Abstracts - Oral Presentation

Headache and Pain

356 | Regional Inequalities and Social Determinants of Headache-Related Hospitalizations in the State of Rio de Janeiro (2014–2024)

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ABSTRACT

Objective: To analyze the spatiotemporal distribution of hospitalizations for headaches and related pain syndromes in Rio de Janeiro, highlighting demographic disparities, social vulnerabilities, and factors influencing the progression of these cases.

Methods: This ecological study utilized data from the SUS Hospital Information System (SIH/SUS) via DATASUS to analyze hospitalizations for migraine and other headache-related pain syndromes in Rio de Janeiro between 2014 and 2024. Data on hospitalizations among men and women aged 20 years and older, municipalities with the highest case numbers, and the Human Development Index (HDI) were collected and analyzed using descriptive statistics.

Results: A total of 1,673 hospitalizations for migraine and other headache-related pain syndromes were recorded in the state of Rio de Janeiro, with approximately 30% concentrated in the metropolitan area, where the capital accounted for over half of the cases. The high incidence in the capital appears related to population density, urban stress, pollution, and broad access to specialized healthcare services that facilitate diagnosis and hospitalization. Rio Bonito (211) and Volta Redonda (112) ranked second and third, reflecting different contexts: in Rio Bonito, socioeconomic vulnerabilities, including informal income and lower HDI, are associated with limited access to preventive care and early treatment, whereas in Volta Redonda, occupational exposures and the industrial environment likely contribute to disease worsening. Nova Iguaçu reported the highest mortality rate, despite representing only 3% of cases, indicating greater clinical severity and barriers to timely treatment. Hospitalizations were predominantly female, with a marked increase between 2016 and 2022 (115% in women and 32% in men), suggesting the influence of hormonal and behavioral factors and greater healthcare-seeking behavior.

Conclusions: Hospitalizations for headaches in Rio de Janeiro reflect social and territorial inequalities influenced by urban, occupational, and socioeconomic factors, which affect both the severity and frequency of cases. The findings underscore the need for preventive strategies, early diagnosis, and equitable access to treatment, combined with strengthened primary care and integrated policies aimed at reducing risk factors, hospital burden, and regional disparities.

Cerebrovascular Disease

294 | Chronic Occlusive Cerebrovascular Disease (Moyamoya): Case Report of a 19-Year-Old Female Patient with Ischemic Stroke

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ABSTRACT

Case Report: We report the case of a 19-year-old female university student admitted with sudden aphasia and right hemiparesis. Physical examination revealed spasticity, central facial paralysis, and reduced strength in the right limbs. After three medical visits without diagnosis, a cranial CT was performed, followed by MRI, which showed areas consistent with acute/subacute ischemic events in the left frontal and parietal lobes, as well as a prior injury in the right frontal lobe. Treatment with Clopidogrel and Simvastatin was initiated, along with physical, occupational, and speech therapy, and na etiological investigation was started. Laboratory and genetic tests excluded thrombophilic and autoimmune causes, except for the C677T variant in the MTHFR gene in heterozygosis, considered insufficient to justify the clinical presentation. Despite initial improvement, the patient developed new neurological deficits, and MRI revealed additional ischemic lacunar lesions. CT angiography demonstrated diffuse stenosis and occlusions of the supraclinoid internal carotid arteries and segments of the middle and anterior cerebral arteries, suggestive of Moyamoya disease. Cerebral angiography confirmed the diagnosis, showing bilateral arterial obstructions, leptomeningeal collateral circulation, and perfusion defects on scintigraphy with marked frontal hypoperfusion. The patient underwent cerebral angioplasty with stent placement in the right internal carotid artery. Subsequent imaging revealed persistent vascular irregularities but preserved distal flow.

Discussion: The literature highlights the rising incidence of stroke among young adults (18–50 years), contrasting with its decline in older populations. This underscores the need to recognize age-specific risk factors, including illicit drug use, oral contraceptives, pregnancy, arterial dissection, thrombophilias, vasculitis, and Moyamoya disease. This case illustrates the importance of comprehensive investigation in young stroke patients, as delayed diagnosis led to recurrent ischemic events before confirmation of Moyamoya disease.

Final Comments: In conclusion, Moyamoya should be considered in recurrent ischemic events in young patients. Further studies are needed to clarify genetic predispositions, particularly the role of the MTHFR C677T variant, whose association with stroke remains controversial.

296 | Diagnostic Challenges in Behçet's Disease: A Case Report with Multisystemic Manifestations

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ABSTRACT

Case Report: A 29-year-old female patient from Caxias presented with a two-month history of amenorrhea, urinary incontinence and retention, mild eye redness, oral ulcers, episcleritis, hypotension, and arthritis. She denied dermatological issues, genital

ulcers, pathergy, thrombosis, or cirrhosis. Since 2014, she had experienced bilateral tremors, predominantly on the right, worsening with fine motor activities. In 2017, she reported sudden vision loss, dysphagia, gait difficulty, and dysarthria, prompting neurological evaluation. Early childhood history included pleural effusion and recurrent pneumonia. She underwent extensive evaluation, including serologies and MRI, initially suspecting Wilson's Disease, later excluded. Behçet's Disease was diagnosed, and she received a three-day pulse therapy, achieving improved mobility and reduction of inflammatory activity on MRI. During the pandemic, she experienced four years without treatment but resumed follow-up recently, undergoing azathioprine therapy (50 mg daily) for one year, resulting in progressive improvement in dysphagia, dysarthria, tremor, and mobility with support.

Discussion: Behçet's Disease is a rare, multisystemic vasculitis characterized by oral and genital ulcers, ocular inflammation, skin lesions, arthritis, thrombosis, and neurological manifestations. Diagnosis is based on International Study Group criteria, requiring recurrent oral ulcers and at least two of the following: recurrent genital ulcers, ocular lesions, skin lesions, or a positive pathergy test. Diagnostic evaluation involves detailed clinical history, physical examination, laboratory tests (CBC, ESR, CRP, liver and kidney function, coagulation), imaging studies, and pathergy testing. Management requires a multidisciplinary approach. Pulse therapy effectively reduced acute inflammation, and azathioprine maintained long-term symptom control. Treatment interruption during the pandemic led to symptom exacerbation, highlighting the importance of continuous adherence.

Final Comments: This case illustrates the complexity of diagnosing and managing Behçet's Disease, emphasizing the need for multidisciplinary care, early intervention, and consistent follow-up to improve patient outcomes. It underscores the importance of health policies that ensure access to continuous treatment and adequate support, ultimately promoting better prognosis and quality of life.

Neuroinfection

283 | Epidemiological Profile and Distribution of Pediatric Hospitalizations for Bacterial Meningitis in Brazil from 2018 to 2024: an ecological study

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ABSTRACT

Objectivo: To describe hospitalization data for bacterial meningitis (BM) in children up to 9 years of age in Brazil, between 2018 and 2024.

Methods: Ecological study conducted in August 2025, based on BM hospitalization data (ICD-10: G00) from the Brazilian Unified Health System (SUS), covering the period from January 2018 to December 2024. Hospitalizations were selected for the following pediatric age groups: under 1 year, 1–4 years, and 5–9 years. The variables analyzed included hospitalizations, age group, sex, geographic region, year of admission, and deaths. Data were obtained from the SUS Hospital Information System (SIH/SUS) and analyzed using Microsoft Excel. Submission to a research ethics committee was not required, as the study used public data. Limitations include the absence of etiological identification and the possibility of underreporting.

Results: A total of 25,457 hospitalizations were recorded, of which 9,650 (37.9%) occurred in children up to 9 years of age. Among these, 3,933 (40.5%) were in children under 1 year, 3,219 (33.5%) in those aged 1–4 years, and 2,498 (26%) in those aged 5–9 years. Male patients predominated, with 5,555 hospitalizations (57.5%) in this age group. The annual distribution of hospitalizations in children up to 9 years was: 1,395 in 2018, 1,510 in 2019, 938 in 2020, 877 in 2021, 1,546 in 2022, 1,846 in 2023, and 1,450 in 2024. The Southeast region presented the highest number of pediatric hospitalizations (n=4,193; 43.5%), followed by the South (1,918; 19.9%), Northeast (2,142; 22.2%), North (746; 7.7%), and Midwest (651; 6.7%). A total of 390 deaths were recorded, with mortality peaks in 2019 (n=68) and 2023 (n=72). The highest concentration of deaths occurred in the Southeast (n=151), followed by the Northeast (n=93), South (n=59), North (n=61), and Midwest (n=26).

Conclusion: Hospitalizations due to BM remain an important public health challenge in the Brazilian pediatric population, with the greatest impact among children under 1 year and a predominance in males. The decline observed in 2020 and 2021 may be related to the COVID-19 pandemic, followed by a subsequent rebound in hospitalizations. The high rates of hospitalization and mortality reinforce the importance of preventive measures. The concentration of cases in the Southeast may reflect higher population density and greater access to healthcare services, but also demands continuous surveillance and region-specific strategies to address the problem.

Myopathy and Neuropathy

246 | Acute Motor and Sensory Axonal Neuropathy (AMSAN) Following Leptospirosis: A Rare Case Report

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ABSTRACT

Case Report: A previously healthy woman presented in September 2024 with acute onset of severe muscle pain in both lower limbs, worse on the left, associated with erythematous cutaneous lesions on the palms and legs and disabling arthralgias. Within days, she developed jaundice and dark urine. Serology performed in October 2024 confirmed acute leptospirosis with IgM anti-Leptospira at 22.1 U/mL (reference <15), and she was treated with amoxicillin, resulting in resolution of systemic manifestations. Nevertheless, neurological symptoms progressed, with symmetrical weakness initially affecting the lower limbs and subsequently involving the upper limbs, reaching nadir within three weeks. Neurological examination revealed steppage gait, more pronounced on the left, distal weakness more severe than proximal in both upper and lower limbs, distal hypoesthesia in both lower limbs across all modalities, generalized areflexia, and intact cranial nerves. Electroneuromyography performed in March 2025 demonstrated distal axonal sensorimotor involvement, reduced CMAP

amplitudes in bilateral tibial and deep peroneal nerves, absent SNAPs in superficial peroneal nerves, spontaneous activity including fibrillations and positive sharp waves in proximal and distal muscles, and prolonged F-wave latencies in tibial nerves, consistent with AMSAN. Gradual recovery began in November 2024, with independent ambulation achieved several months later. At follow-up in August 2025, the patient reported functional independence and returned to her occupation as a pharmacy cashier, though proximal lower limb weakness persisted. Her medical history included hypertension, cholelithiasis, and hepatic steatosis, treated with losartan and hydrochlorothiazide.
Discussion: Neurological complications of leptospirosis are rare and may result from immune-mediated injury or vasculitis. AMSAN is characterized by distal motor and sensory deficits, reduced CMAPs, absent SNAPs, and prolonged F-waves, with slower recovery than demyelinating forms. Outcomes vary from rapid recovery to persistent deficits. Antibiotic therapy resolves systemic infection but does not prevent immune-mediated neuropathy, highlighting the need for early recognition, supportive care, and rehabilitation.

Final Comments: AMSAN following leptospirosis is rare, with slow recovery and potential residual deficits. Early recognition and multidisciplinary care are essential to optimize functional outcomes.

Neuroimunology

282 | Effectiveness and Safety of the Recombinant Adsorbed Meningococcal B Vaccine in Preventing Serogroup B Meningococcal Disease in Children Under 1 Year of Age: A Systematic Literature Review

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ABSTRACT

Objective: To evaluate the effectiveness and safety of the recombinant adsorbed meningococcal B vaccine (4CMenB – Bexsero®) in preventing invasive meningococcal disease (IMD) caused by Neisseria meningitidis serogroup B in children under 1 year of age.
Methods: Systematic review conducted in January 2025 in the Medline (via PubMed) and Embase databases, following PRISMA guidelines. The search strategy was structured according to the PICOT framework, using controlled descriptors (MeSH and Emtree). Randomized clinical trials, observational studies, and systematic reviews with or without meta-analysis, published in Portuguese, English, or Spanish, that compared 4CMenB with no vaccination in children <1 year of age, were included. Study selection was performed with Rayyan software, with full-text assessment and data extraction in Microsoft Excel. Two independent reviewers conducted screening and methodological assessment, with disagreements resolved by consensus. Methodological quality, risk of bias, and level of evidence were assessed using AMSTAR 2, ROBINS-I, and GRADE. Due to data heterogeneity, no meta-analysis was performed.
Results: The search identified 1,887 studies, of which 5 were included. The systematic review by Cinconze et al. (2021) reported effectiveness between 59% and 94%, with up to 94% reduction in IMD. Three subsequent observational studies also demonstrated high effectiveness: Wang et al. (2022) found a 60% reduction in disease, with effectiveness of 94.2% (screening) and 94.7% (case-control); Lodi et al. (2023) reported effectiveness >93%, reaching 95.6% with a complete vaccination schedule; and Castilla et al. (2023) estimated effectiveness of 64% with ≥1 dose and 71% with the full schedule. The review by Marshall et al. (2023) addressed safety, reporting fever and local reactions as the most frequent events, with severe events being rare and without confirmed causal relationship. Most studies showed moderate to high risk of bias, with low to very low certainty of evidence.
Conclusion: The 4CMenB vaccine shows high effectiveness and an acceptable safety profile in infants, with strong potential to reduce the burden of serogroup B IMD. Its inclusion in the National Immunization Program would represent a significant advancement for child health and public health policy.

713 | Immunomodulatory therapies in MuSK-positive myasthenia gravis: a systematic review of clinical trials

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ABSTRACT

Objetive: To evaluate the efficacy and safety of emerging immunomodulatory therapies in patients with myasthenia gravis (MG) associated with anti-MuSK antibodies, through a systematic review of clinical trials.
Methods: This systematic review was conducted according to PRISMA 2020 recommendations. The search strategy was guided by the PICO framework: P – patients with MuSK-positive MG; I – immunomodulatory therapies (e.g., FcRn blockers, anti-CD19, oral antimetabolites); C – placebo or standard therapy; O – clinical efficacy (MG-ADL, QMG, MGC) and safety. Databases searched included PubMed, CENTRAL, LILACS, and ICTRP up to September 2025. Randomized phase 2 and 3 clinical trials reporting MuSK-positive patient data were included. Ongoing trials were described separately.
Results: Three completed trials and one ongoing study were identified. Rozanolixizumab (MycarinG, phase 3) demonstrated significant clinical benefit, with approximately 70% of patients achieving meaningful functional improvement compared to 20% in the placebo group. In the MuSK-positive subgroup, response rates were even higher, approaching 75%. Inebilizumab (MINT trial, NEJM 2024) showed improvement in 65% of treated patients versus 40% in the placebo group, with an acceptable safety profile. Oral cladribine (MyClad, phase 3) is ongoing, aiming to include 251 participants, including MuSK-positive cases, with no published results to date.
Conclusion: Current evidence suggests that FcRn blockers, such as rozanolixizumab, and anti-CD19 therapy with inebilizumab provide significant clinical improvement and an acceptable safety profile in MuSK-positive MG. Oral cladribine emerges as a promising therapeutic option, though confirmatory results are still awaited. These findings highlight the advance of targeted therapies in MG management, particularly in severe MuSK-positive subgroups.

657 | Population – Based Prevalence of Neuromyelitis Optica in Rio de Janeiro by Advanced Statistical Methods

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ABSTRACT

Objetive: To estimate the prevalence of NMOSD in the Volta Redonda–Resende intermediate region of Rio de Janeiro state, using multimodal case-finding, capture–recapture, and Bayesian methods, and to contextualize findings within a systematic review of worldwide prevalence studies.

Methods: A retrospective, population-based study was conducted (2023-2024) across 17 municipalities (985,051 inhabitants, 2022 census). NMOSD cases were investigated through six independent sources. Inclusion required fulfilment of the 2015 IPND, neurologist confirmation, survival in 2022, and residence in the region. Crude prevalence, capture–recapture estimators, and Bayesian models were applied. A systematic review of global NMOSD prevalence was performed.

Results: The pooled worldwide crude prevalence of NMOSD was 2.31 per 100,000 inhabitants, with the highest prevalence observed in the Americas continent (3.39) .Our study (2.44/100,000) is among the highest reported. Our estimate exceeds earlier estimates from Goiás (0.79/100,000). Capture-recapture methods were applied in five international studies and in our dataset. In most cases, adjusted prevalence estimates were higher than crude values. No Bayesian estimates were previously reported. In the Volta Redonda-Resende area, the crude prevalence of NMOSD was 2.44 per 100,000. The capture–recapture estimator adjusted this to 28.8/100.000. Bayesian analysis extended to 3.01. The Bayesian estimates suggest ≈490 cases in Rio de Janeiro state and ≈6,000 cases nationwide. The global prevalence ranges from 0.06/100,000 to 10.0/100,000.

Conclusion: Several SUS structural limitations became evident during case ascertainment. Besides that, in Brazil, longstanding disparities between White and Black populations persist. Our results highlight the hidden burden of NMOSD in Brazil, emphasizing the need for epidemiological studies to inform public health authorities about the disease's existence and its current underrecognition and inadequate management within the public health system.

Pediatric Neurology

280 | Emanuel Syndrome – Clinical and Genetic Diagnosis in a Pediatric Patient: A Case Report

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ABSTRACT

Case Report: Female patient, 6 years old, 22 kg, with a history of clinical abnormalities since early childhood. She was referred for specialized evaluation due to suspected dysmorphic features and developmental delay. She presents with severe global hypotonia, absence of sitting and walking, congenital heart disease, and neuropsychomotor developmental delay. Karyotype revealed 47,XX,inv(9)(p12q13),+der(22)t(11;22)(q23;q11.2), consistent with partial trisomy of chromosome 22 (derivative 22), confirming Emanuel syndrome (ES). Neuropsychological assessment demonstrated global delay, consistent with the expected phenotype. Brain MRI showed thinning of the corpus callosum, hypomyelination in the anterior internal capsules, and persistence of the cavum velum interpositum, indicating structural involvement of the CNS. Family investigation revealed a normal karyotype in the father (46,XY) and a balanced chromosomal translocation in the mother, confirming the maternal origin of the alteration. The patient is currently followed by a multidisciplinary team, with motor, speech, and cognitive stimulation support.

Discussion: ES is a rare genetic condition, estimated at 1 in 110,000 live births, resulting from the unbalanced segregation of a balanced translocation between chromosomes 11 and 22, usually maternally inherited, as in this case. The phenotype includes hypotonia, global developmental delay, absence of motor milestones (sitting, walking), facial dysmorphisms, and congenital malformations, especially cardiac. The patient's presentation is consistent with the literature, including congenital heart disease, severe hypotonia, global neuropsychomotor delay, and brain structural alterations. Diagnosis was established by karyotype with G-banding, supported by neuropsychological evaluation. Parental testing identified a maternal balanced translocation, essential for genetic counseling and reproductive planning. Treatment is symptomatic, aimed at quality of life. It requires continuous multidisciplinary care and early stimulation, although cognitive, motor, and sensory limitations are often significant and permanent.

Final Comments: Although rare, ES should be considered in cases with multiple congenital malformations, global developmental delay, and characteristic dysmorphic features. This case highlights the importance of early clinical suspicion, genetic investigation, and family studies for accurate diagnosis and management.

Oncology/Palliative Medicine

279 | Malignant Peripheral Nerve Sheath Tumor – Clinical Features, Diagnosis, and Neurosurgical Management: A Case Report

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ABSTRACT

Case Report: Female patient, 24 years old, previously healthy, presenting with severe low back pain for 4 months, progressing to ataxia in the last 30 days. On neurological examination, she was lucid and oriented, with grade 4 paresis in the left lower limb, paresthesia in the L4 dermatome, and absent patellar reflex on the left. Contrast-enhanced lumbar spine MRI revealed a heterogeneous expansive mass in the left paravertebral muscular and submuscular compartment, measuring approximately 15.1 × 6.8 × 7 cm (L × AP × T), extending from L1 to S2, with intense contrast enhancement and probable invasion of the L4 pedicle and posterior arch. The patient underwent complete surgical resection. Histopathological analysis with

immunohistochemistry confirmed the diagnosis of a high-grade malignant peripheral nerve sheath tumor (MPNST). Recurrence occurred within 1 month, with a volume corresponding to 20% of the original mass. The patient is currently under specialized follow-up.
Discussion: MPNST, also known as malignant schwannoma, is a rare type of sarcoma, accounting for about 10% of soft tissue sarcomas and with an extremely low prevalence in the general population (0.001%). It may arise sporadically or in association with neurofibromatosis type 1 (NF1). When sporadic, it is more common in women aged 30–50 years, consistent with the profile of the patient described. Clinically, symptoms are nonspecific but often include localized pain, paresthesia, and progressive motor deficit, as seen in this case. MRI is the main imaging modality to assess lesion extent but is not sufficient for diagnosis alone. Confirmation requires histopathological and immunohistochemical analysis, with differential diagnoses including rhabdomyosarcoma, neurofibroma, carcinoma, or melanoma. In this case, the initial hypothesis was sarcoma arising from paravertebral musculature; however, the immunohistochemical profile confirmed MPNST. The treatment of choice is complete surgical resection, although recurrence rates are high, as evidenced by the rapid tumor regrowth. Other therapeutic options, such as radiotherapy or chemotherapy, have limited efficacy and are reserved for selected cases.

Comentários Finais: MPNST is a rare, aggressive tumor with significant diagnostic and therapeutic challenges. Diagnosis relies on MRI and histopathology with immunohistochemistry, while surgery remains the primary treatment, requiring close follow-up due to recurrence risk.