

skills, orientation was preserved, but decreased when compared to age-matched controls. Given its cognitive and neural complexity, topographical orientation may be used as a model for network plasticity after early injury.

P.008

Cerebral proliferative angiopathy in a three-year-old

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Background: Cerebral proliferative angiopathy (CPA) is a rare vascular malformation with intervening normal brain tissue interspersed among abnormal vascular channels. There are 77 reported cases, the youngest being 9 years old, with persistent symptoms and recurring symptoms being rare. **Methods:** A three-year-old girl with CPA is described and compared to the literature. **Results:** A previously healthy girl with early left-handedness and a left forehead nevus flammeus presented with sudden onset of right arm and leg weakness, along with abrupt speech arrest and right homonymous hemianopia. Head CT Angiogram and MRI revealed an abnormal vascular network with densely packed, moderately enlarged vessels arising within the white matter with no dominant feeding vessel and both old and acute infarcts in the left hemisphere. Eye exam was unremarkable. The clinical and radiologic features were most consistent with a diagnosis of CPA. Her visual deficits and motor symptoms persisted, and she had a recurrent event shortly after. **Conclusions:** This is the youngest reported case of CPA, with novel features including radiologic evidence of previous infarcts, clinical recurrence of symptoms, and permanent deficits. This case demonstrates the need for further research into the surveillance and management of this rare entity, possibly unique in young children

P.009

Successful treatment of paroxysmal tonic upgaze with low dose Graval®

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Background: We present a case of paroxysmal tonic upgaze (PTU) of infancy treated with a daily low dose of Graval® to improve symptoms. **Method:** Case report **Results:** A one year-old boy presented with episodes of sustained conjugate upgaze that persisted for 30 to 45 minutes, varied in severity, and occurred with increasing frequency over the past two months. The episodes were worse when fatigued and were relieved by sleep. Pregnancy, delivery, and development were normal. Neurological examination between episodes was normal, as were EEG, brain MRI, and blood analysis. CSF neurotransmitter analysis showed serotonin and dopamine metabolites at lower levels of normal. The patient was diagnosed with paroxysmal tonic upgaze of infancy and was treated with 12.5 mg of Graval® daily with complete cessation of episodes. **Conclusions:** Paroxysmal tonic upgaze (PTU) of infancy is a disorder seen in infants where the eyes are forcibly deviated upwards for minutes to hours at a time. PTU often resolves spontaneously over several months, however episodes are extremely debilitating. Currently, treatments with levodopa

have been tried with some success. Via its anticholinergic effects, Graval may be a novel therapeutic option for PTU, negating the need to use serotonergic medications.

CHILD NEUROLOGY (NEUROCRITICAL CARE/NEURO TRAUMA)

P.010

Bacterial meningitis secondary to an intranasal encephalocele presenting as unilateral facial nerve palsy

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Background: Focal neurological deficits occur in approximately 15% of children with bacterial meningitis. However, cranial nerve involvement such as facial-nerve palsy is uncommon in non-tuberculous bacterial meningitis. **Methods:** Case Report. Review of the literature was conducted on Pubmed for the search terms: facial nerve palsy and meningitis. **Results:** We present the case of a 4-year old right-handed girl who presented with a new onset unilateral facial nerve palsy preceded by 5-day history of fever and headaches. The patient had meningeal signs and was identified to have Streptococcal Meningitis. MRI of the brain showed a large previously undiagnosed intranasal encephalocele. The facial palsy resolved within 7 days of antibiotic treatment. **Conclusions:** Our case represents an unusual combination of facial nerve palsy in context of Streptococcal Meningitis secondary to intranasal encephalocele.

MULTIDISCIPLINARY

P.011

The cerebrovascular response to ketamine: a systematic review of the animal and human literature

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Introduction: Ketamine, an N-methyl D-aspartate (NMDA) receptor antagonist, carries potential benefit in patients with neurological illness. The cerebrovascular/cerebral blood flow (CBF) response to ketamine has been poorly outlined in the literature. **Methods:** We performed a systematic review of the literature on the cerebrovascular/CBF effects of ketamine in both animal and human subjects. **Results:** We identified 38 animal studies, and 20 human studies. Within the animal studies, a variety of different models were utilized with the majority focusing changes in global CBF or regional cerebral blood flow (rCBF). Overall, ketamine led to an increase in either global CBF or rCBF, with a vasodilatory effect in medium cerebral vessels. With the human studies a total of 379 patients, 107 of which were control subjects, were studied. Most studies focused on either 131Xe CT or PET imaging with ketamine administration. There was a trend to an increase in global CBF and rCBF with ketamine administration. **Conclusions:** Animal models indicate an increase in global CBF and rCBF with ketamine administration. Human studies display

an Oxford 2b, GRADE C, level of evidence to support an increase in global CBF and rCBF with ketamine administration in both healthy volunteers and elective surgical patients without neurological illness.

P.012

Let There Be

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Background: In 2014, the Montreal Neurological Hospital reorganized its stroke unit, grouping together all strokes serviced by Neurology/Neurosurgery to ensure continuity of care. This unprecedented change created a new interdisciplinary /interdepartmental team which required a new form of communication to facilitate information dissemination and patient care in a timely manner. **Method:** Unlike typical rounds, the purpose of the daily huddle is to briefly set the patients' goals of the day. The huddles are attended by all interdisciplinary team members, lasting approximately 30 minutes. The Assistant Nurse Manager leads the huddle in the morning in the nursing station to discuss the main issues. The huddle outcomes were assessed by: Length of stay (LOS), turnaround time to implement discharge, patient/family and team satisfaction. **Results:** Length of stay decreased by 4 days, delay to application to disposition was <24 hours. Interdepartmental team stated satisfaction in sharing their expertise in their different domains. Concerns were expressed if the huddle LOS exceeded 30 minutes. Eighty (80%) percent of patients/families experienced satisfaction that information provided was given in a caring/timely manner. **Conclusion:** Daily huddles improved LOS and team learning was enhanced. However, huddles need to be more concise.

P.013

Postconcussion syndrome: demography and predictors in 221 patients

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Background: Most individuals recover from a concussion within 7-10 days. However recovery may be very prolonged. Individuals who do not recover within the usual time are said to have postconcussion syndrome (PCS). The objective of this study was to examine the demography and predictors of PCS. **Methods:** This was a retrospective cohort study of 284 consecutive concussed patients 221 of whom had PCS on the basis of at least three symptoms persisting at least 1 month. A uniform, internationally accepted definition of concussion was used. **Results:** The 221 cases showed considerable heterogeneity in clinical features of PCS. They averaged 3.3 concussions with a range of 0 to 12+ concussions, and 62.4% occurred during sports and recreation. The median duration of PCS was 7 months at the time of examination, with 11.8% lasting more than 2 years. Surprisingly, 23.1% with PCS had only 1 concussion. The average age was 27 years (range 10-74). The average number of persistent symptoms was 8.1. 26.2% had a previous psychiatric condition, ADD/ADHD, a learning disability, or previous migraine headaches. The prevalence

of arachnoid cysts and Chiari malformation in PCS exceeded the general population. **Conclusions:** In most of our cases, PCS was disabling, and lasted for months or years.

P.014

Real-time tracking of functional performance using accelerometers on the acute-stroke unit: proof-of-concept study

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Background: Acute stroke care pathways are increasingly implemented to improve integration of best-practices, but evidence for impact on functional outcomes is not strong. Elements missing from care-pathways are those directly targeting improvement in function: sit-to-stand and time spent walking. The Stroke Team uses care-pathways to track functional capacity, what the patient can and cannot do, but performance on these key outcomes is difficult to track as the patient is observed by multiple people throughout the day. The purpose of this study is to demonstrate the feasibility and added-value of real-time tracking of patients' mobility. **Methods:** A chart review was carried out to identify the extent to which functional capacity and performance is tracked routinely by the Stroke Team. Ethical approval was gained for routine use of accelerometers to be affixed to the unaffected thigh. **Results:** Swallowing, bladder control, toileting, and feeding were consistently tracked for ~90% of patients. Bed-mobility and capacity to transfer rarely tracked (<12%). Capacity for walking and sit-to-stand was noted but never frequency (performance). **Conclusion:** Our proof-of concept study will test 30 patients over the next 2 months and link real time performance on transitions and walking to stroke severity and outcome.

NEUROLOGY (EPILEPSY AND EEG)

P.015

Delayed response to corpus callosotomy

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Background: Corpus callosotomy is a palliative surgical procedure involving partial or complete disconnection of the corpus callosum. It has been shown to improve outcomes of seizure control with in six months of the procedure. Here, we discuss a challenging case of intractable generalized epilepsy with a delayed response to corpus callosotomy. **Methods:** This report describes a 23 year old female with onset of seizures since age 16. Patient was followed over 7 year period for evolution of her seizures and treatment. **Results:** Patient experienced three different types of seizures including atypical absences, drop attacks and grand mal seizures. The most disabling type of seizures were the drop attacks associated with injuries. MRI showed bilateral subependymal heterotopia. Multiple EEG telemetry studies showed generalized spike waves without clear lateralization or focalization. Patient failed seven different antiepileptic medications,