery. Despite remarkable efforts, as a field, we have failed in terms of diversity and inclusivity. The vast majority of genetic studies in PD have focused on individuals of European ancestry, leading to a gap of knowledge on the existing genetic differences across populations and PD as a whole. As we move forward, shedding light on the genetic architecture contributing to PD in non-European populations is essential, and will provide novel insight into the generalized genetic map of the disease. In this review, we discuss how better representation of understudied ancestral groups in PD genetics research requires addressing and resolving all the challenges that hinder the inclusion of these populations. We further provide an overview of PD genetics in the clinics, covering the current challenges and limitations of genetic testing and counseling. Finally, we describe the impact of worldwide collaborative initiatives in the field, shaping the future of the new era of PD genetics as we advance in our understanding of the genetic architecture of PD.

KEYWORDS: Parkinson’s disease; diversity; genetic testing; genetics; genetics counselling; post-GWAS era.

16.- Prevalence of stroke survival in rural communities living in northern Peru.

Moyano LM, Montano SM, Vilchez Barreto P, Reto N, Larrauri L, Mori N, Cornejo-Olivas M, Guevara-Silva E, Urizar F, Najar E, Gamboa R, Azabache C, Herrer Ticse R, Bolivar-Herrada L, Doud A, Martinez P, Miranda JJ, Zunt JR, García HH; Cysticercosis Working

PLoS One. 2021 Jul 29;16(7):e0254440. doi: 10.1371/journal.pone.0254440. eCollection 2021.

PMID: 34324513 Free PMC article.

ABSTRACT: Background and purpose: Stroke is the leading cause of neurological impairment in the South American Andean region. However, the epidemiology of stroke in the region has been poorly characterized. Methods: We conducted a staged three-phase population-based study applying a validated eight-question neurological survey in 80 rural villages in Tumbes, northern Peru, then confirmed presence or absence of stroke through a neurologist's examination to estimate the prevalence of stroke. Results: Our survey covered 90% of the population (22,278/24,854 individuals, mean age 30±21.28, 48.45% females), and prevalence of stroke was 7.05/1,000 inhabitants. After direct standardization to WHO's world standard population, adjusted prevalence of stroke was 6.94/1,000 inhabitants. Participants aged ≥85 years had higher stroke prevalence (>50/1000 inhabitants) compared to other stratified ages, and some unusual cases of stroke were found among individuals aged 25-34 years. The lowest age reported for a first stroke event was 16.8 years. High blood pressure (aPR 4.2 [2.7-6.4], p>0.001), and sedentary lifestyle (aPR 1.6 [1.0-2.6], p = 0.045) were more prevalent in people with stroke. Conclusions: The age-standardized prevalence of stroke in this rural coastal Peruvian population was slightly higher than previously reported in studies from surrounding rural South American settings, but lower than in rural African and Asian regions. The death rate from stroke was much higher than in industrialized and middle-income countries.

KEYWORDS: No available

17.- Multiple sclerosis in Peru: National prevalence study using capture-recapture analysis.

Gonzales-Gamarra O, Alva-Diaz C, Pacheco-Barrios K, Aguirre-Quispe W, Malaga M, Inca J, Rojas E, Caparó-Zamalloa C, Montalvan M, Salcedo E, Solis-Quispe Am, Barreto J, Rojas-Benites M, Chereque A, Rodríguez Ml

Mult Scler Relat Disord. 2021 Oct;55:103147. doi: 10.1016/j.msard.2021.103147. Epub 2021 Jul 12.

PMID: 34332455

ABSTRACT: Background: There is scarce epidemiological data on Multiple Sclerosis (MS) in Latin America. National epidemiological studies are needed to guide the health policy related to MS. Objective: To determine MS national prevalence in Peru and describe clinical and epidemiological characteristics of the disease. Methods: We conducted a cross-sectional prevalence study in Peru's four largest regions using two sources. We included adult patients diagnosed with MS by a neurologist using the McDonald criteria. We performed a capture-recapture analysis using the nearly unbiased estimator model, and calculated prevalence as the proportion of the adult Peruvian population in 2016. Additionally, we summarized patients epidemiological and clinical characteristics. Results: We identified 417 cases: 135 from the first source and 282 from the one. We found a point prevalence of 9.12 cases per 100 000 inhabitants (95% CI: 5.6 - 12.6). The age range was 35 to 45 years-old, and 51.9% were female. The most common type of MS was relapsing-remitting (79.3%) and the most frequent treatment was subcutaneous IFN-1b (40.7%). Conclusion: Peru has a medium MS prevalence compared to other Latin American countries. Lima is the region with the highest number of cases, with similar clinical characteristics to other countries in the region.

KEYWORDS: No available

18.- Procedure for infusion of autologous mitochondria through the carotid artery in porcine brain.

Orrego MA, Levy S, Kelly C, Arroyo G, Toribio L, García HH, Walker M.

Rev Peru Med Exp Salud Publica. 2021 Apr-Jun;38(2):345-351. doi: 10.17843/rpmesp.2021.382.7768. Epub 2021 Aug 30.

PMID: 34468586

ABSTRACT: Mitochondria are complex organelles that play a critical role within the cell; mitochondrial dysfunction can result in significant cell damage or death. Previous studies have demonstrated the promising therapeutic effects of autologous mitochondria transplantation into ischemic cardiac tissue; however, few studies have examined the in vivo effects of mitochondria infusion into the brain. The aim of this study is to report a procedure for carotid infusion of autologous mitochondria into porcine brains. By using this infusion technique, we propose that a selective and minimally invasive administration is feasible and may provide benefits in the treatment of various central nervous system disorders.

KEYWORDS: No available

19.- COVID-19 Lockdown Effects on Acute Stroke Care in Latin America.

Pujol-Lereis VA, Flores A, Barboza MA, Abanto-Argomedo C, Amaya P, Bayona H, Bonardo P, Diaz-Escobar L, Gomez-Schneider M, Góngora-Rivera F, Lavados PM, Leon C, Luraschi A, Marquez-Romero JM, Ouriques-Martins SC, Navia VH, Ruiz-Franco A, Vences MÁ, Zurrú

J Stroke Cerebrovasc Dis. 2021 Sep;30(9):105985. doi: 10.1016/j.jstrokecerebrovasdis.2021.105985. Epub 2021 Jul 3.

PMID: 34284323 Free PMC article.

ABSTRACT: Objectives: COVID-19 pandemic has forced important changes in health care worldwide. Stroke care networks have been affected, especially during peak periods. We assessed the impact of the pandemic and lockdowns in stroke admissions and care in Latin America. Materials and methods: A multinational study (7 countries, 18 centers) of patients admitted during the pandemic outbreak (March-June 2020). Comparisons were made with the same period in 2019. Numbers of cases, stroke etiology and severity, acute care and hospitalization outcomes were assessed. Results: Most countries reported mild decreases in stroke admissions compared to the same period of 2019 (1187 vs. 1166, p = 0.03). Among stroke subtypes, there was a reduction in ischemic strokes (IS) admissions (78.3% vs. 73.9%, p = 0.01) compared with 2019, especially in IS with NIHSS 0-5 (50.1% vs. 44.9%, p = 0.03). A substantial increase in the proportion of stroke admissions beyond 48 h from symptoms onset was observed (13.8% vs. 20.5%, p < 0.001). Nevertheless, no differences in total reperfusion treatment rates were observed, with similar door-to-needle, door-to-CT, and door-to-groin times in both periods. Other stroke outcomes, as all-type mortality during hospitalization (4.9% vs. 9.7%, p < 0.001), length of stay (IQR 1-5 days vs. 0-9 days, p < 0.001), and likelihood to be discharged home (91.6% vs. 83.0%, p < 0.001), were compromised during COVID-19 lockdown period. Conclusions: In this Latin America survey, there was a mild decrease in admissions of IS during the COVID-19 lockdown period, with a significant delay in time to consultations and worse hospitalization outcomes.

KEYWORDS: Acute stroke therapy; COVID-19; Developing countries; Latin America; Lockdown; Stroke.

20.- The many facets of disseminated parenchymal brain cysticercosis: A differential diagnosis with important therapeutic implications.

Del Brutto OH, Garcia HH.

PLoS Negl Trop Dis. 2021 Nov 18;15(11):e0009883. doi: 10.1371/journal.pntd.0009883. eCollection 2021 Nov.

PMID: 34793447 Free PMC article.

ABSTRACT: Neurocysticercosis (NCC), the infection of the nervous system by the cystic larvae of Taenia solium, is a highly pleomorphic disease because of differences in the number and anatomical location of lesions, the viability of parasites, and the severity of the host immune response. Most patients with parenchymal brain NCC present with few lesions and a relatively benign clinical course, but massive forms of parenchymal NCC can carry a poor prognosis if not well recognized and inappropriately managed. We present the main presentations of massive parenchymal NCC and their differential characteristics.

KEYWORDS: No available

21.- Convulsive Status Epilepticus in a Cohort of Patients from a Peruvian Academic Hospital.

Bedoya-Sommerkamp M, Chau-Rodríguez VH, Medina-Ranilla J, Escalaya-Advíncula A, Ticse-Aguirre R, De La Cruz-Ramírez W, Burneo JG.

J Epilepsy Res. 2021 Jun 30;11(1):83-92. doi: 10.14581/jer.21011. eCollection 2021 Jun.

PMID: 34395227 Free PMC article.

ABSTRACT: Background and purpose: Status epilepticus is a neurologic emergency whose epidemiology, etiology and management are scarcely known in developing countries. Our objective was to describe the demographic and clinical features as well as the management of generalized convulsive status epilepticus

(GCSE) in adult patients admitted to the emergency department of an academic hospital in Peru, between March 2019 and March 2020. Methods: Observational study of a prospective cohort in which patients were assessed by the emergency and neurology department on the first day of hospitalization, at discharge and at 30 days post-discharge in a follow-up visit. Relevant demographics and clinical data were collected. After being encoded and sorted, univariate statistical analysis was carried out. Results: Of the sample of 59 patients, 62.7% were males, 57.6% were unemployed, 89.8% did not finish high school, and 55.9% had intermittent GCSE with no seizure at arrival. The total calculated median times were: 60 minutes from GCSE onset to hospital arrival, 110 minutes from GCSE onset to 1st line therapy, and 7 minutes from hospital arrival to 1st line therapy. The most frequently used antiepileptic drugs were one dose of benzodiazepine (41.7%), phenytoin (76.9%), and additional doses of benzodiazepines (60%) for 1st, 2nd, and 3rd line therapies, respectively. The most frequent etiologies were antiepileptic drug suspension (27.1%), undetermined (25.4%) and acute stroke (11.8%). 62.71% had 0-2 modified Rankin score at discharge. Conclusions: In this cohort of patients, GCSE was mainly intermittent. Management times differed from the guidelines' recommendations.

KEYWORDS: Epilepsy; Peru; Status epilepticus.

22.- Transitional Care for Young People with Neurological Disorders: A Scoping Review with A Focus on Patients with Movement Disorders.

McGovern E, Pringsheim T, Medina A, Cosentino C, Shalash A, Sardar Z, Fung VSC, Kurian MA, Roze E; MDS Task Force on Pediatrics.

Mov Disord. 2021 Jun;36(6):1316-1324. doi: 10.1002/mds.28381. Epub 2020 Nov 17.

PMID: 33200525 Review.

ABSTRACT: Childhood-onset movement disorders represent a heterogenous group of conditions. Given the complexity of these disorders, the transition of care from pediatric to adult medicine is an important consideration. We performed a scoping review of the literature on transitional care in chronic neurological disease, exploring key transitional issues and proposed transitional care models. Our aim was to describe the current knowledge and gaps about the transition process of young adults with chronic neurological disorders, paying special attention to childhood onset movement disorders. A total of 64 articles were included in the qualitative synthesis; 56 articles reported on transitional care issues, and 8 articles reported on transitional care models. Only 2 articles included patients with movement disorders. The following 4 main transitional issues were identified following synthesis of the available literature: (1) inadequate preparation for the transition process, (2) inappropriate and inconsistent transition practices, (3) inadequate adult services, and (4) heightened emotional response surrounding transition. Of the reported transitional care models, multidisciplinary ambulatory care was the most common approach. In studies evaluating patient-related outcomes, positive health, educational, and vocational outcomes were found. The available literature provides insights on issues that can arise during transition that should be addressed to improve patient and caregiver comfort and satisfaction with care. Further research is needed to evaluate how transitional care programs affect outcomes and their cost effectiveness. More studies are required to determine the needs and outcomes specific to patients with childhood onset movement disorders. © 2020 International Parkinson and Movement Disorder Society.

KEYWORDS: transitional care; neurological disorders; pediatrics.

23.- Hippocampal Atrophy/Sclerosis Is Associated with Old, Calcified Parenchymal Brain Neurocysticercosis, But Not with More Recent, Viable Infections.

Sánchez SS, Bustos JA, Del Brutto OH, Herrera G, Dos Santos AC, Javier Pretell E, Gonzales I, Saavedra H, Garcia HH; Cysticercosis Working Group in Peru.

Am J Trop Med Hyg. 2021 Oct 25;106(1):215-218. doi: 10.4269/ajtmh.21-0392.

PMID: 34695784

ABSTRACT: Magnetic resonance images from 197 patients with calcified neurocysticercosis (NCC), 38 with viable NCC and 197 NCC-free healthy rural villagers were evaluated to compare the frequency of hippocampal atrophy/sclerosis (HAS) across these populations. Scheltens' medial temporal atrophy scale was used for hippocampal rating. The median age of the 432 study participants was 46 years (interquartile range, 29-62 years), and 58% were women. Hippocampal atrophy/sclerosis was disclosed in 26.9% patients with calcified NCC, compared with 7.9% in patients with viable NCC and 8.1% in healthy rural villagers. After adjusting for age, gender, and history of epilepsy, hippocampal atrophy/sclerosis was more frequent in patients with calcified NCC than in those with viable cysts (RR, 3.60; 95% CI, 1.18- 0.99; P = 0.025) and healthy rural villagers (RR, 3.43; 95% CI, 1.94-6.06; P < 0.001), suggesting that hippocampal damage develops late in the course of this parasitic disease.

KEYWORDS: No available

24.- Predicting Mechanical Ventilation Using the EGRIS in Guillain-Barré Syndrome in a Latin American Country.

Malaga M, Rodriguez-Calienes A, Marquez-Nakamatsu A, Recuay K, Merzthal L, Bustamante-Paytan D, Sifuentes JM, Castillo-Kohatsu G, Alva-Diaz C.

Neurocrit Care. 2021 Dec;35(3):775-782. doi: 10.1007/s12028-021-01218-z. Epub 2021 May 21.

PMID: 34021483

ABSTRACT: Background: Up to one fifth of patients with Guillain-Barré syndrome (GBS) require mechanical ventilation (MV). The Erasmus GBS Respiratory Insufficiency Score (EGRIS) is a clinical predictive model developed in Europe to predict MV requirements among patients with GBS. However, there are significant differences between the Latin American and European population, especially in the distribution of GBS subtypes. Therefore, determining if the EGRIS is able to predict MV in a Latin American population is of clinical significance. Methods: We retrospectively analyzed clinical and laboratory data of 177 patients with GBS in three Peruvian hospitals. We performed a multivariate logistic regression of the factors making up the EGRIS. Finally, we evaluated the EGRIS discrimination through a receiver operating characteristic curve and determined its calibration through a calibration curve and a Hosmer-Lemeshow test, a test used to determine the goodness of fit. Results: We found that 14.1% of our patients required MV. One predictive factor of a patient's need for early MV was the number of days between the onset of motor symptoms and hospitalization. The Medical Research Council sum score did not alter the likelihood of early MV. Bulbar weakness increased the likelihood without showing statistical significance. In contrast, facial weakness was a protective factor of it. The EGRIS was significantly higher in patients who required early MV than in those who did not (P = 0.018). It showed an area under the curve (AUC) of 0.63, with an insignificant Hosmer-Lemeshow test result. Conclusions: Although the EGRIS was higher in patients who required early MV than in those who did not, it only showed a moderate discrimination capacity (AUC = 0.63). Facial weakness, an item of the EGRIS, was not found to be a predictive factor in our population. We suggest assessing whether these findings are due to subtype predominance and whether a modified version of the EGRIS could improve performance.

KEYWORDS: Clinical predictive model; Guillain–Barré syndrome; Mechanical ventilation.

25.- Autoimmune neurology: Co-occurrence of anti-NMDAR encephalitis and anti-MOG associated disease, report of a case.

Caparó-Zamalloa C, Álvarez-Toledo K, Yamunaque-Chunga C, Castro-Suarez S, Guevara-Silva E, Osorio-Marcatinco V, Meza-Vega M.

J Neuroimmunol. 2021 Sep 15;358:577663. doi: 10.1016/j.jneuroim.2021.577663. Epub 2021 Jul 18.

PMID: 34298340 Review.

ABSTRACT: We report the case of a patient with symptoms of anti-NMDAR encephalitis and anti-MOG associated disease simultaneously, in whom the identification of antibodies guided to a more aggressive treatment strategy, resulting in a good clinical outcome. MRI is an important tool to diagnose this kind of patients. The co-occurrence of both diseases in infrequent, but atypical symptoms should increase our awareness of the possibility of an overlap syndrome.

KEYWORDS: Anti-MOG associated disease; Anti-NMDAR encephalitis; Autoimmune neurology.

26.- Acute disseminated encephalomyelitis and COVID-19: A systematic synthesis of worldwide cases.

Zelada-Ríos L, Pacheco-Barrios K, Galecio-Castillo M, Yamunaqué-Chunga C, Álvarez-Toledo K, Otiniano-Sifuentes R.

J Neuroimmunol. 2021 Oct 15;359:577674. doi: 10.1016/j.jneuroim.2021.577674. Epub 2021 Jul 27.

PMID: 34371208 Free PMC article.

ABSTRACT: Acute disseminated encephalomyelitis (ADEM) has been reported after coronavirus disease 2019 (COVID-19). In this review, we systematically included worldwide reported cases on this association. We included 30 case reports (pediatric and adults) and explored epidemiological and clinical evidence. We described time to diagnosis, clinical, imaging, and laboratory features, response to treatment regimens, and differences regarding severity. Also, an original case report was presented. Neurologists must be alert to the occurrence of multifocal neurological symptoms with or without encephalopathy in patients recovered from COVID-19. Timely MRI studies should be performed to establish the diagnosis and to consider early corticosteroid-based treatment.

KEYWORDS: Acute disseminated encephalomyelitis (ADEM); Autoimmune disease; Central nervous system (CNS); Coronavirus disease 2019 (COVID-19); Demyelinating disease; SARS-Cov-2.

27.- Efficacy of two locally produced oxfendazole formulations for the treatment of cysticercosis in naturally infected pigs.

Arroyo G, Bustos JA, Calcina JF, Gallegos L, Vargas-Calla A, Gomez-Puerta LA, Lopez T, Gilman RH, Garcia HH, Gonzalez AE; Grupo de Trabajo en Cisticercosis en Perú.

Rev Peru Med Exp Salud Publica. 2021 Apr-Jun;38(2):296-301. doi: 10.17843/rpmesp.2021.382.6539. Epub 2021 Aug 30.

PMID: 34468579

ABSTRACT: The efficacy of two locally produced oxfendazole (OFZ) formulations against cysticercosis at 22,5% and 10%, versus a commercial formulation (Synanthic 9,06%) was evaluated in twenty-two naturally infected pigs that received a single oral dose of 30 mg/kg. Pigs were sacrificed at eight weeks post-treatment to evaluate the cysts found in their carcasses, and to determine the cysticidal efficacy, which was defined as the proportion of degenerated cysts over total cysts. Only degenerated cysts were found in muscle, heart, and tongue of pigs treated with OFZ in all groups, which shows an efficacy of 100%. Viable and degenerated cysts were found in brains, being the efficacy lower in all groups (65% [commercial OFZ], 47% [local OFZ

22.5%] and 31% [local OFZ 10%], p = 0.355). Locally produced OFZ formulations were similarly effective to the commercial formulation and may provide a practical alternative for the treatment of porcine cysticercosis.

KEYWORDS: No available

28.- Advances in the treatment, diagnosis, control and scientific understanding of taeniid cestode parasite infections over the past 50 years.

Lightowlers MW, Gasser RB, Hemphill A, Romig T, Tamarozzi F, Deplazes P, Torgerson PR, Garcia HH, Kern P.

Int J Parasitol. 2021 Dec;51(13-14):1167-1192. doi: 10.1016/j.ijpara.2021.10.003. Epub 2021 Oct 30.

PMID: 34757089 Review.

ABSTRACT: In the past 50 years, enormous progress has been made in the diagnosis, treatment and control of taeniid cestode infections/diseases and in the scientific understanding thereof. Most interest in this group of parasites stems from the serious diseases that they cause in humans. It is through this lens that we summarize here the most important breakthroughs that have made a difference to the treatment of human diseases caused by these parasites, reduction in transmission of the taeniid species associated with human disease, or understanding of the parasites' biology likely to impact diagnosis or treatment in the foreseeable future. Key topics discussed are the introduction of anti-cestode drugs, including benzimidazoles and praziquantel, and the development of new imaging modalities that have transformed the diagnosis and post-treatment monitoring of human echinococcoses and neurocysticercosis. The availability of new anti-cestode drugs for use in dogs and a detailed understanding of the transmission dynamics of Echinococcus granulosus sensu lato have underpinned successful programs that have eliminated cystic echinococcosis in some areas of the world and greatly reduced the incidence of infection in others. Despite these successes, cystic and alveolar echinococcosis and neurocysticercosis continue to be prevalent in many parts of the world, requiring new or renewed efforts to prevent the associated taeniid infections. Major advances made in the development of practical vaccines against E. granulosus and Taenia solium will hopefully assist in this endeavour, as might the understanding of the parasites' biology that have come from an elucidation of the nuclear genomes of each of the most important taeniid species causing human diseases.

KEYWORDS: Benzimidazoles; Echinococcus; Genome; Imaging; Praziquantel; Taenia; Taeniid cestode; Transmission dynamics, vaccine and control.

29.- Genome-Wide Analysis of Copy Number Variation in Latin American Parkinson's Disease Patients.

Sarihan EI, Pérez-Palma E, Niestroj LM, Loesch D, Inca-Martinez M, Horimoto ARVR, Cornejo-Olivas M, Torres L, Mazzetti P, Cosentino C, Sarapura-Castro E, Rivera-Valdivia A, Dieguez E, Raggio V, Lescano A, Tumas V, Borges V, Ferraz HB, Rieder CR, Schumache

Mov Disord. 2021 Feb;36(2):434-441. doi: 10.1002/mds.28353. Epub 2020 Nov 5.

PMID: 33150996 Free PMC article.

ABSTRACT: Background: Parkinson's disease is the second most common neurodegenerative disorder and affects people from all ethnic backgrounds, yet little is known about the genetics of Parkinson's disease in

non-European populations. In addition, the overall identification of copy number variants at a genome-wide level has been understudied in Parkinson's patients. The objective of this study was to understand the genome-wide burden of copy number variants in Latinos and its association with Parkinson's disease. Methods: We used genome-wide genotyping data from 747 Parkinson's disease patients and 632 controls from the Latin American Research Consortium on the Genetics of Parkinson's disease. Results: Genome-wide copy number burden analysis showed that patients were significantly enriched for copy number variants overlapping known Parkinson's disease genes compared with controls (odds ratio, 3.97; 95%CI, 1.69-10.5; P = 0.018). PRKN showed the strongest copy number burden, with 20 copy number variant carriers. These patients presented an earlier age of disease onset compared with patients with other copy number variants (median age at onset, 31 vs 57 years, respectively; P = 7.46 × 10-7). Conclusions: We found that although overall genome-wide copy number variant burden was not significantly different, Parkinson's disease patients were significantly enriched with copy number variants affecting known Parkinson's disease genes. We also identified that of 250 patients with early-onset disease, 5.6% carried a copy number variant on PRKN in our cohort. Our study is the first to analyze genome-wide copy number variant association in Latino Parkinson's disease patients and provides insights about this complex disease in this understudied population. © 2020 International Parkinson and Movement Disorder Society.

KEYWORDS: Latin America; Parkinson's disease; copy number variants; genetics.

30.- Evidence-based appraisal of blood pressure reduction in spontaneous intracerebral hemorrhage: A scoping review and overview.

Chambergo-Michilot D, Brañez-Condorena A, Alva-Diaz C, Sequeiros J, Abanto C, Pacheco-Barrios K.

Clin Neurol Neurosurg. 2021 Mar;202:106497. doi: 10.1016/j.clineuro.2021.106497. Epub 2021 Jan 18.

PMID: 33517161 Review.

ABSTRACT: Background and aim: There is a current debate on the best approach for blood pressure (BP) reduction in patients with spontaneous intracerebral hemorrhage (ICH). Through this scoping review, we aimed to examine how research on reducing BP in ICH patients has been conducted and to clarify the evidence on which approach is the best (intensive vs. standard BP reductions). Methods: We performed a scoping review and overview of reviews of the literature. We systematically searched clinical practice guidelines (CPGs), systematic reviews (SRs), and randomized controlled trials (RCTs) that compared intensive versus standard BP reduction. We searched in three databases from inception until March 2020. Two independent authors conducted the study selection, data extraction, quality assessment, and overlapping analysis of SRs. We performed a description and critical appraisal of the current body of evidence. Results: We included three CPGs (with moderate to high quality); all of them recommended intensive reduction in specific clinical settings. We included eight SRs (with high overlap and critically low quality): two supported intensive reduction and four supported its safety, but not effectiveness. One SR reported that patients with intensive reduction had a significant risk of renal adverse events. We included seven RCTs (with limitations in randomization process); trials with large population did not found significant differences in mortality and disability. One RCT reported a significantly higher number of renal adverse events. Conclusions: CPGs support the use of intensive BP reduction; however, most recent SRs partially supported or did not support it due to the association with renal events. It seems the range goal between 140 and 180 mmHg could be safe and equally effective than intensive reduction. We recommend further research in serious and non-serious events promoted by intensive reduction and outcomes homogenization across studies to ensure correct comparison.

KEYWORDS: Blood pressure; Cerebral hemorrhage; Epidemiology; Review; Stroke.

31.- Correction to: Predicting Mechanical Ventilation Using the EGRIS in Guillain-Barré Syndrome in a Latin American Country.

Malaga M, Rodriguez-Calienes A, Marquez-Nakamatsu A, Recuay K, Merzthal L, Bustamante-Paytan D, Sifuentes JM, Castillo-Kohatsu G, Alva-Diaz C.

Neurocrit Care. 2021 Oct;35(2):603. doi: 10.1007/s12028-021-01293-2.

PMID: 34286468 No abstract available.

ABSTRACT: No abstract available

KEYWORDS: No available

32.- Identification and culture of proliferative cells in abnormal Taenia solium larvae: Role in the development of racemose neurocysticercosis.

Orrego MA, Verastegui MR, Vasquez CM, Koziol U, Laclette JP, Garcia HH, Nash TE; Cysticercosis Working Group in Peru.

PLoS Negl Trop Dis. 2021 Mar 22;15(3):e0009303. doi: 10.1371/journal.pntd.0009303. eCollection 2021 Mar.

PMID: 33750965 Free PMC article.

ABSTRACT: Racemose neurocysticercosis is an aggressive disease caused by the aberrant expansion of the cyst form of Taenia solium within the subarachnoid spaces of the human brain and spinal cord resulting in a mass effect and chronic inflammation. Although expansion is likely caused by the proliferation and growth of the parasite bladder wall, there is little direct evidence of the mechanisms that underlie these processes. Since the development and growth of cysts in related cestodes involves totipotential germinative cells, we hypothesized that the expansive growth of the racemose larvae is organized and maintained by germinative cells. Here, we identified proliferative cells expressing the serine/threonine-protein kinase plk1 by in situ hybridization. Proliferative cells were present within the bladder wall of racemose form and absent from the homologous tissue surrounding the vesicular form. Cyst proliferation in the related model species Taenia crassiceps (ORF strain) occurs normally by budding from the cyst bladder wall and proliferative cells were concentrated within the growth buds. Cells isolated from bladder wall of racemose larvae were established in primary cell culture and insulin stimulated their proliferation in a dose-dependent manner. These findings indicate that the growth of racemose larvae is likely due to abnormal cell proliferation. The different distribution of proliferative cells in the racemose larvae and their sensitivity to insulin may reflect significant changes at the cellular and molecular levels involved in their tumor-like growth. Parasite cell cultures offer a powerful tool to characterize the nature and formation of the racemose form, understand the developmental biology of T. solium, and to identify new effective drugs for treatment.

KEYWORDS: No available

33.- Novel Compound Heterozygous Mutation c.3955_3958dup and c.5825C>T in the ATM Gene: Clinical Evidence of Ataxia-Telangiectasia and Cancer in a Peruvian Family.

Rodriguez RS, Cornejo-Olivas M, Bazalar-Montoya J, Sarapura-Castro E, Torres-Loarte M, Rivera-Valdivia A, Sullcahuaman-Allende Y.

Mol Syndromol. 2021 Aug;12(5):289-293. doi: 10.1159/000515696. Epub 2021 Jun 17.

PMID: 34602955 Free PMC article.

ABSTRACT: Pathogenic and likely pathogenic variants in the ATM gene are associated both with Ataxia-telangiectasia disease or ATM syndrome and an increased cancer risk for heterozygous carriers. We identified a novel compound heterozygous mutation c.3955_3958dup (p.Asp1320delinsValTer) and

c.5825C>T (p.Ala1942Val) in the ATM gene in a Peruvian patient with progressive ataxia combined with other movement disorders, mild conjunctival telangiectasia and increased alpha-fetoprotein, without history of recurrent infection or immunodeficiency. We also determined the carrier status of the family members, and we were able to detect gastric and breast cancer at an early stage during the cancer risk assessment in the mother (c.3955_3958dup). Here, we describe clinical evidence for the novel compound heterozygous mutation and c.3955_3958dup not previously reported.

KEYWORDS: ATM; Ataxia-telangiectasia; c.3955_3958dup; c.5825C>T; rs1591646379; rs730881394.

34.- Changes in inflammatory gene expression in brain tissue adjacent and distant to a viable cyst in a rat model for neurocysticercosis.

Carmen-Orozco RP, Dávila-Villacorta DG, Delgado-Kamiche AD, Celiz RH, Trompeter G, Sutherland G, Gavídia C, Garcia HH, Gilman RH, Verástegui MR; Cysticercosis Working Group in Peru.

PLoS Negl Trop Dis. 2021 Apr 27;15(4):e0009295. doi: 10.1371/journal.pntd.0009295. eCollection 2021 Apr.

PMID: 33905419 Free PMC article.

ABSTRACT: Background: The parasite Taenia solium causes neurocysticercosis (NCC) in humans and is a common cause of adult-onset epilepsy in the developing world. Hippocampal atrophy, which occurs far from the cyst, is an emerging new complication of NCC. Evaluation of molecular pathways in brain regions close to and distant from the cyst could offer insight into this pathology. Methods: Rats were inoculated intracranially with T. solium oncospheres. After 4 months, RNA was extracted from brain tissue samples in rats with NCC and uninfected controls, and cDNA was generated. Expression of 38 genes related to different molecular pathways involved in the inflammatory response and healing was assessed by RT-PCR array. Results: Inflammatory cytokines IFN-γ, TNF-α, and IL-1, together with TGF-β and ARG-1, were overexpressed in tissue close to the parasite compared to non-infected tissue. Genes for IL-1A, CSF-1, FN-1, COL-3A1, and MMP-2 were overexpressed in contralateral tissue compared to non-infected tissue. Conclusions: The viable cysticerci in the rat model for NCC is characterized by increased expression of genes associated with a proinflammatory response and fibrosis-related proteins, which may mediate the chronic state of infection. These pathways appear to influence regions far from the cyst, which may explain the emerging association between NCC and hippocampal atrophy.

KEYWORDS: No available

35.- SARS-CoV-2 RNA in Swabbed Samples from Latrines and Flushing Toilets: A Case-Control Study in a Rural Latin American Setting.

Del Brutto OH, Costa AF, Mera RM, Andrade-Molina D, Recalde BY, García HH, Fernández-Cadena JC.

Am J Trop Med Hyg. 2021 Jan 13;104(3):1045-1047. doi: 10.4269/ajtmh.20-1380.

PMID: 33534773 Free PMC article.

ABSTRACT: Information about factors potentially favoring the spread of SARS-CoV-2 in rural settings is limited. Following a case-control study design in a rural Ecuadorian village that was severely struck by the pandemic, SARS-CoV-2 RNA were detected by real-time PCR in swabs obtained from inner and upper walls in 24/48 randomly selected latrines from case-houses and in 12/48 flushing toilets from paired control-houses (P = 0.014; McNemar's test). This association persisted in a conditional logistic regression model adjusted for

relevant covariates (OR: 4.82; 95% CI: 1.38-16.8; P = 0.014). In addition, SARS-CoV-2-seropositive subjects were more often identified among those living in houses with a latrine (P = 0.002). Latrines have almost five times the odds of containing SARS-CoV-2 RNA than their paired flushing toilets. Latrines are reservoirs of SARS-CoV-2 RNA, and it cannot be ruled out that latrines could contribute to viral transmission in rural settings. Frequent disinfection of latrines should be recommended to reduce the likelihood of fecal contamination.

KEYWORDS: No available

36.- Evidence for Transmission of Taenia solium Taeniasis/Cysticercosis in a Rural Area of Northern Rwanda.

Acosta Soto L, Parker LA, Irisarri-Gutiérrez MJ, Bustos JA, Castillo Y, Perez E, Muñoz-Antoli C, Esteban JG, García HH, Bornay-Llinares FJ.

Front Vet Sci. 2021 Apr 20;8:645076. doi: 10.3389/fvets.2021.645076. eCollection 2021.

PMID: 33959651 Free PMC article.

ABSTRACT: Cysticercosis is a parasitic infection caused by the metacestode larval stage (cysticercus) of Taenia solium. In humans, cysticercosis may infect the central nervous system and cause neurocysticercosis, which is responsible for over 50,000 deaths per year worldwide and is the major cause of preventable epilepsy cases, especially in low-income countries. Cysticercosis infection is endemic in many less developed countries where poor hygiene conditions and free-range pig management favor their transmission. A cross-sectional study was conducted in 680 children from a rural primary school in Gakenke district (Northern province of Rwanda). Stool samples were collected from participants and analyzed using the Kato-Katz method (KK), formol-ether concentration (FEC), and/or copro-antigen enzyme-linked immunosorbent assay (CoAg-ELISA) to detect taeniasis. Blood samples were collected and analyzed using enzyme-linked immunoelectrotransfer blot (EITB) and antigen enzyme-linked immunosorbent assay (Ag-ELISA) to detect human cysticercosis. The overall proportion of taeniasis positivity was 0.3% (2/680), and both cases were also confirmed by CoAg-ELISA. A total of 13.3% (76/572) of the children studied were positive to cysticercosis (T. solium-specific serum antibodies detected by EITB), of whom 38.0% (27/71) had viable cysticercus (T. solium antigens by Ag-ELISA). This study provides evidence of the highest cysticercosis prevalence reported in Rwanda in children to date. Systematic investigations into porcine and human cysticercosis as well as health education and hygiene measures for T. solium control are needed in Gakenke district.

KEYWORDS: Gakenke; Rwanda; Taenia solium; children; cystcercosis; taeniasis.

37.- SARS-CoV-2 Vaccines and Motor Symptoms in Parkinson's Disease.

Cosentino C, Torres L, Vélez M, Nuñez Y, Sánchez D, Armas C, Alvarado M.

Mov Disord. 2022 Jan;37(1):233. doi: 10.1002/mds.28851. Epub 2021 Nov 14.

PMID: 34775612 Free PMC article.

ABSTRACT: No abstract available

KEYWORDS: No available

38.- MLPA followed by target-NGS to detect mutations in the dystrophin gene of Peruvian patients suspected of DMD/DMB.

Guevara-Fujita ML, Huaman-Dianderas F, Obispo D, Sánchez R, Barrenechea V, Rojas-Málaga D, Estrada-Cuzcano A, Trubnykova M, Cornejo-Olivas M, Marca V, Gallardo B, Dueñas-Roque M, Protzel A, Castañeda C, Abarca H, Celis L, La Serna-Infantes J, Fujita R.

Mol Genet Genomic Med. 2021 Sep;9(9):e1759. doi: 10.1002/mgg3.1759. Epub 2021 Jul 29.

PMID: 34327855 Free PMC article.

ABSTRACT: We report the molecular analysis of the DMD gene in a group of Peruvian patients with Duchenne/Becker dystrophinopathy. This is the first study to thoroughly characterize mutations in this population. Methods: We used the combination of multiplex ligation-dependent probe amplification (MLPA) and sequencing analysis of the DMD gene. We recruited Peruvian patients in 2 years from reference national hospitals. We performed DNA tests in 152 patients, checking first exon deletion/duplication by MLPA, and subsequently, if negative, samples were sequenced to detect point mutations. Results: The average age for diagnosis was 9.8 years, suggesting a delay for timely diagnosis and care. We found causal DMD mutations in 125 patients: 72 (57.6%) exon deletions/duplications (41.6% deletions, 16.0% duplications), and 53 (42.4%) point mutations (27.2% nonsense, 9.6% small indels, and 5.6% splice site). Conclusion: Due to our genetic background, we expected a higher number of novel and recurrent causal mutations in our sample. Results showed 16% of novel mutations, similar to other well-studied populations.

KEYWORDS: Becker muscular dystrophy; Duchenne muscular dystrophy; molecular diagnosis; multiple ligation probe amplification; targeted Next Generation Sequencing.

39.- Diagnostic Value of Thunderclap Headache and Convexal Subarachnoid Hemorrhage for Reversible Cerebral Vasoconstriction Syndrome: A Case Report.

Otiniano-Sifuentes RD, Zelada-Ríos L, Ramírez-Quiñones J, Abanto C, Novoa M, Calle La Rosa P, Flores N, Simbrón-Ribbeck L, Valencia A, Barrientos-Imán D.

Cureus. 2021 Dec 14;13(12):e20411. doi: 10.7759/cureus.20411. eCollection 2021 Dec.

PMID: 35047253 Free PMC article.

ABSTRACT: Reversible cerebral vasoconstriction syndrome (RCVS) is an underdiagnosed cause of convexal subarachnoid hemorrhage, characterized by thunderclap headache associated with focal and segmental intracranial vasoconstriction. It can appear complications such as intracerebral hemorrhage, seizures, posterior reversible leukoencephalopathy, or ischemic stroke. Our objective is to present the case of a 51-year-old woman with an RCVS diagnosis, who had a normal digital subtraction angiography at the illness onset. We highlight the high diagnostic value of thunderclap headache and convexal subarachnoid hemorrhage. We also highlight the importance of repeating the angiographic studies in the second week when there is strong diagnostic suspicion.

KEYWORDS: convexal subarachnoid hemorrhage; intracranial vasoconstriction; reversible cerebral vasoconstriction syndrome; stenosis; thunderclap headache.

40.- Endoscopic endonasal surgery for massive subarachnoid neurocysticercosis: illustrative case.

Lines WW, Gómez-Amador JL, García HH, Medina JE, Lira E, Antonio LA, Calderon J, Félix J, Saavedra LJ, Caucha Y, Vásquez CM.

J Neurosurg Case Lessons. 2021 Sep 6;2(10):CASE21366. doi: 10.3171/CASE21366. eCollection 2021 Sep 6.

PMID: 35855189 Free PMC article.

ABSTRACT: Subarachnoid neurocysticercosis (NCC) is associated with high morbidity and mortality rates. Conventional transcranial approaches and transventricular endoscopy have been previously reported for extraparenchymal NCC and ventricular NCC, respectively. By October 2019, endonasal endoscopic approaches had not been used for the treatment of NCC. Observations: A 54-year-old-woman with NCC was admitted with acute neurological deterioration due to severe intracranial hypertension caused by massive subarachnoid NCC cysts, as evidenced on magnetic resonance imaging (MRI) with great brainstem compression. The case was discussed, and an endoscopic endonasal resection of the NCC cysts was scheduled. The diagnosis was confirmed by pathological anatomy. There were no complications in the surgery, with marked neurological improvement. Control MRIs demonstrated a significant reduction of NCC cysts. Lessons: Minimally invasive approaches are an excellent alternative for skull-base tumoral and infectious pathology. Prior knowledge of the pathophysiology and the authors' experience in the management of patients with NCC allowed them to propose this approach, with optimal results.

KEYWORDS: CNS = central nervous system; FIESTA = fast imaging employing steady-state; MRI = magnetic resonance imaging; NCC = neurocysticercosis; endoscopic endonasal; intracranial hypertension; massive neurocysticercosis; subarachnoid neurocysticercosis.

41.- Dissecting the role of Amerindian genetic ancestry and the ApoE ε4 allele on Alzheimer disease in an admixed Peruvian population.

Marca-Ysabel MV, Rajabli F, Cornejo-Olivas M, Whitehead PG, Hofmann NK, Illanes Manrique MZ, Veliz Otani DM, Milla Neyra AK, Castro Suarez S, Meza Vega M, Adams LD, Mena PR, Rosario I, Cuccaro ML, Vance JM, Beecham GW, Custodio N, Montesinos R, Mazzetti S

Neurobiol Aging. 2021 May;101:298.e11-298.e15. doi: 10.1016/j.neurobiolaging.2020.10.003. Epub 2020 Dec 10.

PMID: 33541779 Free PMC article.

ABSTRACT: Alzheimer disease (AD) is the leading cause of dementia in the elderly and occurs in all ethnic and racial groups. The apolipoprotein E (ApoE) ε4 is the most significant genetic risk factor for late-onset AD and shows the strongest effect among East Asian populations followed by non-Hispanic white populations and has a relatively lower effect in African descent populations. Admixture analysis in the African American and Puerto Rican populations showed that the variation in ε4 risk is correlated with the genetic ancestral background local to the ApoE gene. Native American populations are substantially underrepresented in AD genetic studies. The Peruvian population with up to ~80 of Amerindian (AI) ancestry provides a unique opportunity to assess the role of AI ancestry in AD. In this study, we assess the effect of the ApoE ε4 allele on AD in the Peruvian population. A total of 79 AD cases and 128 unrelated cognitive healthy controls from Peruvian population were included in the study. Genome-wide genotyping was performed using the Illumina Global screening array v2.0. Global ancestry and local ancestry analyses were assessed. The effect of the ApoE ε4 allele on AD was tested using a logistic regression model by adjusting for age, gender, and population substructure (first 3 principal components). Results showed that the genetic ancestry surrounding the ApoE gene is predominantly AI (60.6%) and the ε4 allele is significantly associated with increased risk of AD in the Peruvian population (odds ratio = 5.02, confidence interval: 2.3-12.5, p-value = 2e-4). Our results showed that the risk for AD from ApoE ε4 in Peruvians is higher than we have observed in non-Hispanic white populations. Given the high admixture of AI ancestry in the Peruvian population, it suggests that the AI genetic ancestry local to the ApoE gene is contributing to a strong risk for AD in ε4 carriers. Our data also support the findings of an interaction between the genetic risk allele ApoE ε4 and the ancestral backgrounds located around the genomic region of ApoE gene.

KEYWORDS: Alzheimer disease (AD); Amerindian (AI) genetic ancestry; Apolipoprotein E (ApoE).

42.- Clinical Pathway for the Diagnosis and Management of Patients With Relapsing-Remitting Multiple Sclerosis: A First Proposal for the Peruvian Population.

Caparó-Zamalloa C, Velásquez-Rimachi V, Mori N, Dueñas-Pacheco WI, Huerta-Rosario A, Farroñay-García C, Molina RA, Alva-Díaz C.

Front Neurol. 2021 Oct 21;12:667398. doi: 10.3389/fneur.2021.667398. eCollection 2021.

PMID: 34744956 Free PMC article.

ABSTRACT: Background: Relapsing-remitting multiple sclerosis (RRMS) is a subtype of degenerative inflammatory demyelinating disease of multifactorial origin that affects the central nervous system and leads to multifocal neurological impairment. Objectives: To develop a clinical pathway (CP) for the management of Peruvian patients with RRMS. Methods: First, we performed a literature review using Medline, Embase, Cochrane, ProQuest, and Science direct. Then, we structured the information as an ordered and logical series of five topics in a defined timeline: (1) How should MS be diagnosed? (2) How should a relapse be treated? (3) How should a DMT be initiated? (4) How should each DMT be used? and (5) How should the patients be followed? Results: The personnel involved in the care of patients with RRMS can use a series of flowcharts and diagrams that summarize the topics in paper or electronic format. Conclusions: We propose the first CP for RRMS in Peru that shows the essential steps for diagnosing, treating, and monitoring RRMS patients based on an evidence-based medicine method and local expert opinions. This CP will allow directing relevant clinical actions to strengthen the multidisciplinary management of RRMS in Peru.

KEYWORDS: Peru; critical pathways; multiple sclerosis; patient care management; relapsing-remitting.

43.- Stereotactic surgery for neurocysticercosis of the 4th ventricle: illustrative cases.

Saavedra LJ, Vásquez CM, García HH, Antonio LA, Caucha Y, Félix J, Medina JE, Lines WW.

J Neurosurg Case Lessons. 2021 Jul 19;2(3):CASE21279. doi: 10.3171/CASE21279. eCollection 2021 Jul 19.

PMID: 35854912 Free PMC article.

ABSTRACT: Background: Neurocysticercosis, caused by the larval stage of Taenia solium, affects the cerebral ventricles in 20-30% of cases and may lead to hydrocephalus and other neurological morbidity. Conventional treatment for cysts in the 4th ventricle includes open surgery (suboccipital approach) and neuroendoscopy, with the latter being the option of choice. Stereotactic surgery, minimally invasive, offers a good alternative for this type of deep lesion. Observations: The authors report the cases of two women, 30 and 45 years old, who presented with headache, dizziness, and ataxia and were diagnosed with 4th ventricle cysticercosis. Magnetic resonance imaging (MRI) revealed dilated 4th ventricles (approximately 2.5 cm in both cases, with cystic images inside the ventricular cavity). Both patients were treated with stereotactic surgery via a suboccipital transcerebellar approach. Cyst material was extracted, and the diagnosis was confirmed by pathological examination. The surgeries had no complications and resulted in clinical improvement. Control MRI scans showed reduction of the volume of the ventricle without residual cysts. Lessons: Minimally invasive stereotactic surgery provided a safe alternative for 4th ventricle neurocysticercosis cysts, with more benefits than risks in comparison with conventional techniques.

KEYWORDS: 4th ventricle; CSF = cerebrospinal fluid; EITB = enzyme-linked immunoelectrotransfer blot; FIESTA = fast imaging employing steady-state acquisition; FLAIR = fluid-attenuated inversion recovery; MRI = magnetic resonance imaging; NCC = neurocysticercosis; stereotactic surgery.

44.- Fighting Against Stroke in Latin America: A Joint Effort of Medical Professional Societies and Governments.

Martins SCO, Lavados P, Secchi TL, Brainin M, Ameriso S, Gongora-Rivera F, Sacks C, Cantú-Brito C, Alvarez Guzman TF, Pérez-Romero GE, Muñoz Collazos M, Barboza MA, Arauz A, Abanto Argomedo C, Novarro-Escudero N, Amorin Costabile HI, Crosa R, Camejo C, Me

Front Neurol. 2021 Oct 1;12:743732. doi: 10.3389/fneur.2021.743732. eCollection 2021.

PMID: 34659101 Free PMC article.

ABSTRACT: Introduction: Stroke is one of the leading causes of death in Latin America, a region with countless gaps to be addressed to decrease its burden. In 2018, at the first Latin American Stroke Ministerial Meeting, stroke physician and healthcare manager representatives from 13 countries signed the Declaration of Gramado with the priorities to improve the region, with the commitment to implement all evidence-based strategies for stroke care. The second meeting in March 2020 reviewed the achievements in 2 years and discussed new objectives. This paper will review the 2-year advances and future plans of the Latin American alliance for stroke. Method: In March 2020, a survey based on the Declaration of Gramado items was sent to the neurologists participants of the Stroke Ministerial Meetings. The results were confirmed with representatives of the Ministries of Health and leaders from the countries at the second Latin American Stroke Ministerial Meeting. Results: In 2 years, public stroke awareness initiatives increased from 25 to 75% of countries. All countries have started programs to encourage physical activity, and there has been an increase in the number of countries that implement, at least partially, strategies to identify and treat hypertension, diabetes, and lifestyle risk factors. Programs to identify and treat dyslipidemia and atrial fibrillation still remained poor. The number of stroke centers increased from 322 to 448, all of them providing intravenous thrombolysis, with an increase in countries with stroke units. All countries have mechanical thrombectomy, but mostly restricted to a few private hospitals. Pre-hospital organization remains limited. The utilization of telemedicine has increased but is restricted to a few hospitals and is not widely available throughout the country. Patients have late, if any, access to rehabilitation after hospital discharge. Conclusion: The initiative to collaborate, exchange experiences, and unite societies and governments to improve stroke care in Latin America has yielded good results. Important advances have been made in the region in terms of increasing the number of acute stroke care services, implementing reperfusion treatments and creating programs for the detection and treatment of risk factors. We hope that this approach can reduce inequalities in stroke care in Latin America and serves as a model for other under-resourced environments.

KEYWORDS: Latin America; stroke; stroke centers; stroke system of care; stroke units.

45.- Early sensory disturbances and seizures are common manifestations of familial Creutzfeldt-Jakob disease due to E200K PRNP mutation: Case report from two Peruvian families.

Sarapura-Castro E, Cosentino C, Landman J, Landman A, Torres L, Nuñez Y, Capellari S, Parchi P, Cornejo-Olivas M.

Clin Neurol Neurosurg. 2021 Mar;202:106490. doi: 10.1016/j.clineuro.2021.106490. Epub 2021 Jan 12.

PMID: 33454496 Free PMC article.

ABSTRACT: No abstract available

KEYWORDS: No available

46.- Knowledge and Attitudes for the Management of Behavioral Variant of Frontotemporal Dementia.

Castro-Suarez S, Guevara-Silva E, Caparó-Zamalloa C, Osorio-Marcatinco V, Meza-Vega M, Miller B, Cornejo-Olivas M.

Front Neurol. 2022 Jan 11;12:786448. doi: 10.3389/fneur.2021.786448. eCollection 2021.

PMID: 35087469 Free PMC article.

ABSTRACT: Background: The diagnosis of the behavioral variant of frontotemporal dementia (bvFTD) can be especially challenging and is relatively underdiagnosed. There is scarce information on training and attitudes from care providers facing bvFTD in settings with limited resources. We aim to describe clinical knowledge and attitudes facing bvFTD from neurologists, psychiatrists, and residents in Peru. Methods: Potential participants received invitations by email to complete an online questionnaire. In addition, we reviewed 21 curricula from undergraduate medical schools' programs offered by the main schools of medicine in Peru during 2020 and 2021. Results: A total of 145 participants completed the survey. The responders were neurologists (51%), psychiatrists (25%), and residents in neurology or psychiatry (24%). Only 26% of the respondents acknowledged receiving at least one class on bvFTD in undergraduate medical training, but 66.6% received at least some training during postgraduate study. Participants identified isolated supportive symptoms for bvFTD; however, only 25% identified the possible criteria and 18% the probable bvFTD criteria. They identified MoCA in 44% and Frontal Assessment Battery (39%) as the most frequently used screening test to assess bvFTD patients. Memantine and Acetylcholinesterase inhibitors were incorrectly indicated by 40.8% of participants. Seventy six percentage of participants indicated that they did not provide education and support to the caregiver. The dementia topic was available on 95.2%, but FTD in only 19%. Conclusion: Neuropsychiatry medical specialists in Peru receive limited training in FTD. Their clinical attitudes for treating bvFTD require appropriate training focused on diagnostic criteria, assessment tools, and pharmacological and non-pharmacological management.

KEYWORDS: attitude; bvFTD; frontotemporal dementia (FTD); health knowledge; practice.

47.- The effectiveness of anti-inflammatory and anti-seizure medication for individuals with single enhancing lesion neurocysticercosis: A meta-analysis and expert group-based consensus recommendations.

Abraham A, Bustos JA, Carabin H, de Meijere R, Sahu PS, Rajshekhar V, Singh G, White AC Jr, Chiodini PL, Gabriël S, Homeida M, Nash T, Ngowi B, Zhou XN, Coyle C, Garcia HH, Winkler AS.

PLoS Negl Trop Dis. 2021 Mar 31;15(3):e0009193. doi: 10.1371/journal.pntd.0009193. eCollection 2021 Mar.

PMID: 33788843 Free PMC article.

ABSTRACT: Single brain enhancing lesions (SEL) are the most common presentation of neurocysticercosis (NCC) observed on neuroimaging in people presenting with epileptic seizures not only on the Indian sub-continent and in travelers returning from cysticercosis-endemic regions, but are also present in other parts of the world. The aim of this study, which consisted of a systematic review (CRD42019087665), a meta-analysis and an expert group consultation, was to reach consensus on the best anti-seizure medication and anti-inflammatory treatment for individuals with SEL NCC. Standard literature review methods were used. The Cochrane risk of bias tool was used and random effects model meta-analyses were performed. The quality of the body of evidence was rated using GRADE tables. The expert committee included 12 gender and geographically balanced members and recommendations were reached by applying the GRADE

framework for guideline development. The 1-1.5-year cumulative incidence of seizure recurrence, cyst resolution or calcification following anti-seizure medication (ASM) withdrawal was not statistically different between ASM of 6, 12 or 24 months. In contrast, in persons whose cyst calcified post treatment, longer ASM decreased seizure recurrence. The cumulative incidence ratio (CIR) 1-1.5 years after stopping ASM was 1.79 95% CI: (1.00, 3.20) for patients given 6 versus 24 months treatment. Anti-inflammatory treatment with corticosteroids in patients treated with ASM compared to patients treated with ASM only showed a statistically significant beneficial effect on seizure reduction (CIR 0.44, 95% CI 0.23, 0.85) and cyst resolution (CIR 1.37, 95%CI: 1.07, 1.75). Our results indicate that ASM in patients with SEL NCC whose cysts resolved can be withdrawn, while patients whose cysts calcified seem to benefit from prolonged anti-seizure medication. Additional corticosteroid treatment was found to have a beneficial effect both on seizure reduction and cyst resolution.

KEYWORDS: No available

48.- Clinical and Laboratory Features in Anti-NF155 Autoimmune Nodopathy.

Martín-Aguilar L, Lleixà C, Pascual-Goñi E, Caballero-Ávila M, Martínez-Martínez L, Díaz-Manera J, Rojas-García R, Cortés-Vicente E, Turon-Sans J, de Luna N, Suárez-Calvet X, Gallardo E, Rajabally Y, Scotton S, Jacobs BC, Baars A, Cortese A, Vegezzi E, Hö

Neurol Neuroimmunol Neuroinflamm. 2021 Nov 2;9(1):e1098. doi: 10.1212/NXI.0000000000001098. Print 2022 Jan.

PMID: 34728497 Free PMC article.

ABSTRACT: Methods: Patients with anti-NF155 antibodies detected on routine immunologic testing were included. Clinical characteristics, treatment response, and functional scales (modified Rankin Scale [mRS] and Inflammatory Rasch-built Overall Disability Scale [I-RODS]) were retrospectively collected at baseline and at the follow-up. Autoantibody and neurofilament light (NfL) chain levels were analyzed at baseline and at the follow-up. Results: Forty NF155+ patients with AN were included. Mean age at onset was 42.4 years. Patients presented with a progressive (75%), sensory motor (87.5%), and symmetric distal-predominant weakness in upper (97.2%) and lower extremities (94.5%), with tremor and ataxia (75%). Patients received a median of 3 (2-4) different treatments in 46 months of median follow-up. Response to IV immunoglobulin (86.8%) or steroids (72.2%) was poor in most patients, whereas 77.3% responded to rituximab. HLA-DRB1*15 was detected in 91.3% of patients. IgG4 anti-NF155 antibodies were predominant in all patients; anti-NF155 titers correlated with mRS within the same patient ($r = 0.41$, $p = 0.004$). Serum NfL (sNfL) levels were higher in anti-NF155+ AN than in healthy controls (36.47 vs 7.56 pg/mL, $p < 0.001$) and correlated with anti-NF155 titers ($r = 0.43$, $p = 0.001$), with I-RODS at baseline ($r = -0.88$, $p < 0.001$) and with maximum I-RODS achieved ($r = -0.58$, $p = 0.01$). Anti-NF155 titers and sNfL levels decreased in all rituximab-treated patients. Discussion: Anti-NF155 AN presents a distinct clinical profile and good response to rituximab. Autoantibody titers and sNfL are useful to monitor disease status in these patients. The use of untagged-NF155 plasmids minimizes the detection of false anti-NF155+ cases. Classification of evidence: This study provides Class IV evidence that anti-NF155 antibodies associate with a specific phenotype and response to rituximab.

KEYWORDS: No available

49.- Managing Post-Stroke Care During the COVID-19 Pandemic at a Tertiary Care Level Hospital in Peru.

Zafra-Tanaka JH, Portocarrero J, Abanto C, Zunt JR, Miranda JJ.

J Stroke Cerebrovasc Dis. 2022 Apr;31(4):106275. doi: 10.1016/j.jstrokecerebrovasdis.2021.106275. Epub 2021 Dec 24.

PMID: 35121533 Free PMC article.

ABSTRACT: Objectives: To understand the hospital-to-outpatient care transition and how the discharge process of stroke patients is managed; and to identify potential opportunities to improve these processes, while contrasting pre- and during COVID-19 experiences in Peru. Methods: A qualitative study was conducted between February and March 2021 consisting of in-depth interviews of patients with stroke, their caregivers and healthcare personnel regarding stroke care at a national tertiary referral center for stroke care in Lima, Peru. We explored the following phases of the patients' journeys: pre-hospitalization, emergency room, hospitalization, discharge process and post-discharge. For each phase, we explored experiences, feelings and expectations using thematic analysis. Results: We conducted a total of 11 interviews with patients or caregivers and 7 with health care personnel and found disruption in the continuity of care for patients with stroke. Mainly, caregivers and patients referred to problems related to communication with healthcare personnel and an absence of training to provide post-discharge care at home. Potential solutions included increasing human resources and caregiver participation in care, implementation of electronic healthcare records, improving the referral system and reinforcing telemedicine services. Conclusion: The continuity of care of patients with stroke was negatively affected during the COVID-19 pandemic. In LMICs, the impact was likely greater due to the already weak and fragmented healthcare systems. The COVID-19 pandemic presents an opportunity to improve post-stroke care services, and address patients' experiences and feelings by developing solutions in a participatory manner.

KEYWORDS: COVID-19; Continuity of care; Health systems; Stroke.

50.- Improved Diagnosis of Viable Parenchymal Neurocysticercosis by Combining Antibody Banding Patterns on Enzyme-Linked Immunoelectrotransfer Blot (EITB) with Antigen Enzyme-Linked Immunosorbent Assay (ELISA).

Arroyo G, Bustos JA, Lescano AG, Gonzales I, Saavedra H, Pretell EJ, Castillo Y, Perez E, Dorny P, Gilman RH, O'Neal SE, Gonzalez AE, Garcia HH; Cysticercosis Working Group in Peru (CWGP).

J Clin Microbiol. 2022 Feb 16;60(2):e0155021. doi: 10.1128/JCM.01550-21. Epub 2021 Dec 1.

PMID: 34851685

ABSTRACT: The diagnosis of neurocysticercosis (NCC) depends on neuroimaging and serological confirmation. While antibody detection by enzyme-linked immunoelectrotransfer blot (EITB) fails to predict viable NCC, EITB banding patterns provide information about the host's infection course. Adding antigen enzyme-linked immunosorbent assay (Ag-ELISA) results to EITB banding patterns may improve their ability to predict or rule out of viable NCC. We assessed whether combining EITB banding patterns with Ag-ELISA improves discrimination of viable infection in imaging-confirmed parenchymal NCC. EITB banding patterns were grouped into classes using latent class analysis. True-positive and false-negative Ag-ELISA results in each class were compared using Fisher's exact test. Four classes were identified: 1, EITB negative or positive to GP50 alone (GP50 antigen family); 2, positive to GP42-39 and GP24 (T24/42 family), with or without GP50; and 3 and 4, positive to GP50, GP42-39, and GP24 and reacting to bands in the 8-kDa family. Most cases in classes 3 and 4 had viable NCC (82% and 88%, respectively) compared to classes 2 and 1 (53% and 5%, respectively). Adding positive Ag-ELISA results to class 2 predicted all viable NCC cases (22/22 [100%]), whereas 11/40 patients (27.5%) Ag-ELISA negative had viable NCC ($P < 0.001$). Only 1/4 patients (25%) Ag-

ELISA positive in class 1 had viable NCC, whereas 1/36 patients (2.8%) Ag-ELISA negative had viable NCC (P = 0.192). In classes 3 and 4, adding Ag-ELISA was not contributory. Combining Ag-ELISA with EITB banding patterns improves discrimination of viable from nonviable NCC, particularly for class 2 responses. Together, these complement neuroimaging more appropriately for the diagnosis of viable NCC.

KEYWORDS: Ag-ELISA; EITB banding patterns; Taenia solium; viable NCC.

51.- Diagnostic accuracy of brief cognitive screening tools to diagnose vascular cognitive impairment in Peru.

Custodio N, Montesinos R, Alva-Diaz C, Pacheco-Barrios K, Rodriguez-Calienes A, Herrera-Pérez E, Becerra-Becerra Y, Castro-Suárez S, Pintado-Caipa M, Cruz Del Castillo R, Cuenca J, Lira D.

Int J Geriatr Psychiatry. 2022 Jan;37(1). doi: 10.1002/gps.5531. Epub 2021 Mar 17.

PMID: 33682923

ABSTRACT: Introduction: To evaluate the diagnostic accuracy of three brief cognitive screening (BCS) tools, Peruvian version of Addenbrooke's Cognitive Examination (ACE-Pe), of INECO Frontal Screening (IFS-Pe) and of the Mini-Mental State Examination (MMSE-Pe), for the diagnosis of vascular cognitive impairment (VCI) and its non-dementia stages (VCI-ND) and vascular dementia (VD) in patients with cerebral stroke in Lima-Peru. Materials and methods: A cohort analysis to evaluate the diagnostic accuracy of three BCS for VCI. Results: Two hundred and four patients were evaluated: 61% Non-VCI, 30% VCI-ND and 9% VD. To discriminate patients with VCI from controls, the area under the curve (AUC) of ACE-Pe, IFS-Pe and MMs-Pe were 0.99 (95% confidence interval [CI] 0.98-0.99), 0.99 (95%CI 0.98-0.99) and 0.87 (95%CI 0.82-0.92), respectively. Of the three BCS, the IFS-Pe presented a larger AUC to discriminate VCI-ND from VD (AUC = 0.98 [95%CI 0.95-1]) compared to ACE-Pe (AUC = 0.84 [95%CI 0.74-0.95]) and MMSE-Pe (0.92 [95%CI 0.86-0.99]). The IFS-Pe presented a higher sensitivity (S), specificity (Sp), and positive (+LR) and negative likelihood ratios (-LR) (S = 96.72%, Sp = 89.47%, +LR = 9.1 and -LR = 0.03) than ACE-Pe (S = 96.72%, Sp = 63.16%, +LR = 2.62 and -LR = 0.05) and MMSE-Pe (S = 90.16%, Sp = 78.95%, +LR = 4.28 and -LR = 0.12). In the multiple regression analysis, the IFS-Pe was not affected by age, sex or years of schooling. Conclusion: The IFS-Pe has the best diagnostic accuracy for detecting VCI and discriminating between pre-dementia (VCI-ND) and dementia (VD) stages.

KEYWORDS: brief cognitive tests; cognitive vascular disorder; diagnostic accuracy; vascular dementia.

52.- Is Surfer's myelopathy an acute hyperextension-induced myelopathy? A systematic synthesis of case studies and proposed diagnostic criteria.

Alva-Díaz C, Rodriguez-López E, López-Saavedra A, Metcalf T, Morán-Mariños C, Navarro-Flores A, Velásquez-Rimachi V, Aguirre-Quispe W, Shaikh ES, Mori N, Romero-Sanchez R, Pacheco-Barrios K.

J Neurol. 2022 Apr;269(4):1776-1785. doi: 10.1007/s00415-021-10775-4. Epub 2021 Sep 3.

PMID: 34477933 Review.

ABSTRACT: Background: Surfer's myelopathy is a rare complication of spinal hyperextension originally described in novice surfers. However, reports from patients practicing different activities had risen. Aim: To systematically synthesize the epidemiological and clinical evidence on acute hyperextension-induced myelopathy ("Surfer's myelopathy") and propose new diagnostic criteria. Methods: We systematically searched four databases for all observational and case studies on the topic. We performed a narrative synthesis to propose diagnostic criteria and tested the criteria retrospectively on the included cases. A case report is also presented. Results: Forty-two articles reporting 104 cases (median age 19 years, slightly male predominance) were included. All cases reported a nontraumatic hyperextension event (58% after surfing).

All of the cases presented pain of hyperacute onset. The most frequent clinical feature was bladder or bowel dysfunction (84%). The thoracic region was the most frequently affected (87%) with longitudinal involvement until the conus (67%). At discharge or follow-up, 52% partially recovered. We propose five diagnostic criteria with three levels of certainty (definite, probable, and possible): (1) nontraumatic spine hyperextension activity (in individuals with no pre-existent spinal disease); (2) hyperacute onset (with acute pain onset); (3) spinal cord injury clinic (motor, sensory, or autonomic deficit); (4) MRI findings with central spinal cord abnormalities (multiple segments); and (5) no other alternative diagnosis. We identified 88% definite and 12% probable/possible cases. Conclusion: The acute hyperextension-induced myelopathy could occur not only during surfing but also during other activities. Therefore, increased awareness and education among sports communities and general physicians are needed.

KEYWORDS: Spinal cord injury; Spinal cord ischemia; Surfer's myelopathy.

2. INVESTIGACION EN EL INSTITUTO NACIONAL DE CIENCIAS NEUROLOGICAS

Página en blanco

2.1. Introducción

El Instituto Nacional de Ciencias Neurológicas (INCN), es una organización desconcentrada del más alto nivel de complejidad y capacidad resolutiva. Es la encargada de brindar atención altamente especializada, desarrollar investigación científica e innovación tecnológica y normas en el campo de las neurociencias, para su posterior difusión, implementación y mejoramiento continuo de los servicios. El INCN es considerado como un Centro de Investigación ante el Instituto Nacional de Salud y tiene registro vigente N° RCI-067.

La Oficina Ejecutiva de Apoyo a la Investigación y Docencia Especializada (OEAIDE), es el órgano de apoyo que depende de la Dirección general, tiene como función principal promover la investigación y la docencia a través de las Unidades correspondientes.

La Unidad de Investigación, propone, asesora, desarrolla y fomenta el proceso de la investigación en su área temática respectiva hasta la consecución de la difusión del conocimiento mediante la publicación del proyecto concluido, promueve la formación de profesionales con perfil para el desarrollo de la investigación con estándares de calidad en el proceso, fortalece el sistema institucional en el ámbito administrativo para el desarrollo de la investigación en el INCN.

En la Unidad de Investigación del INCN se cuenta con 13 registros de Centros Básicos de Investigación (CBI), los cuales son responsables de planificar, organizar y dirigir las labores de investigación, innovación y transparencia tecnológica y la gestión del conocimiento del tema de su dominio y así aportar en el cumplimiento de los objetivos institucionales y son los responsables de la producción científica principalmente. Los CBI no son los únicos generar publicaciones científicas, también se cuenta con investigadores que aún no conformaron sus CBI que ya vienen generando interesantes reportes.

2.2. Formación histórica de los CBI

La necesidad de incrementar la producción científica en el INCN hizo que se organizaran los CBI con líneas de investigación definidas, ver Tabla N° 1 (ver mas adelante). El Primer CBI creado en enero del 2011 y el útimo en mayo 2018.

El CBI esta dirigido por un lider en investigación quien a lo largo de los años han ido generando oportunidades de investigación entre sus miembros y para tesistas de pre y post grado.

Tabla N° 1. Centros Basicos de Investigación según órden de creación

Nro	CENTRO BASICO DE INVESTIGACION	RESPONSABLE DE CREACION	DEPARTAMENTO / SERVICIO	RD	FECHA DE CREACION	RESPONSABLE DACTUAL DEL CBI
1	Centro de Investigaciones Básicas en el Área Otoneurología	M.C Rodolfo Badillo Carrillo	Otoneurocirugía	015-2011-INCN-DG	14/01/2011	M.C Rodolfo Badillo Carrillo
2	Centro de Investigación Básica de Epilepsia	M.C Willy Zapata Luyo	Epilepsia	109-2011-INCN-DG	31/03/2011	M.C José Delgado
3	Centro de Investigación Básica en Neurogenética	M.C Mario Cornejo Olivas	Neurogenética	385-2011-INCN-DG	19/10/2011	M.C Marianella Illanes
4	Centro de Investigación Básica en el Área de Neurovasculares y Metabólicas	M.C Carlos Abanto Argomedo	Neurovasculares	331-2012-INCN-DG	19/09/2012	M.C Carlos Abanto Argomedo
5	Centro de Investigación Básica en Liquido Céfalo Raquídeo [Tuberculosis y VIH-SIDA del Sistema Nervioso Central	M.C Manuel Alvarado Rosales	Neuroinfecciosas	067-2014-INCN-DG	4/03/2014	Jefe del servicio
6	Centro de Investigación Básica en Enfermedades Neuromusculares y de Motoneurona, 2015-2020	M.C Frank Aquino Peña	Neurofisiología	173-2015 INCN-DG	20/08/2015	M.C Darwin Segura
7	Centro Básico de Investigación en Demencia y Enfermedades Desmielinizantes del Sistema Nervioso	M.C María Meza Vega	Neurología de la Conducta y Enfermedades desmielinizantes	283-2016-INCN-DG	23/08/2016	M.C Sheila Castro Suarez
8	Centro Básico de Investigación Sensorial Visual y Oculomotora	M.C Guido Alban Zapata	Neuro Oftalmología	342-2016-INCN-DG	25/10/2016	M.C Guido Alban Zapata
9	Centro Básico de Investigación en Movimientos Involuntarios y Enfermedades Degenerativas del Sistema Nervioso	M.C Carlos Cosentino Esquerre	Neurodegenerativas	345-2016-INCN-DG	25/10/2016	M.C Carlos Cosentino Esquerre
10	Centro Básico de Investigación en Cisticercosis y otras enfermedades parasitarias del Sistema Nervioso	M.C Hugo García Lescano	Neuroinfecciosas	388-2016-INCN-DG	2/12/2016	Jefe del servicio
11	Centro Básico de Investigación en Enfermería Neurológica y Neuroquirúrgica	Lic. Enf. Manuel Agüero Tupiño	Enfermería	012-2018-INCN-DG	5/02/2018	Lic. Enf. Manuel Agüero Tupiño
12	Centro Básico de Investigación en Neuroimágenes	M.C. Darío Esteban Arias	Neuroimágenes	016-2018-INCN-DG	7/02/2018	Jefe del servicio
13	Centro Básico de Investigación en Exámenes Auxiliares en Parasitosis del Sistema Nervioso	M.C Hugo García Lescano	Patología - Unidad de Cisticercosis	134-2018-INCN-DG	18/05/2018	M.C Hugo García Lescano

Fuente: Registros de la Unidad de Investigacion de la OEAIDE del INCN.

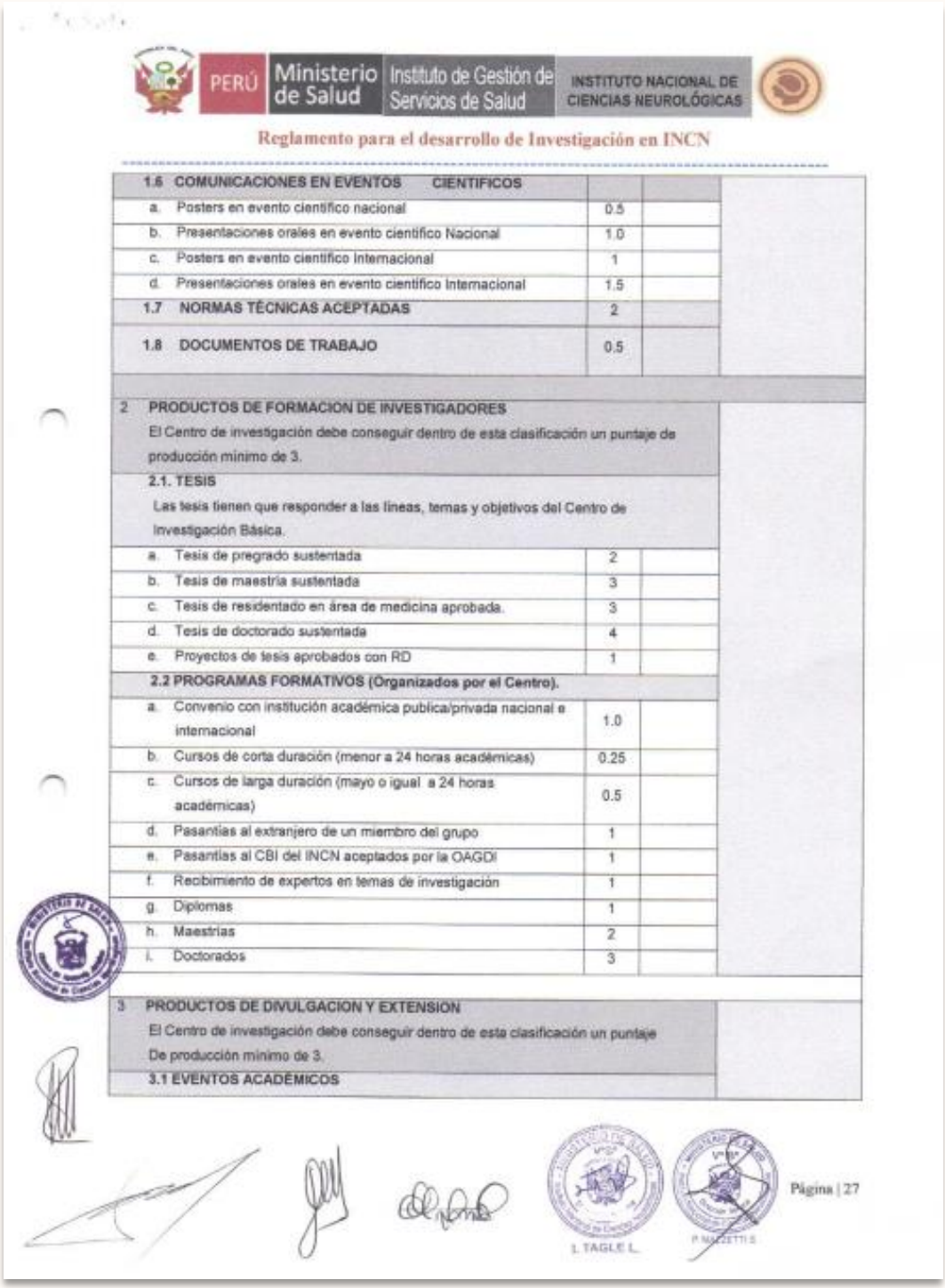
2.3. Sustento de la Autoevaluación y categorías

El 13 de mayo del 2016 se aprobo el Reglamento de Investigación con R.D Nº 172-2016-INCN-DG donde se contempla la evaluación de los CBI en forma anualmente, por ello a partir del 2019 se procedio a implementalo en forma conjunta con los responsables de los CBI. Lineas abajo se muestra el Anexo 3 del Reglamento de investgiación donde se detallan los aspectos que se tenian que sustentar para la asignacion de puntajes según correspondan. La evaluación de los CBI a permitido significativas mejoras en los indicadores de publicaciones como se ven más adelante.

ANEXO 3
Tabla de Calificación de actividades de los CBI*

1. PRODUCTOS CIENTIFICOS Y DE INNOVACION El Centro de investigación debe conseguir dentro de esta clasificación un puntaje de producción mínimo de 3.	Puntaje	Puntaje logrado	Puntaje por bloque (obtenido/mínimo)
1.1 ARTICULOS EN PUBLICACIONES PERIODICAS INDIZADAS			
a. Artículo en revista indizada de primer cuartil (*)	4		
b. Artículo en revista indizada de segundo cuartil (*)	3		
c. Artículo en revista indizada de tercer o cuarto cuartil (*)	2		
d. Artículo en revista indizada que no se menciona en listado de revistas Scimago.	1.5		
e. Artículo en revista no indizada pero con trayectoria. (Se listará)	1.0		
1.2 ARTICULOS EN MEMORIA O ANALES DE CONGRESO			
a. Artículos en memorias o anales de congreso indizado.	2		
b. Artículos en memorias o anales de congreso solo con arbitraje.	1		
1.3 LIBROS			
a. Libro publicado en editorial internacional con arbitraje.	6		
b. Libro publicado en editorial nacional o internacional con arbitraje.	4		
c. Libro publicado en editorial nacional o internacional sin arbitraje	3		
1.4 CAPITULOS DE LIBROS			
a. Capítulo de libro en editorial nacional o internacional con arbitraje.	3		
b. Capítulo de libro en editorial nacional o internacional sin arbitraje.	2		
1.5 PRODUCTOS TECNOLÓGICOS			
a. Producto licenciado	4		
b. Producto patentado	3.5		
	1		

INCN



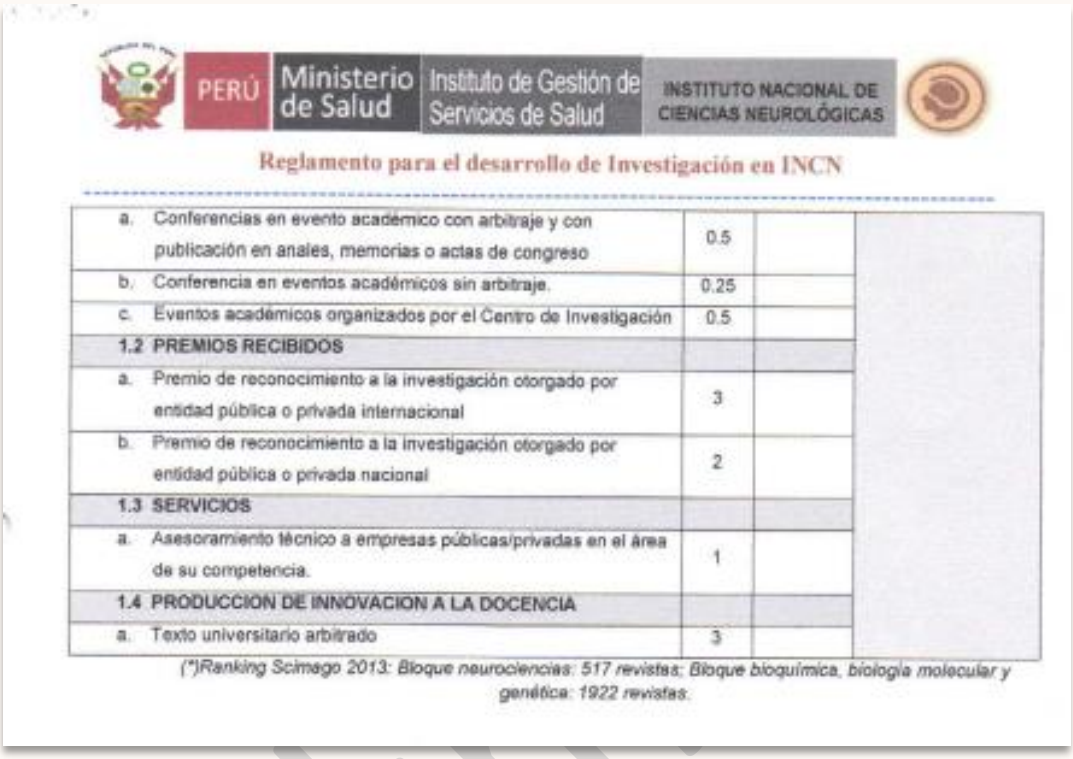
PERÚ | Ministerio de Salud | Instituto de Gestión de Servicios de Salud | INSTITUTO NACIONAL DE CIENCIAS NEUROLÓGICAS

Reglamento para el desarrollo de Investigación en INCN

1.6 COMUNICACIONES EN EVENTOS CIENTIFICOS			
a. Posters en evento científico nacional	0.5		
b. Presentaciones orales en evento científico Nacional	1.0		
c. Posters en evento científico internacional	1		
d. Presentaciones orales en evento científico internacional	1.5		
1.7 NORMAS TÉCNICAS ACEPTADAS	2		
1.8 DOCUMENTOS DE TRABAJO	0.5		
2 PRODUCTOS DE FORMACION DE INVESTIGADORES El Centro de investigación debe conseguir dentro de esta clasificación un puntaje de producción mínimo de 3.			
2.1. TESIS Las tesis tienen que responder a las líneas, temas y objetivos del Centro de Investigación Básica.			
a. Tesis de pregrado sustentada	2		
b. Tesis de maestría sustentada	3		
c. Tesis de residentado en área de medicina aprobada.	3		
d. Tesis de doctorado sustentada	4		
e. Proyectos de tesis aprobados con RD	1		
2.2 PROGRAMAS FORMATIVOS (Organizados por el Centro).			
a. Convenio con institución académica publica/privada nacional e internacional	1.0		
b. Cursos de corta duración (menor a 24 horas académicas)	0.25		
c. Cursos de larga duración (mayo o igual a 24 horas académicas)	0.5		
d. Pasantías al extranjero de un miembro del grupo	1		
e. Pasantías al CBI del INCN aceptados por la OAGDI	1		
f. Recibimiento de expertos en temas de investigación	1		
g. Diplomas	1		
h. Maestrías	2		
i. Doctorados	3		
3 PRODUCTOS DE DIVULGACION Y EXTENSION El Centro de investigación debe conseguir dentro de esta clasificación un puntaje De producción mínimo de 3.			
3.1 EVENTOS ACADÉMICOS			

L. TAGLE L.

Página | 27



PERÚ | Ministerio de Salud | Instituto de Gestión de Servicios de Salud | INSTITUTO NACIONAL DE CIENCIAS NEUROLÓGICAS

Reglamento para el desarrollo de Investigación en INCN

a. Conferencias en evento académico con arbitraje y con publicación en anales, memorias o actas de congreso	0.5		
b. Conferencia en eventos académicos sin arbitraje.	0.25		
c. Eventos académicos organizados por el Centro de Investigación	0.5		
1.2 PREMIOS RECIBIDOS			
a. Premio de reconocimiento a la investigación otorgado por entidad pública o privada internacional	3		
b. Premio de reconocimiento a la investigación otorgado por entidad pública o privada nacional	2		
1.3 SERVICIOS			
a. Asesoramiento técnico a empresas públicas/privadas en el área de su competencia.	1		
1.4 PRODUCCION DE INNOVACION A LA DOCENCIA			
a. Texto universitario arbitrado	3		

(*)Ranking Scimago 2013: Bloque neurociencias: 517 revistas; Bloque bioquímica, biología molecular y genética: 1922 revistas.

De la suma de las actividades para el periodo de evaluación resulta en un puntaje que se enmarca dentro de algunas de las siguientes categorías:

Tabla Nº 2. Categorías de los CBI

CATEGORIA	RANGOS	DESCRIPCION
A	30 a más puntos	El CBI tiene nivel de producción muy superior al esperado
B	de 20 a 29 puntos	El CBI ha logrado una producción superior a la esperada.
C	de 9 a 19 puntos	El CBI ha cumplido con las expectativas de producción.
D	de 0 a 8 puntos	El CBI no ha cumplido con los requerimientos de producción mínimos.

Fuente: Reglamento de investigación vigente.

2.4. Resultados de la Evaluación de los CBI al 2021

Para el proceso de evaluación de los CBIs, se envían documentación a los Responsables de los CBI quienes envias sus documentos sustentatorios y en forma conjunta se procede a la evaluación en ausencia del CBI que está siendo evaluado. Del proceso de evaluación del 2019 al 2021, se tienen los siguientes resultados:

Tabla Nº 3. Resultados de la evalaucion de los CBI para los años 2019 al 2021

Centro Basico de Investigacion	Fecha de creación	2019 CATEGORIA (Puntaje)	2020 CATEGORIA (Puntaje)	2021 CATEGORIA (Puntaje)
Centro Básico de Investigación en Exámenes Auxiliares en Parasitosis del Sistema Nervioso	18/05/2018	A (47.00)	A (58.00)	A (125.5)
Centro Básico de Investigación en Demencia y Enfermedades Desmielinizantes del Sistema Nervioso	23/08/2016	A (30.75)	A (31.25)	A (123.25)
Centro de Investigación Básica en Neurogenética	19/10/2011	A (74.75)	A (75.00)	A (81.5)
Centro de Investigación Básica en el Área de Neurovasculares y Metabólicas	19/09/2012	A (34.75)	A (47.00)	A (65.25)
Centro Básico de Investigación en Movimientos Involuntarios y Enfermedades Degenerativas del Sistema Nervioso	25/10/2016	No presentaron información	No presentaron información	A (48.00)
Centro de Investigación Básica en Enfermedades Neuromusculares y de Motoneurona, 2015-2020	20/08/2015	D (7.5)	D (4.76)	C (14.75)
Centro Básico de Investigación en Neuroimágenes	7/02/2018	No presentaron información	No presentaron información	D (5.00)
Centro Básico de Investigación en Enfermería Neurológica y Neuroquirúrgica	5/02/2018	D (8.4)	No presentaron información	D (0)
Centro de Investigación Básica en Liquido Céfalo Raquídeo [Tuberculosis y VIH-SIDA del Sistema Nervioso Central	4/03/2014	D (0)	No presentaron información	No presentaron información
Centro Básico de Investigación en Cisticercosis y otras enfermedades parasitarias del Sistema Nervioso	2/12/2016	No presentaron información	No presentaron información	No presentaron información
Centro Básico de Investigación Sensorial Visual y Oculomotora	25/10/2016	No presentaron información	No presentaron información	No presentaron información
Centro de Investigación Básica de Epilepsia	31/03/2011	No presentaron información	No presentaron información	No presentaron información
Centro de Investigaciones Básicas en el Área Otoneurológica	14/01/2011	No presentaron información	No presentaron información	No presentaron información

Fuente: Registros de la Unidad de Investigación de la OEAIDE del INCN.

Se aprecia el esfuerso de los resposnables de los CBI que año a año van invrementando sus indicadores en investigación traduciendose en un puntaje cada vez mayor. Por otro, tenemos que reconocer el esfuerso del CBI en Enfermedades Neuromusculares y de Motoneurona, a logrado la categoria “C” y esperamos que en las proximas ecvaluaciones siga incrementando sus indicadores de producción. En relación al CBI de Neuroimagenes, consideramos que para el proximo año sin duda logrará salir de la categoria “D”.

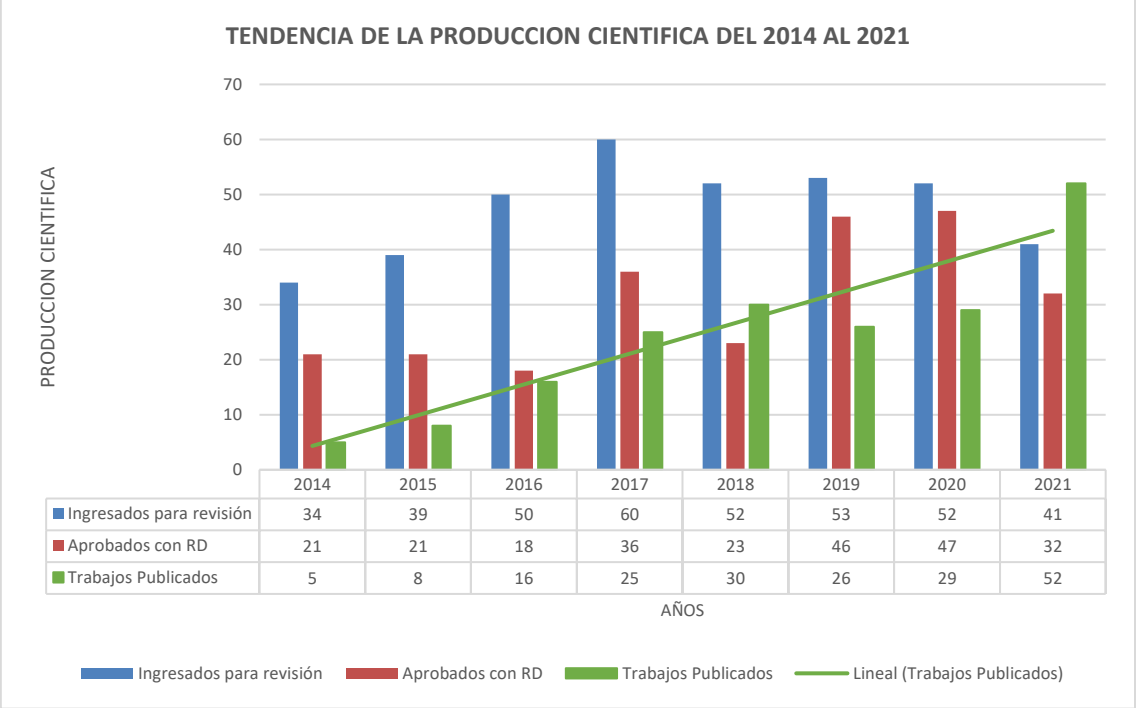
2.5. Tendencia de la producción científica

Todo trabajo de investigación en el Instituto Nacional de Ciencias Neurológicas pasan por una revision exhaustiva por el Comité Institucional de Etica en Investigación (CIEI) resultando en la Aprobación al término del levantamiento de las observaciones por parte de los investigadores. Esta aprobación es el sustento para generar la Resolución Directoral (RD).

Los investigadores pueden ejecutar los trabajos desde el momento que tienen la aprobación del CIEI. Los tiempos para concluir los trabajos son muy variados, desde los reportes de casos que requieren semanas a meses y por otro lado los ensayos clínicos requieren años. En relación a la publicación, estas también requieren diferentes tiempos según las exigencias de las diferentes revistas científicas.

En la Figura N° 1 se puede evidenciar la tendencia de de estos diferentes momentos, donde destaca mla marcada y sostenida tendencia al incremento de las publicaciones.

Figura Nº 1. Tendencia de las publicaciones científicas en el Instituto Nacional de Ciencias Neurológicas.



Fuente: Registros de la Unidad de Investigación de la OEAIDE del INCN.

2.6. Incentivo a la publicación científica

Desde el 2019, La Unidad de Investigación de la OEAIDE, tomó en cuenta los considerandos principales de la Directiva Administrativa para la asignación de incentivo a la publicación científica en el Instituto Nacional de Ciencias Neurológicas, que tiene como objetivo reconocer mediante el otorgamiento anual de un incentivo por publicación, el esfuerzo de los investigadores afiliados a un Centro Básico de Investigación del Instituto Nacional de Ciencias Neurológicas por difundir sus resultados de investigación en revistas nacionales o internacionales indizadas en bases de datos bibliográficas.

Durante los 3 últimos años se han aprobado las siguientes directivas:

- RD N°240-2018-DG-INCN, Directiva para la Asignación de Incentivo a la Publicación Científica
- RD-190-2020-DG-INCN, Directiva para la Asignación de Incentivo a la Publicación Científica
- RD-169-2022-DG-INCN, Directiva para la Asignación de Incentivo a la Publicación Científica

A continuación, se presentan los montos entregados en beneficio de las publicaciones durante los años 2019 a 2021.

Tabla N° 4. Asignacion del incentivo a la publicación científica

AÑO	PERIODO	CANTIDAD DE PUBLICACIONES BENEFICIADAS	NUMERO DE INVESTIGADORES ACREEDORES	MONTO TOTAL POR AÑO	RD DE ASIGNACION DE LOS MONTOS
2019	Nov 2018 - Oct 2019	10 (de 16)	4 investigadores	S/ 8,005.00	N° 260-2019-DG-INCN
2020	Nov 2019 - Oct 2020	9 (de 11)	6 investigadores	S/ 8,500.00	N° 223-2020-DG-INCN
2021	Nov 2020 - Junio 2021	23 (de 34)	13 investigadores	S/ 10,002.00	N° 084-2022-DG-INCN

Fuente: Registros de la Unidad de Investigación de la OEAIDE del INCN.

Para el 2022, la actividad de reconocimiento se esta programando para llevarse a cabo en el mes de agosto de tal forma que la ceremonia de reconocimiento se realice durante las actividades del Curso Internacional de Investigación en Neurociencias.

3. APORTES DE LA INVESTIGACION CIENTIFICA DEL INSTITUTO NACIONAL DE CIENCIAS NEUROLOGICAS AL CONOCIMIENTO

Página en blanco

3.1. Centro Básico de Investigación en Exámenes auxiliares en parasitosis del Sistema Nervioso

Hector Hugo Garcia Lescano

Responsable del CBI

El Centro Básico de Investigación en Exámenes Auxiliares en Parasitosis del Sistema Nervioso. Es el brazo clínico del Grupo de Trabajo en Cisticercosis en Perú, que es una de las redes más productivas en el tema a nivel mundial. Como tal participa en múltiples estudios de investigación básica, clínica y epidemiológica. En el campo de la investigación básica, una línea de investigación actual es el estudio de las poblaciones celulares de la membrana del cisticerco racemoso. Estas poblaciones celulares son hipermetabólicas y germinativas, lo que explica su proliferación e invasión de estructuras circundantes. En el campo diagnóstico, se está trabajando en el desarrollo y optimización de nuevos formatos de pruebas diagnósticas para la detección de antígenos y anticuerpos para el diagnóstico de la neurocisticercosis tanto en suero, en líquido cefalorraquídeo, y más recientemente la detección de antígenos en orina como una prueba no invasiva y de potencial utilidad en el monitoreo de la eficacia del tratamiento antiparasitario. Finalmente, en lo que corresponde a la terapia antiparasitaria, se ha terminado el enrolamiento de un estudio clínico que compara la terapia combinada con albendazole y praziquantel con la terapia usual con solamente albendazole, resultados que serán analizados en los siguientes meses y deben proveer el nuevo estándar de tratamiento para esta patología como se hizo con la neurocisticercosis intraparenquimal.

3.2. Centro Básico de Investigación de Demencia y Enfermedades Desmielinizantes del Sistema Nervioso

Sheila Cástro Suarez

Responsable del CBI

Los aportes de nuestro centro de investigación siguieron dos líneas principales de trabajo en el 2021. Los trabajos realizados comprenden posters, reportes de casos, editoriales, capítulos de libros y trabajos originales en el área de neuroinmunología y deterioro cognitivo. Publicamos trabajos de nuestra casuística y además aquellos que resultaron de trabajos colaborativos con otros centros de investigación del Instituto Nacional de Ciencias Neurológicas, con instituciones nacionales y extranjeras. En el área de neuroinmunología realizamos publicaciones en temas como: encefalitis autoinmune asociada a enfermedad anti-MOG, síndrome de Guillain-Barré (alteraciones en el líquido cefalorraquídeo y respuesta al recambio plasmático terapéutico), Miller Fisher, trastorno del espectro de la neuromielitis óptica y esclerosis múltiple. En este último tema nuestros resultados son los primeros en describir una cohorte peruana de pacientes, donde la presentación de un síndrome tronco encefálico al inicio de la enfermedad se relaciona con un diagnóstico temprano de Esclerosis múltiple. Las publicaciones en el área de neurología de la conducta fueron sobre: Manifestaciones psiquiatras de la Enfermedad de Alzheimer, demencia frontotemporal, Parálisis supranuclear progresiva y afasia progresiva primaria. Por otro lado, también se realizó una publicación sobre test de tamizaje en deterioro cognitivo. Al encontrarnos en medio de la pandemia de la COVID-19 realizamos publicaciones respecto a las complicaciones del *SARS-COV-2* en las funciones neurocognitivas, así como sobre las complicaciones neurológicas de las vacunas contra el *SARS-COV-2*. Los artículos fueron publicados en revistas nacionales e internacionales, algunas en español y otras en inglés.

3.3. Centro Básico de Investigación en Neurogenética

Elison Sarapura

Responsable del CBI

El Centro de Investigación Básica en Neurogenética (CIBN), desde su creación el 19 de octubre del 2011 con RD nro. 385-2011-INCN-DG es un CIB del Instituto Nacional de Ciencias Neurológicas (INCN) dedicado a la investigación clínica y traslacional en enfermedades neurológicas con base genética. El CIBN esta formado por un equipo multidisciplinarios de profesionales-investigadores entre investigadores senior, asociados, auxiliares, invitados y tesistas. La red de colaboración del CIBN incluye a los demás centros de investigación del INCN, como con el Centro Básico de Investigación (CBI) en movimientos involuntarios y Enfermedades Degenerativas del Sistema Nervioso a través del estudio de investigación sobre genética de la Enfermedad de Parkinson, así como con el CBI en demencia y enfermedades desmielinizantes del sistema nervioso a través del estudio de investigación sobre genética de Enfermedad de Alzheimer y otras demencias relacionadas; así como varias instituciones locales y nacionales, y redes de colaboración internacional con Norteamerica y Europa. Las líneas de investigación del CIBN incluyen la epidemiología genética de enfermedades neurogenéticas monogénicas y complejas, aplicaciones de genética y biología molecular para la práctica clínica y genómica en salud global. El CIBN gestiona 20 proyectos de investigación, incluyendo 02 proyectos de investigación con PROCIENCIA-CONCYTEC: Estudio EuSAge para la identificación de modificadores genéticos y neurodegeneración en ataxia hereditaria MJD/SCA3 y el estudio SEMILLA para redefinir aspectos genéticos sobre la ataxia hereditaria SCA10.

3.4. Centro Básico de Investigación en el Árera de Neurovasculares y Metabólicas

Carlos Abanto Argomedo

Responsable del CBI

Está constituido por un equipo de salud multidisciplinario, altamente calificado, con perfil clínico-investigador que desarrolla procesos de investigación para generar y divulgar la más alta evidencia en bases de datos indizadas internacionalmente que contribuyan al manejo de las personas afectadas por la enfermedad cerebrovascular.Desde su creación en el 2012, el CIB en Neurovasculares ha tenido una producción científica importante, como en el 2013, cuando publicó los predictores del buen estado clínico funcional luego de un ictus, como la edad joven y el puntaje NIHSS bajo. En el 2021, publicó un estudio con metodología cualitativa para el seguimiento a los pacientes post ictus, donde se pudo hallar que la continuidad de los cuidados estuvo afectada negativamente durante la pandemia por COVID 19, identificando una ventana de oportunidad para mejorar los sistemas de salud. Asimismo, se han publicado revisiones sistemáticas, capítulos de libros y guías de práctica clínica; asi como reportes de caso de etiologías inhabituales del ictus como Carotid Web, Moya Moya, Takayasu, síndrome de vasoconstricción cerebral reversible, entre otros.

Se cuenta además con una base de datos propia de pacientes hospitalizados con ictus en el programa Redcap y se participa en registros internacionales como SITS y ResQ, los cuales sirven de fuente de información para investigación y su análisis contribuye a mejorar la calidad de atención de los pacientes con ictus. Todo ello, ha permitido que el Instituto Nacional de Ciencias Neurológicas en el 2022 sea certificado como Centro Esencial de Ictus por la World Stroke Organization.

4. INDICE DE PALABRAS

Página en blanco

Página en blanco

Instituto Nacional de Ciencias Neurológicas

OFICINA EJECUTIVA DE APOYO A LA INVESTIGACION Y DOCENCIA ESPECIALIZADA

UNIDAD DE INVESTIGACION