local spread of the primary infection, thrombophlebitis of the internal jugular vein, and septic metastases resulting in significant multisystem complications. *Methods:* A case report. *Results:* A previously healthy 63 year-old female presented to our emergency room with four-day history of sore throat, headache, fever and malaise. Initial examination revealed evidence of left tonsillar swelling and cervical lymphadenopathy. The patient rapidly deteriorated within hours of presentation and developed septic shock that was complicated by an acute kidney injury and disseminated intravascular coagulation (DIC). CT of the head and neck revealed a deep abscess within the left masticular triangle extending to surrounding soft tissue as well as C1-C3 epidural space. An extensive bilateral internal jugular vein thrombosis was noted; extending into the sigmoid and cavernous sinuses bilaterally. A thrombosis of the superior sagittal sinus and parafalcine subdural hematoma were also demonstrated. Blood cultures grew Group C Streptococcus. As the deep abscess was not amenable to surgical drainage, the patient was treated with broad-spectrum IV antibiotics. Anticoagulation was also commenced after management and resolution of the DIC. *Conclusions:* Lemierre's syndrome remains relevant nowadays and awareness of its potential neurological complications is warranted.

P.032

Development of a new instrument to discriminate orthostatic from non-orthostatic symptoms

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Background: Orthostatic symptoms including dizziness, lightheadedness and syncope can be major causes of disability in patients with dysautonomia. Currently there is no validated tool capable of discriminating orthostatic from non-orthostatic constitutional symptoms. Therefore, we developed the Orthostatic Discriminant and Severity Scale (ODSS) to help make this distinction. Objective: Demonstrate validity and reliability of the ODSS. *Methods:* Convergent and clinical validity were assessed by correlating Orthostatic scores with previously validated tools (Autonomic Symptom Profile (ASP), composite scores of the Orthostatic Hypotension Questionnaire and the total Composite Autonomic Severity Score (tCASS), respectively). Test-retest reliability was calculated using an intra-class correlation coefficient. *Results:* Orthostatic scores from 23 controls and 5 patients were highly correlated with both the Orthostatic Intolerance index of the ASP ($r=0.724;p<0.01$) and the composite OHDAS and OHSAS ($r=0.552;p<0.01$ and $r=0.753;p<0.01$, respectively), indicating good convergent validity. Orthostatic scores were significantly correlated with tCASS ($r=0.568;p<0.01$), and the systolic blood pressure change during head-up tilt ($r=-0.472;p=0.013$). In addition, patients with Neurogenic Orthostatic Hypotension had significantly higher Orthostatic scores than controls ($p<0.01$) indicating good clinical validity. Test-retest reliability was strong ($r=0.954;p<0.01$) with an internal consistency of 0.978. *Conclusions:* Our results, though preliminary, provide empiral evidence that the ODSS is capable of producing a valid and reliable orthostatic score.

P.033

Novel presentation of NMDA receptor encephalitis

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Background: NMDA receptor encephalitis (NMDARE) is associated with pre-existing psychiatric symptoms and seizure disorders. It is not typically associated with elevated ICP. Diagnostically, EEG findings in NMDARE are characteristic as are the pathological features of ovarian teratomas associated with this disease. We report a patient who tested positive for NMDARE however presented with features not known to be associated with the disease including elevated ICP, atypical EEG findings and grossly atypical features on pathological section. *Results:* A 26 year old woman presented with psychiatric symptoms and status epilepticus. On examination, she was found to have papilledema and eleveated ICP on measurement. Her imaging and EEG demonstrated atypical findings, not consistent with NMDARE. CT scan of the abdomen demonstrated an adnexal mass. CSF studies eventually tested positive for NMDARE and following removal of her ovarian teratoma, the pathology demonstrated atypical findings for lesions associated with NMDARE classically. *Conclusions:* NMDARE is a new entity, which has historically shown a typical clinical course. Our case demonstrates a previously undescribed presentation of NMDARE with elevated ICP, atypical EEG findings and unique pathology of the associated ovarian teratoma.

P.034

Eye movement assessment and diffusion tensor imaging in patients with post concussion syndrome

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Background: Post concussion syndrome (PCS) can affect up to 30% of patients with concussion. Biomarkers of this condition would be beneficial for diagnosis and management. We hypothesized that eye tracking parameters would correlate with microstructural changes of white matter integrity, as measured by diffusion tensor imaging (DTI), in patients with PCS. *Methods:* Sixty patients with PCS and at least 2 concussions participated in our prospective study. Attention and executive function were tested using Visual Attention Scanning Technology (VAST). In a matching task, the normalized number of visits to master image before making the first selection is used as a surrogate of working memory. We related performance on VAST to white matter integrity using Tract-Based Spatial Statistics of diffusion tensor imaging data. *Results:* 60 participants (mean age 34.3 years, SD 13.8) had a mean of 4 concussions. There were negative correlations between fractional anisotropy (FA) of the genu, body, and splenium of the corpus callosum and normalized number of visits to master image before first selection ($r=-0.432$, $p=0.001$; $r=-0.504$, $p<0.001$; and $r=-0.388$, $p=0.002$; respectively). A negative correlation was also seen between right cingulum FA and the global processing index ($r=-0.349$, $p=0.006$). *Conclusions:* Impaired performance

on eye tracking measures of attention and executive function may reflect alterations in white matter tracts.

P.036

Clarithromycin induced sleep paralysis: a case report and review of literature

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Background: Clarithromycin is a macrolide antibiotic, which has been successfully used for treating narcolepsy without cataplexy and primary hypersomnia. Sleep-paralysis has not been reported as a side effect of this medication. *Methods:* We report a 44-year-old right-handed female, who presented with three episodes of paralysis over 2-day. Each spell occurred upon awakening or while falling asleep lasting less than 2-minute. Only one episode was accompanied by tingling and numbness. She denied cataplexy, sleep attacks, hypnopompic and hypnagogic hallucinations. She had no history of similar episodes. She had never experienced migraine with or without aura. She was obese and suffered nocturnal snoring. She had recently been started on Clarithromycin for pneumonia. Her neurological examination was normal. *Results:* Brain MRI was normal. Stroke work up including carotids CT angiogram, 24-hour Holter monitoring and echocardiogram were unremarkable. Polysomnogram when she was not on Clarithromycin indicated mild obstructive sleep apnea and no narcolepsy. She had no further episodes of sleep paralysis after Clarithromycin was discontinued. *Conclusions:* We believe that administration of Clarithromycin was the cause of sleep paralysis. We hope that this case report increases awareness about this particular side effect of Clarithromycin and leads to further investigation about the etiology of sleep paralysis.

P.038

A case report of an interesting paraneoplastic voltage-gated channelopathy

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Background: Morvan syndrome is an autoimmune paraneoplastic disorder affecting of voltage-gated potassium channels, most commonly the CASPR-2 subunit. The disorder is primarily characterized by hyperexcitability of both the central and peripheral nervous system accompanied by autonomic dysfunction. Clinically, the syndrome manifests as confusion, hallucinations, insomnia, hyperhidrosis, orthostatic hypotension, and muscle cramps with myoclonus. *Methods:* Patient chart, imaging, electrophysiology, and laboratory findings were reviewed from the time of MS diagnosis and through the course of treatment until symptom resolution. *Results:* Here we report a case of Morvan Syndrome in a 56 year old male with a previous history of thymic squamous carcinoma accompanied by paraneoplastic myasthenia gravis and myositis. His clinical presentation was notable for subacute onset of muscle cramping, insomnia, which progressed to also include visual and auditory hallucinations. He also had notable dysautonomic symptoms including orthostatic blood pressure changes, sialorrhea, and hyperhidrosis. The diagnosis was confirmed with a positive serum assay for antibodies against the CASPR-2 subunit of voltage-gated potassium channels. *Conclusions:* This case is notable because to our knowledge it one of the first to document a voltage-gated channelopathy in association with previous thymic cancer (and not thymoma). Moreover, this is a patient presenting with two other other autoimmune syndromes, i.e. myasthenia gravis and myositis.

P.039

New association of anti-Hu positive limbic encephalitis and sensory ganglionopathy with small cell gastric tumour

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Background: While anti-Hu antibody associated encephalitis has been well-documented in association with a variety of neoplastic processes, paraneoplastic limbic encephalitis and sensory ganglionopathy with positive anti-Hu antibodies has not previously been linked in the literature with a neuroendocrine gastric tumour of advanced stage. *Methods:* Case report *Results:* We present the case of an 86-year old woman who developed behavioural changes, paroxysmal anxiety attacks and poor balance several months after being diagnosed with poorly differentiated gastric small cell tumour in a clinical setting of weight loss and anemia. Anti-Hu antibodies were present. MRI showed signal abnormalities in the right mesial temporal lobe with contrast enhancement. Paroxysmal lateralized EEG changes were recorded and EMG/NCS showed absent sensory nerve responses. Behavioural symptoms stabilized under treatment with intravenous immunoglobulins, but sensory ataxia continued to worsen. The patient declined further therapy and deceased two months after transfer to palliative care. *Conclusions:* To our knowledge, this is the first report linking small cell gastric tumour with limbic encephalitis, sensory ganglionopathy-associated ataxia and anti-Hu antibodies. This description further broadens the clinical spectrum of anti-Hu syndrome.

P.040

Redefining true leukocytosis in the traumatic lumbar puncture

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Background: Clinicians rely on a correction formula (Predicted CSFWBC=CSFRBC×BloodWBC/ BloodRBC) to determine if a true CSF leukocytosis exists. This formula may overestimate true CSF leukocytosis leading to delayed diagnosis and treatment of meningitis. *Methods:* A retrospective review of CSF data of 105 patients registered at 3 hospitals (Saskatoon, Canada) between 2011-2013 who met the following criteria: 1) CSF samples from lumbar puncture (LP) contained≥1000 RBC/mm3; 2) a complete blood count (CBC) performed within 24 hours of LP; and 3) CSF not obtained due to high clinical suspicion of meningitis and was negative for microbial staining and culture. Regression analysis was performed to determine the relationship between actual and predicted CSF WBC values. *Results:* Mean adult age was 48.9 years; CSF profile (mean WBC