

initially (89%; n=143) and suboptimal efficacy response (MRI changes, relapses, disability progression) was the most common trigger for switching treatment. Furthermore, the expanded disability status scale was used in 94% (n=151) of cases during clinical assessment. In some instances, neurologists did not adhere to TOR. Only 10% (n=16) of patients were tested for cognitive function and over half (58%; n=93) did not receive gadolinium contrast at re-baseline MRI. Major criteria for switching therapies based on relapse rate, severity/recovery, or MRI were not followed in (n=4; n=27; n=7) patients respectively. Conclusions: Canadian neurologists are generally aligned with recent TOR for MS. However, they are not switching nearly as often or as early as per TOR criteria.

P.028

Eye movement biomarkers for early detection of multiple sclerosis disease progression

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Background: There is growing body of evidence linking abnormal eye movements in people with multiple sclerosis (MS) to disease severity and cognition which could better detect disease progression. The objective of this study is to determine if a novel eye-tracking tool can accurately predict disease severity and cognitive status based on eye movement metrics and characterize how they evolve with progression. **Methods:** Persons with MS (n=132) will be followed over 4 years with clinical assessments every 6 months. Eye movements are also assessed while performing oculomotor tasks using Innodem Neurosciences' patented eye-tracking technology. The eye movement metrics will be inputted into machine learning classifying algorithms to identify which metrics can serve as reliable Eye Movement Biomarkers (EMB) for MS progression and cognitive status. **Results:** There were 16 participants recruited as of January 2022 with mean age 47.3 (SD 10.4; range 26-67), gender (12F/4M), EDSS 2.59 (SD 1.49; range 1.5-6.5), SDMT 51.4 (SD 14.1, range 24-78). With current enrollment, there is a negative correlation between EDSS and SDMT ($r = -0.47$) as observed in the literature. **Conclusions:** This trial will demonstrate the utility of EMBs for monitoring MS progression by improving physicians' access to a reliable, non-invasive, sensitive and accessible marker of disease progression.

P.029

Assessing disability in MS during the COVID-19 pandemic: correlation between PDDS and EDSS scores obtained before and after virtual assessments

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Background: Public health measures during the COVID-19 pandemic resulted in many multiple sclerosis (MS) patients being assessed virtually. Expanded Disability Status Scale (EDSS) scores,

which are routinely obtained during MS consults, cannot be reliably calculated during virtual assessments. The Patient Determined Disease Steps (PDDS) is a validated patient-reported outcome measure of disability in MS. This study aimed to find real world evidence for the validity of PDDS as a surrogate of EDSS. **Methods:** Chart review of all MS patients from the MS Clinic in Saskatoon, Saskatchewan who completed PDDS forms emailed to them prior to their virtual visit ($N = 277$) was performed. 97 (35%) had documented EDSS scores prior to and following their self-reported PDDS. Correlational analysis between PDDS scores and pre and post EDSS scores was performed. **Results:** PDDS scores were highly correlated with EDSS scores before ($r(95) = .79, p < .001$) and after ($r(95) = .84, p < .001$) clinic closure occurred. **Conclusions:** This study provides real-world evidence that PDDS can accurately assess disability in MS when in-person assessments are not possible. Further investigation into patient demographics that increase the likelihood of completing PDDS assessments prior to appointments at our centre is ongoing.

P.030

Association between multiple sclerosis and seizures: a systematic review and meta-analysis

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Background: Although seizures are a well-recognized phenomena in patients with multiple sclerosis (MS) with many observational studies reporting its prevalence and incidence, the relative risk of seizures or epilepsy in adults with MS compared to those without is not well-described. **Methods:** We systematically searched MEDLINE and Embase, from their inception to January 1, 2022, using keywords and database-specific terms. We included observational studies that reported risk of seizures or epilepsy in adults with MS and that in a comparison group, consisting of people without MS or the general population. We used a random-effects meta-analysis to report a pooled adjusted risk ratio (RR) of seizures in adults with MS compared to the comparison group. **Results:** We screened 8,750 articles and included 17 studies, totaling over 192,850 adults with MS of which 6064 (3.1%) had seizures. Compared to a comparison group, the pooled adjusted RR of seizures in adults with MS was 2.86 (95% CI, 2.35-3.47, $I^2 = 95.8\%$). **Conclusions:** MS should be considered an independent risk factor for seizures or epilepsy. Further research should help identify patients with MS who are at risk of seizures, to improve screening and treatment and in turn reduce the burden of epilepsy in this population.

P.031

Access to immunoglobulin treatment for CIDP patients during the COVID-19 pandemic

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Background: Immunoglobulin supplies are limited; we aimed to determine if the COVID-19 pandemic was associated with