routes. However, factors influencing route selection and attack characteristics leading to treatment remain unclear. This study assesses trends in oral vs. IV HDS use, factors affecting decisions, and clinical impact. Methods: We retrospectively analyzed data from the Multiple Sclerosis database (MuSicaL) using Natural Language Processing (NLP) from 2010–2022. We examined annual trends in HDS route, its relationship with attack type, and prescribing specialties. Statistical analyses were conducted using R-4.2.2. Results: Of 2,413 individuals meeting inclusion criteria, 1,086 had an attack, and 543 (50%) used HDS. Among 265 with a known route, oral HDS was most common, and HDS use declined after 2018. Attack type significantly influenced HDS route (p = 0.045), with IV use highest in multifocal subtype (50.9%) and lowest in myelitis (32.7%). Neurologists were the primary prescribers of IV HDS. Conclusions: Our results indicate a trend towards increased oral HDS use, with IV reserved for severe attacks like multifocal ones. Attack type influences treatment choices, and neurologists remain key prescribers of IV HDS, guiding future treatment strategies.

P.015

Analysis of Aquaporin-4 and Myelin Oligodendrocyte Glycoprotein Autoantibodies using live cell-based assay in a reference laboratory with over 6,000 tests

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Background: Accurate aquaporin-4 (AQP4) and Myelin Oligodendrocyte Glycoprotein (MOG) assays are essential for effectively diagnosing neuromyelitis Optica spectrum disorder and MOG antibody-associated disease. The Live Cell-Based Assay (L-CBA) is the gold standard laboratory test for detecting these antibodies. We studied the profiles of these antibodies, in samples of patients with relevant neurological conditions. Methods: Between January 2021 and December 2024, a total of 6673 samples of serum and/ or CSF were tested at BC Neuroimmunology Lab, Vancouver. We performed in-house L-CBA for the AQP4 and MOG Abs identification. We analyzed the demographics and characteristics of the positive Abs results. Results: We identified 7.8% positive results for anti-MOG and 2.7% for anti-AQP4 antibodies. Both antibodies were more frequent in females (AQP4: 76.9%, MOG: 65.1%). The average age of patients was 49.2 ± 18.8 years, ranging from 9 to 88 years for AQP4 antibodies, and 40.9 ± 19.5 years, ranging from 10 months to 89 years for MOG antibodies. Conclusions: Both anti-MOG and anti-AQP4 Abs are prevalent in females. Moreover, anti-MOG Abs are present across a wider age range from infancy to the elderly, and anti-AQP4 Abs are typically found in later ages, between 10 and 90 years.

P.016

Secondary immunodeficiencies in ocrelizumab - versus rituximab-treated persons with relapsing Multiple Sclerosis

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Background: Anti-CD20 monoclonal antibodies are highly effective for RMS treatment. Ocrelizumab (OCR) is standard, while Rituximab (RTX) is an alternative. The impact of anti-CD20 therapies on immune markers remains understudied, though deficiencies are frequently observed and have been associated with increased risk of infection. Our objective is to characterize and compare lymphocyte, neutrophil, and immunoglobulin levels in OCR- versus RTX-treated persons with RMS. Methods: This retrospective chart review included RMS patients on OCR or RTX (2017–2023). Pre- and post-treatment levels of lymphocytes, neutrophils, and immunoglobulins (IgG, IgA, IgM) were analyzed. Kaplan-Meier curves, log-rank tests, and Cox proportional hazards models were used for survival analysis. Results: 350 patients (OCR=175, RTX=175) were included. The mean treatment length was 60.9 (SD 19.1) months for OCR and 42.7 (SD 19.5) months for RTX. RTX was associated with a significantly shorter time to IgM deficiency (29.6 vs. 40.0 months, p=0.02). Cox analysis confirmed RTX increased IgM deficiency risk (HR=1.54, 95% CI: 1.06-2.23, p=0.02). No differences were seen for lymphocytes, neutrophils, IgG, or IgA. Conclusions: RTX was associated with a shorter time to and increased risk of IgM hypogammaglobulinemia compared to OCR, highlighting the importance of long-term monitoring. Further research is needed to guide treatment decisions.

P.017

EBNA1 titres are elevated in radiologically isolated syndrome and correlate with plasma GFAP

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Background: Epstein-Barr virus (EBV) infection is believed to be a critical prerequisite for the development of multiple sclerosis (MS). This study aims to investigate whether anti-EBV titres are elevated before the onset of MS symptoms in people with

radiologically isolated syndrome (pwRIS) and to evaluate their association with markers of adverse clinical outcomes. Methods: Epstein-Barr nuclear antigen 1 (EBNA1) and viral capsid antigen (VCA) titres were quantified in a cohort of 47 pwRIS and 24 healthy controls using Enzyme-Linked Immuno-Sorbent Assay. Plasma glial fibrillary acidic protein (GFAP) and neurofilament light protein (NfL) were measured using single-molecule array. MRI lesion metrics and the development of MS symptoms over time were also evaluated. Results: EBNA1 titres were higher pwRIS compared to healthy controls (p=0.038), while VCA titres were not (p=0.237). A positive correlation was observed between EBNA1 titres and plasma GFAP in pwRIS (p=0.005). Neither EBNA1 nor VCA titres correlated with NfL. MRI lesion measures and the development of MS symptoms did not show any significant relationship with EBNA1 or VCA titres. Conclusions: Eelevated EBNA1 titres are detectable prior to MS symptom onset and correlate with GFAP, a biomarker associated with worse clinical outcomes. However, their role in disease progression and clinical outcomes requires further investigation.

P.018

24-year-old woman post-partum with subacute paresthesias and facial diplegia

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Background: Facial diplegia with paresthesias (FDP) is a rare Guillain-Barré Syndrome (GBS) variant, characterized by subacute onset of bilateral facial palsy with no other motor weakness, absent reflexes and distal paresthesias, that may be associated with anti-ganglioside autoantibodies. Methods: Patient chart, including medical notes, radiologic, electrophysiological and laboratory testing during the patient's hospitalization in December 2024 were reviewed. Results: We report the case of a 24-year-old woman, who presented one-week post-partum with a history of tongue and progressive distal extremity paresthesias, headache and gait instability. During hospitalization patient progressively developed bilateral lower limbs areflexia and facial diplegia. Imaging was negative for a central cause but lumbar puncture and clinical examination guided the diagnosis of FDP. Patient responded to a course of intravenous immunoglobulins (IVIg) and was discharged home without any weakness. Conclusions: This case illustrates the rarer FDP presentation of GBS, which can be more frequent in the postpartum period, and explores the differential diagnosis of subacute facial diplegia.

Neurocritical Care

P.020

Transcranial doppler for risk assessment of subarachnoid hemorrhage

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Background: Vasospasm is an important complication of subarachnoid hemorrhage (SAH). Attempts to identify patients at highest risk of vasospasm have not led to practice change. We sought to identify patients at lowest risk of vasospasm by testing the prognostic utility of novel low risk criteria: mean MCA velocities on TCD that peaked and remained below 120 cm/s by the 7th day. Methods: Retrospective observational study of TCD values in patients admitted to The Ottawa Hospital with SAH 2018-2023. The primary outcome was presence of moderate to severe vasospasm (MCA mean velocity >160 cm/s) by day 21. Results: Data were collected on 211 patients, of whom 197 fulfilled inclusion criteria. Only 2 of 104 patients (2%) meeting our low-risk criteria developed the primary outcome, compared to 48 of 93 patients (52%) who did not meet criteria (RR 27). The Negative Predictive Value (NPV) for vasospasm in our low-risk group was 98%. Conclusions: Our low-risk criteria based on TCD patterns in the first 7 days after SAH can identify patients at very low risk of vasospasm with great accuracy. This could inform a future prospective study.

Neuroimaging

P.021

Hyperglycemia presenting with visual hallucinations due to occipital lobe seizures

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Background: Hyperosmotic hyperglycemic nonketotic state (HHS) is associated with myriad neurological complications such as seizures. Methods: We report a case presenting with visual