

readily available. An 'Omnipaque 350' (iohexol) contrast agent was used for the second scan, which demonstrated features suggestive of occlusive thrombosis of the bilateral superior ophthalmic veins, bilateral cavernous sinuses and right superior petrosal sinus. Further investigations resulted in the diagnosis of a septic venous thrombosis, provoked in the setting of a complicated sinusitis.

**Conclusion** Interestingly, two separate CT venograms with different contrast agents, undertaken on the same day for the same patient, yielded different results. The presence of other variables precludes the ability to comment on the superiority of either agent. The case exemplifies the notion that diagnostic imaging should always be guided by a detailed history and examination and also raises the discussion point of whether more strict or uniform protocols for contrast should be developed for radiology investigations.

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#### A LONGITUDINAL STUDY OF PATIENTS WITH CHRONIC INFLAMMATORY DEMYELINATING POLYNEUROPATHY (CIDP): IDENTIFYING ULTRASONOGRAPHIC FEATURES FOR PROGNOSIS

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**Objectives** Diagnosis and treatment monitoring in CIDP is primarily based on clinical parameters. High-frequency ultrasound reflects nerve pathophysiology non-invasively and painlessly, and has been demonstrated as a useful additional diagnostic tool in CIDP. However, correlations with disease state and response to treatment have been mixed. This prospective 12-month study aimed to identify potentially useful prognostic and treatment-related biomarkers utilising neuromuscular ultrasound.

**Methods** We recruited 35 patients with CIDP and other immune-mediated neuropathies who were currently or about to commence treatment. 32 participants completed 12 months of follow-up, with standardised clinical and ultrasonographic assessment at baseline, 3- and 12 months. Our protocol included bilateral, whole-length assessment of the median and ulnar nerves, with unilateral assessment of other nerves, measuring cross-sectional area (CSA), echogenicity, vascularity and morphological findings.

**Results** As with our previous retrospective and cross-sectional studies, nerve size variability was demonstrated in nearly all CIDP participants, particularly nerve enlargements in proximal upper limb nerves. However, nerve size parameters correlated poorly with clinical state or change over time. By contrast, other morphological findings, including changes in echogenicity and fascicular appearance, demonstrated suggestive correlations with remaining stable on weaning treatment, as well as in participants who demonstrated clinical improvement. The most promising parameters will be presented.

**Conclusions** This longitudinal study of neuromuscular ultrasound in patients with CIDP identified morphological findings – particularly based on echogenicity and fascicular appearance rather than CSA measurement – that may have potential as biomarkers in identifying treatment-responsive patients, along with those who may have 'burnt out' disease.

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#### COVID-19 MRI-NEGATIVE MYELOPATHY – A DISTINCT SYNDROME? THREE PATIENTS AND A REVIEW OF THE LITERATURE

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**Background** Acute MRI-positive transverse myelitis is a well documented post-infectious phenomenon following SARS-CoV-2 infection. There are reports of MRI-negative presentations of myelitis following SARS-CoV-2 infections.

**Methods** Between September and December 2022, three patients presenting to hospitals in the Auckland region, New Zealand, were prospectively followed by the authors. Their clinical features are outlined. A literature search for patients with MRI-negative myelitis/myelopathy following SARS-CoV-2 infection was conducted.

**Results** We document three patients with initially negative MRI who presented with symptoms and signs of myelopathy – progressive paraparesis with significant gait disturbance, impaired proprioception, Lhermitte's phenomenon, sensory level, hyperreflexia and spasticity. Despite treatment with corticosteroids, all patients had progression of symptoms. Ten further patients with initial normal MRI of the spinal cord have been described in the literature. The mean age was 58, and 7 were women. The onset of symptoms ranged from 1 to 16 weeks after SARS-CoV-2 infection. All patients had lower limb onset of symptoms, with 10 developing paraparesis. Nearly all had significant dorsal column involvement, often with sensory ataxia. Our 3 patients exhibited early Lhermitte's phenomenon as a distinctive feature. Most patients had hyperreflexia and a sensory level. Treatment was most commonly with intravenous methylprednisolone, with rare improvement.

**Conclusions** Due to the novel description of these patients alongside the absence of initial MRI findings, the diagnosis can easily be overlooked. We propose these patients have a distinct syndrome of COVID-19 MRI-negative myelopathy.

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#### SECONDARY INSULTS PREVALENCE, CO-OCCURRENCE AND RELATIONSHIP WITH OUTCOME AFTER SEVERE TRAUMATIC BRAIN INJURY

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**Objectives** Secondary insults due to high ICP, low CPP and impaired cerebral pressure reactivity (PRx) are presumed important after severe traumatic brain injury (TBI), however the incidence, co-occurrence, and relative prognostic importance is unclear.

**Methods** Severe TBI patients requiring computerized ICP monitoring were included. Secondary insults due to ICP, PRx, and CPP were defined as having at least 1 hour with a mean value above (or below for CPP) a respective threshold (ICP 20, CPP 60, and PRx 0.25). Percentage time with isolated or co-occurring insults was calculated (impaired ICP only, impaired CPP only, impaired PRx only, impaired ICP and PRx, impaired ICP and CPP, impaired CPP and PRx,

impaired ICP CPP and PRx). Prognostic importance for mortality was assessed using a multivariable logistic regression model.

**Results** 822 patients were included of which 76% had elevated ICP, 92% had disturbed pressure reactivity and 55% had low CPP for at least an hour. Percentage of overall monitoring time spent with isolated insults were: 2.9% for CPP; 22% for ICP; and 23% for PRx. Percentage time of combined insults were: 5.8% PRx and ICP; 1.6% for CPP and ICP; 1.5% for CPP and PRx; and 1% for CPP ICP and PRx. Combined insults of CPP, ICP and PRx had the strongest relation with mortality on multivariable analysis (OR 1.18 95%CI 1.11–1.28,  $p < 0.001$ ).

**Conclusion** ICP and autoregulation insults are common after TBI and often occur independently. Concurrent ICP, CPP and PRx insults portend worse prognosis than when a single variable is deranged.

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#### EXPLORING THE UPTAKE, AND REAL-WORLD EFFICACY OF INTRAMUSCULAR TIXAGEVIMAB150MG/150MG CILGAVIMAB (EVUSHELD™) IN MULTIPLE SCLEROSIS PATIENTS (PWMS) DURING COVID 19 PANDEMIC

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**Background** In Australia, Evusheld – (tixagevimab150mg and cilgavimab150mg) is currently the only pre-exposure prophylaxis for COVID-19 infection. Persons with Multiple Sclerosis (pwMS) who are treated with anti-CD20 antibodies and sphingosine 1-phosphate receptor modulators have an impaired vaccine-induced immune response, resulting in an increased risk of severe COVID-19 infection. The uptake and efficacy of Evusheld in real-world MS populations is not known and forms the basis of this study.

**Objective** To analyse the uptake, compliance, and real-world efficacy of Evusheld in prevention and severity of COVID 19 infections.

**Methods** This study was approved by Human Research Ethics Committee (HREC) and was conducted in a tertiary MS centre. We retrospectively analysed electronic medical records (EMR) and MSBase registry of pwMS with documented prior patient driven consultation to discuss Evusheld. Follow up phone call to confirm administration and any COVID 19 infection was undertaken by two nursing staff.

**Results** Of the eligible pwMS in our service only 52.7% requested a formal consultation to discuss Evusheld. A total of 233 pwMS were included in the study. Evusheld consultation resulted in 71.67% Evusheld administration. 94.1% of pwMS who received Evusheld had already had three or more COVID 19 vaccines. 19.16% of those who had received a single dose of Evusheld later tested positive for COVID 19 during the 26 weeks observation period. The majority of these individuals (68.8%) were on Ocrelizumab. Nil required hospitalisation. Administration site setting was more favourable at opportunistic infusion centre.

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#### ADMISSION HAEMOGLOBIN CONCENTRATION AND OUTCOME AFTER ENDOVASCULAR THROMBECTOMY IN LARGE VESSEL OCCLUSION STROKE

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**Objectives** After ischaemic stroke, low and high haemoglobin levels have been shown to be detrimental in large epidemiologic studies. It is unclear whether admission haemoglobin levels have prognostic value in patients treated with endovascular thrombectomy (EVT).

**Methods** Consecutive anterior and posterior circulation stroke patients who presented for EVT were included in this retrospective analysis. Admission haemoglobin levels were divided into quintiles (Q1-Q5). Outcome measures included early neurologic deterioration (END), defined as an NIHSS increase of  $\geq 4$  points from admission to 24 hours, 90-day functional dependence (modified Rankin score  $>2$ ) and 90-day mortality.

**Results** 970 EVT patients (554 male, mean  $\pm$  SD age of  $67 \pm 15$ , mean  $\pm$  SD admission haemoglobin level of  $138 \pm 18$ ) were included. In binary logistic regression adjusting for potential confounders, low admission haemoglobin predicted functional dependence at day 90 (Q1 vs Q3 OR 1.63; 95% CI 1.01 – 2.62,  $p=0.04$ ) but did not predict END or death at day 90. High admission haemoglobin levels predicted END (Q5 vs Q3 OR 2.54 95%CI 1.20- 5.37,  $p= 0.01$ ), death at day 90 (Q5 vs Q3 OR 3.11 95% CI 1.50 – 6.41,  $p=0.002$ ) as well as a trend towards increased functional dependence at day 90 (Q5 vs Q3 OR 1.51 95% CI 0.93- 2.44,  $p=0.10$ ).

**Conclusion** In stroke patients treated with EVT, both low and high admission haemoglobin levels are associated with worse patient outcomes. Optimizing haemoglobin levels may be a therapeutic target in large vessel occlusion stroke.

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#### SUBHYALOID HAEMORRHAGE POST THROMBOLYSIS: AN UNDER RECOGNISED COMPLICATION?

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**Introduction** Impairment of vision following an acute stroke is a common finding with many aetiologies in this population. Acute changes in vision post thrombolysis although also frequently observed is often overlooked. This case demonstrates an important complication post thrombolysis, subhyaloid and vitreous haemorrhage, which can benefit from early recognition and management.

**Case** An 80 year old female presented as a stroke code, within thrombolysis window, with expressive and receptive aphasia, right sided weakness, NIHSS 8. Initial stroke series imaging with CT brain, CT carotid angiogram and CT perfusion scan did not identify an established stroke, large vessel occlusion or definitive perfusion defect. The patient was thrombolysed with Alteplase 0.9mg/kg, and transferred to the intensive care unit, as per local protocol for ongoing observation. There was rapid improvement in her right sided weakness with more gradual improvement in her aphasia. Day 1