MS / Neuroinflammatory Disease

P.016

Clinical course of relapsing remitting multiple sclerosis post-natalizumab

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Background: Natalizumab is an efficacious disease modifying therapy (DMT) for relapsing remitting multiple sclerosis (RRMS), however, duration of therapy is often limited by risk of progressive multifocal leukoencephalopathy (PML). We describe the clinical course of RRMS patients switched from natalizumab to another DMT in a Canadian MS clinic. **Methods:** We conducted a retrospective study of prospectively collected data from the Dalhousie Multiple Sclerosis Research Unit (DMSRU). We identified all RRMS patients treated with natalizumab for ≥3 months who discontinued therapy with serum JC virus antibody positive status and switched to another DMT. **Results:** There were 84 individuals who switched to another DMT following natalizumab with 57 (68%) switching to fingolimod. Survival without a relapse on fingolimod was 92% (95% confidence interval 80-97%) at 6 months, 90% (77-96%) at 12 months, 85% (71-93%) at 24 months, 74% (56-86%) at 36 months. Survival without disease progression on fingolimod was 90% (95% CI 78-96%) at 6 months, 86% (72-93%) at 12 months, 78% (63-88%) at 24 months, 78% (63-88%) at 36 months. **Conclusions:** Although alternative DMTs may be used post-natalizumab, fingolimod remains an effective therapy with a high proportion of patients remaining free of relapses or progression at 3 years.

P.017

Worldwide neurologist survey on management of autoimmune encephalitis

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Background: Diagnosis of autoimmune encephalitis (AE) is complicated by issues with sensitivity/specificity of antibody testing, non-specific MRI/EEG/CSF findings, and competing differential diagnoses. We explored practice differences in AE diagnosis and management. **Methods:** We utilized a worldwide electronic survey with practice-related demographic questions, and clinical questions about 2 cases: (1) a 20-year-old woman with a neuropsychiatric presentation strongly suspicious of AE, (2) a 40-year-old man with new temporal lobe seizures and cognitive impairment. Responses among different groups were compared using multi-variable logistic regression. **Results:** We received 1,333 responses from 94 countries; 12.0% identified as neuro-immunologists. **Case 1**: Those treating >5 AE cases/year were more likely to send antibodies in both serum and CSF (aOR vs 0/year: 3.29,95%CI 1.31-8.28,p=0.011), pursue empiric immunotherapy (aOR:2.42,1.33-4.40,p=0.004), and continue immunotherapy despite no response and negative antibodies at 2-weeks (aOR:1.65,1.02-2.69,p=0.043). **Case 2**: Neuro-immunologists were more likely to send antibodies in both serum and CSF (aOR:1.80,1.12-2.90,p=0.015). Those seeing >5 AE cases/year (aOR:1.86,1.22-2.86,p=0.004) were more likely to start immunotherapy without waiting for antibody results. **Conclusions:** Our findings highlight the heterogenous management of AE. Neuroimmunologists and those treating more AE cases generally take a more proactive approach to testing and immunotherapy than peers. Results emphasize the need for higher-quality treatment/outcome data and evidence-based guidelines.

P.019

Motor evoked potentials as a new biomarker in multiple sclerosis

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Background: Motor evoked potentials (MEP'S) measure myelin/axonal integrity of the central nervous system. MEP's reliability and correlation to conventional clinical measures in multiple sclerosis (MS) patients have yet to be demonstrated. Alemtuzumab is a high efficacy therapy used in patients with MS. Its longitudinal impact on electrophysiological measures has yet to be examined. **Methods:** This is a single center, observational study. 10 patients with MS who received their first cycle of alemtuzumab within less than 3 months were evaluated with both clinical and MEP's measures at baseline and every 6 months thereafter for 36 months. MEP's were repeated two weeks after every time point. We report our preliminary analyses. **Results:** Patient follow-up ranges from 6 to 36 months. The intraclass correlation coefficient (ICC) between two consecutive time points were good with values of 0.774 for the biceps and 0.867 for the tibialis anterior with p values less than 0.0005 for both. The correlation for the biceps MEP's to the 9 hole peg test (9HPT) was 0.51 with p less than 0.0005 and for the tibialis anterior MEP's to the 6 minute walk test (6MWT) was -0.411 with p=0.01. **Conclusions:** Our preliminary analyses demonstrate that MEP results are reproducible and correlate with clinical measures.

Neuro-oncology

P.020

Avelumab in newly diagnosed glioblastoma multiforme-the SEJ study

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Background: Glioblastoma Multiforme (GBM) has well documented systemic and local immunosuppressive mechanisms to escape immune surveillance and grow. GBM tumor cells as well as the microglia within it have a high incidence of PD-L1 surface