of Ramsay Hunt syndrome with brainstem and/or cerebellar involvement is important for diagnosis and for consideration of antiviral and prednisone treatment.

P.031

Redefining true leukocytosis in the traumatic lumbar puncture

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Objective: To compare and contrast the observed versus predicted number of white blood cells (WBCs) in a traumatic cerebrospinal fluid (CSF) sample in children and adults. *Background:* Clinicians rely on a correction formula (Predicted_CSF_WBC=CSF_RBC×Blood_WBC/Blood_RBC) to determine if a true CSF leukocytosis exists. This formula may overestimate true CSF leukocytosis and lead to delayed treatment of meningitis. *Methods:* A retrospective review of CSF data of 105 patients who met the following criteria: 1) CSF from lumbar puncture (LP) contained≥1000 RBC/mm^3 and 2) CBC performed≤24 hours of LP; 3) negative CSF cultures. Regression analysis was performed to determine the relationship between actual and predicted CSF WBC values. *Results:* Regression modeling indicated a discrepancy in the predicted versus actual WBC values. Mean adult age was 48.9 years; CSF profile (mean WBC 146.3×10^6/L; RBC 17374×10^6/L; glucose 4.1 mmol/L; protein 1.4 g/L); mean peripheral WBC was 8.2×10^9/L; RBC 3.9×10^9/L. Mean pediatric age was 1.4 years; CSF profile (mean WBC 171.8x10^6/L; RBC 41763x10^6/L; glucose 2.7 mmol/L; protein 1.7 g/L); mean peripheral WBC was 12×10^9/L; RBC 7.2×10^9/L. Observed LP CSF WBC value was 47% of predicted (r^2=0.54 pediatric cohort; r^2=0.91 adults). *Conclusion:* True CSF leukocytosis could be missed in a traumatic CSF sample based on a currently applied correction formula. We propose the following modifcation: Observed_CSF_WBC=0.5x[CSF_RBC×Blood_WBC/Blood_RBC].

P.032

Prognostic value of 8F-Florbetapir scan: a 36-month follow up analysis using ADNI data

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Background: The Alzheimer's Disease Neuroimaging Initiative (ADNI) provides an opportunity to investigate the relationship between β-Amyloid neuropathology and patients' long-term cognitive function change. We examined baseline 18F-florbetapir PET amyloid imaging status and 36-months' change from baseline in cognitive performance in subjects with mild cognitive impairment (MCI). *Method:* The study included all ADNI subjects who underwent PET-imaging with 18F-florbetapir and had a clinical diagnosis of MCI at the visit closest to florbetapir imaging. β-Amyloid deposition was measured by florbetapir standard uptake value ratio (SUVR), and dichotomized as Aβ+(SUVR>1.1) or Aβ–(SUVR≤1.1). Cognitive scores, including ADAS11, MMSE and CDR sum of boxes (CDR-SB), were evaluated for up to 36 months. *Results:* Of 478 MCI-subjects who had at least one florbetapir scan, 153 had a cognitive evaluation at 36-month follow-up. Of those, 79 were Aβ– and 74 Aβ+. At 36-months, the Aβ+ vs. Aβ– group scores changed from baseline (LS means 4.03 vs. 0.26 for ADAS11; -2.61 vs.-0.40 for MMSE; 1.53 vs. -0.11 for CDR-SB [p< 0.0001 all comparisons]). Generalised estimating equation analysis on clinically significant cognitive change showed a marginal Odds Ratio=2.18 (95% CI: 1.47–3.21) for Aβ+ vs. Aβ– groups. *Conclusion:* MCI subjects with higher β-Amyloid deposition had greater deterioration in cognitive function over 36 months while subjects with no β-Amyloid accumulation tended to be stable.

P.033

Dancing eyes: a case of opsoclonus, tremor and truncal ataxia secondary to West Nile encephalitis

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Background: Opsoclonus can result from paraneoplastic, parainfectious, autoimmune, ischemic or toxic etiologies. Neuroinvasive complications develop in less than one percent of individuals infected with West Nile Virus. *Methods:* Case report. *Results:* A 63-year-old female presented with subacute disorientation, dizziness, oscillopsia, and unsteady gait, associated with fever. Examination demonstrated opsoclonus, bilateral upper extremity postural and action tremor and truncal ataxia. MRI of the brain was normal. CT of the body showed no evidence of neoplasia. Vasculitic and paraneoplastic panels were negative. An extensive infectious work-up was only positive for West Nile IgM antibodies. She was treated with clonazepam and received a five-day-course of IVIG. Her symptoms improved after treatment and she continued to demonstrate gradual recovery during the months following her discharge. *Conclusions:* There are only a few published case reports of WNV-associated opsoclonus, and our patient appears to be the oldest reported with this constellation of neurological symptoms. Even though treatment for WNV is mostly supportive, this case demonstrates the importance of a thorough work-up in patients of similar presentations to determine the etiology and to guide early immunomodulation in selected cases. Video available.

Neurology (Movement)

P.035

Association of restless legs syndrome, pain, and mood disorders in Parkinson's disease

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The objectives of the study were to analyze the association between Parkinson's disease and restless legs syndrome, and explore the relationship between mood disorder comorbidity (anxiety and depression), pain, and restless legs syndrome. This study included 123 Parkinson's disease patients and 123 healthy controls matched for age and gender, and evaluated for anxiety severity, depression severity, pain severity, pain interference, pain disability, and restless legs syndrome prevalence. This was performed using semi-structured

interviews and a neurological examination. Restless Legs Syndrome diagnostic criteria and the following inventories were used; Hospital Anxiety and Depression Scale, Brief Pain Inventory, and Pain Disability Index. Parkinson's disease patients had significantly greater anxiety severity, depression severity, pain severity, pain interference, pain disability, and restless legs syndrome prevalence in comparison to controls. In addition, Parkinson's disease patients' comorbid for anxiety and depression had significantly greater pain severity, pain interference, and pain disability, but not RLS prevalence, in comparison to Parkinson's disease only, Parkinson's disease anxiety, and Parkinson's disease depression patients. Pain interference, pain severity, and pain disability is greater among Parkinson's disease patients with anxiety and depression, in comparison to Parkinson's disease patients without anxiety and depression. On the contrary, the prevalence of restless legs syndrome was not found to be relevant.

P.036

Prevalence of essential tremor in an idiopathic Parkinson's disease patient population

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Objective of this study was assess the prevalence of Essential of Essential Tremor in Parkinson's disease population Essential tremor (ET) is the most common movement disorders and is much more common than Parkinson's disease, in general population. Essential Tremor and Parkinson's disease (PD) tremor differ in type, frequency and distribution. Despite being two separate disorders, there have been cases reported of coexistence of ET-PD. Some studies have reported an increase in the incidence of ET in relatives of patients with PD, yet the risk of developing PD in ET patients has not been thoroughly investigated. Our study set out to determine the prevalence of precedent ET in PD patients. We conducted a retrospective chart review analysis of 332 idiopathic PD patients to determine how many of them had ET prior to the diagnosis of PD and the percentage of them who were also diagnosed with ET. Our results indicated that the prevalence of precedent ET among a population of idiopathic PD patients was not any higher than the prevalence of ET in a comparable general population. Our results support the notion that ET and PD are mutually independent disorders. Further studies are needed to understand the exact relationship between these two disorders

P.037

Vietnamese patient with progressive ataxia and palatal tremor syndrome

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Background: We present clinical and MRI features of progressive ataxia and palatal tremor (PAPT). *Case Report:* A 67 year-old gentleman visiting from Vietnam presented with intermittent stroke-like episodes consisting of facial weakness, dysarthria, and osillopsia. He reported gradually worsening ataxia and dysequilibrium over 4 years. Examination revealed small amplitude nystagmus towards the right, impaired VOR to the left, palatal tremor, left-sided dysmetria, and an unsteady gait. MRI of the brain demonstrated increased T2/FLAIR signal within the inferior olive. Contrast enhanced and diffusion sequences were normal. MRA was normal. Electrocardiography, telemetry, and echocardiogram were normal. CSF was normal. Glial fibrillary acidic protein (GFAP) and vitamin E levels were normal. Genetic testing for hereditary forms of ataxia including spinocerebellar ataxia was not completed. *Conclusion:* Palatal tremor is commonly classified into symptomatic or essential subgroups. Symptomatic palatal tremor is frequently caused by a lesion in the triangle of Guillain and Mollaret leading to hypertrophic olivary degeneration. A subgroup of symptomatic palatal tremor form a syndrome of PAPT. Published details of cases of PAPT are sparse and the disorder appears to be mainly sporadic. Common features include progression of ataxia, olivary degeneration, gaze-evoked nystagmus, and internuclear ophthalmoplegia. There is no known effective treatment for progressive ataxia, which is the most disabling symptom of PAPT.

Neurology (Multiple Sclerosis)

P.039

Cognitive evolution in tysabri treated Multiple Sclerosis patients

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Objectives: The objectives of this study are to understand the impact of natalizumab on cognition beyond two years of therapy and to investigate whether baseline characteristics are predictive of clinical response. *Methods:* This is a single-center, 24-month, observational study. Sixty-three patients treated with natalizumab were assessed prior to monthly infusions using a Cogstate battery and the SDMT. A linear mixed model was conducted with duration of natalizumab therapy as a between-subjects factor (<=2 or >2 years), assessment as a within-subjects factor, and MSSS as a covariate. *Results:* There were no statistically significant differences between the key demographic variables aside for the MSSS (p=.0074). No patient showed evidence of sustained cognitive deterioration over the 24 month period. Irrespective of time on natalizumab, significant improvements were observed at the group level in executive function, verbal memory and working memory, whereas processing speed and attention remained unchanged. Impaired cognition or any other baseline parameter did not influence the trajectory of cognitive change over 24 months. *Conclusion:* Our results suggest that natalizumab preserves cognitive function, including the ability to learn, for 4 years and beyond of continuous therapy. This occurs irrespective of baseline characteristics.