difficulty accessing immunoglobulin treatment for patients diagnosed with Chronic Inflammatory Demyelinating Polyneuropathy (CIDP). Methods: A retrospective cross-sectional study was conducted with CIDP patients (n=16, 68.75% female, mean age 60.38 ± 11.32) recruited from three Montreal tertiary care institutions. Patients completed a questionnaire inquiring about changes in their immunoglobulin treatment during the pandemic and about their quality of life. We used weighted chi-squared statistical tests and Cramer's V correlation ratios to measure associations with treatment change. Results: Eighteen months after the pandemic started, 25% of our population were receiving immunoglobulin treatment at a different frequency, 6.3% were receiving a different dose, 12.5% were receiving a different dose and frequency, and 6.3% were receiving a different treatment. Reasons associated with treatment change were worsening of neurological condition (18.8%; Cramer's V=0.480; p-value=0.055), improvement of neurological condition (25%; Cramer's V=0.577; p-value=0.021) and reduced availability of treatment (6.3%; Cramer's V=0.258; p-value=0.302). There were no significant correlations between lower quality of life (p-value=0.323) or lower Rasch-built Overall Disability Scale score (p-value=0.574) and treatment change. Conclusions: Difficulty accessing immunoglobulin treatment was not significantly associated with treatment change for CIDP patients during the COVID-19 pandemic.

## P.032

### NMDA receptor encephalitis with severe orofacial dyskinesias treated tramadol and clonazepam

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Background: Anti-*N*-methyl-D-aspartate receptor (NMDAR) encephalitis is a neuroinflammatory disease mediated by antibodies targeting the GluN1 subunit of the NMDAR. It presents with well-defined neuropsychiatric symptoms, including psychosis, agitation, seizures, and memory disturbances. Movement disorders including orofacial dyskinesias are common, but often difficult to manage, with no specific published guidelines. Methods: A 23-year-old female was diagnosed with NMDAR encephalitis. She was treated with ovarian teratoma removal, corticosteroids, intravenous immunoglobulin therapy, rituximab, and tocilizumab. She continued to experience severe, self-mutilating orofacial dyskinesias. Tetrabenazine, haloperidol, and diazepam did not yield any sustained improvement. Tramadol was started based on a prior case report suggesting its efficacy. Results: Tramadol 50 mg po q6h led to immediate improvement in symptoms. Over the next 5 days, tramadol was increased to 150mg NG q6h and further reduced movements. When tramadol was held for one day, the movements significantly worsened and improved when it was restarted. Clonazepam 1mg NG QID also led to further improvement. Conclusions: Tramadol and clonazepam effectively treated severe orofacial dyskinesias in a patient with NMDAR encephalitis and refractory symptoms despite aggressive management. We propose early use of tramadol and clonazepam be considered for severe orofacial dyskinesias secondary to NMDAR encephalitis.

## P.033

### Detection of Myelin Oligodendrocyte Glycoprotein Immunoglobulin G (MOG-IgG) by live and fixed cell-based assays

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Background: MOG-IgG is associated with non-MS demyelinating disease of the optic nerves, spinal cord and brain. Specificity has been issue so we validated the live and fixed MOG-IgG CBAs against the Oxford Autoimmune Neurology Diagnostic Laboratory (OANG) live CBA as a comparator with high specificity. Methods: At BC Neuroimmunology lab (BCNI), 54 MOG-IgG serum samples previously positive by live-CBA at OANG and BCNI were blindly tested by commercial fixed CBA. All 54 MOG IgG positives came from MOG-IgG positive patients. In addition, 256 samples from healthy people and other neurolgic disease were tested. Results: The live MOG-IgG CBA performed at BCNI was 100% concordant (54/54) with OANG live CBA. In contrast, only 49/54 samples were found seropositive by the commercial fixed CBA. The BCNI live-CBA identified 3/256 control samples as positive while 6/256 controls were positive on the fixed commercial CBA. On this cohort the live CBA is 100% sensitive, 98.8% specific and has PPV of 95%. The commercial fixed MOG test is 91% sensitive, 97.6% specific and has PPV of 87.5%. Conclusions: BCNI live MOG-IgG CBAs are in 100% agreement with MOG-IgG. Three positive results in non-MOGAD associated clinical phenotype require further investigation. These data confirm the superiority of the live MOG CBA.

## P.034

### Temporal lobe epilepsy associated with autoimmune conditions: a review

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Background: Epilepsy mediated by immune cells must be identified early since immunotherapy has been associated with better clinical outcomes. This provides an overview of autoimmune TLE, emphasizing recent developments in its pathophysiology, imaging, and therapeutic interventions. Methods: Web-based research using advanced features of databases. Results: Epilepsy caused by immune dysfunction leads to inflammation of the brain. Inflammation play a role in the development of seizures. Proinflammatory molecules found to be overexpressed in neurons and glia of individuals with DRE, provoke a proinflammatory cytokines in the plasma and CSF. Autoimmune epilepsy is characterized by focal seizures refractory to ASMs accompanied by other neurological manifestations, as described by clinical scoring systems.Scoring systems are available to identify patients who are likely to be positive. The MRI findings include signal hyperintensities in the affected brain regions. EEG

performed to exclude nonconvulsive seizures. Seizures resulting from autoimmune encephalitis are caused by antibodies to surface antigens and intracellular antigenes. Conclusions: Pathogenesis proposed to involve antibody-mediated ictogenesis. Immunotherapy is effective in autoimmune encephalitis with a positive prognosis if detected early. Limbic encephalitis has been shown to have a detrimental effect on cognition, mood, and behavior. Neuropsychology is an important outcome criterion for tracking disease progression and treatment success.

## Neuroimaging

### P.035

**Impressive MRI findings in the case of iatrogenic osmotic demyelination syndrome: case report**

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Background: Osmotic demyelination syndrome (ODS) is a known complication of rapid sodium correction. While the pons is classically the most vulnerable region to osmotic shifts, other structures may also be affected. Prognosis varies from death to full recovery, yet we cannot accurately predict a patient's outcome in the acute phase. Methods: Patient chart, medical imaging, and laboratory findings were reviewed. Results: Here we present the case of a 57-year-old woman seen at our center, who was transferred from a community hospital in the context of ODS after having her serum sodium corrected from 106 mmol/L to 122 mmol/L within 24 hours. She showed depressed mental status, bulbar symptoms, ataxia and respiratory compromise, eventually requiring transfer to the intensive care unit for intubation. MRI of the brain showed striking demyelinating injury at the level of the pons. The patient was discharged to a rehabilitation facility, eventually achieving independence in activities of daily living. Conclusions: This case illustrates canonical neuroimaging findings associated with ODS. Despite extensive initial damage, long-term disability can be mitigated with appropriate care. Future studies seeking to identify specific markers imaging and clinical markers would be of interest to predict functional outcome.

### P.036

**Exploring changes in functional connectivity after a first unprovoked seizure: an fMRI resting state and movie-driven data study**

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Background: A single unprovoked seizure occurs in up to 10% of patients, but does not necessarily develop into epilepsy. It is unclear what determines the susceptibility to develop epilepsy. Although brain network changes have been ascertained in people with epilepsy, this field has not been studied in single seizure patients. Methods: Using 7T resting-state fMRI scanning, and co-registration watching a movie for naturalistic analysis of functional connectivity (Fc). Whole brain, Fc and Brodmann areas were analyzed using phase similarity measures and graph theory. Results: Ten patients with a single unprovoked seizure and fourteen age-and sex-matched healthy controls were recruited. Baseline characteristics were similar. Fc at baseline had no differences between groups. Movie-driven analysis did not show a significant difference overall regions but we observed significant differences in default mode and Visual association cortex as well as Dorsal posterior cingulate cortex (Dorsal PCC). Conclusions: Although no network connectivity differences were found between patients and controls, when movie-driven data was analyzed, differences were seen when comparing patients in the default mode network, visual association cortex, and dorsal posterior cingulate.

## Neurological Implications of Covid-19

### P.037

**COVID-19: Cardiac and Neurological Complications among Ontario Visible Minorities: Chinese and South Asians**

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Background: This is a population-based retrospective study of cardiac and neurological complications of COVID-19 among Ontario Chinese and South Asians. Methods: From January 1, 2020 to September 30, 2020 using the last name algorithm to identify Ontario Chinese and South Asians who were tested positive by PCR for COVID-19, their demographics, cardiac, and neurological complications including hospitalization and emergency visit rates were analyzed compared to the general population. Results: Chinese (N = 1,186) with COVID-19 were found to be older (mean age 50.7 years) compared to the general population (N = 42,547) (mean age 47.6 years) ($p < 0.001$), while South Asians (N = 3,459) were younger (age of 42.1 years) ($p < 0.001$). For neurological complications, the 30-day crude rate for Chinese was 160/10,000 ($p < 0.001$); South Asians was 40/10,000 ($p = 0.526$), and general population was 48/10,000. The 30-day all-cause mortality rate was significantly higher for Chinese at 8.1% vs 5.0% for the general population ($p < 0.001$), while it was lower in South Asians at 2.1% ($p < 0.001$). Conclusions: Chinese and South Asians in Ontario with COVID-19 during the first wave of the pandemic were found to have a significant difference in their demographics, cardiac, and neurological outcomes.