## P.056

### Optimizing IVIg Use for Neuromuscular Conditions in British Columbia, Canada – Targeting High and Chronic User Groups

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doi: 10.1017/cjn.2021.337

**Background:** Neuromuscular conditions account for 1/3 of IVIg use in BC and costs over $10 million annually. Since 2013, the BC Neuromuscular Review Panel has developed diagnostic and treatment algorithms for the use of IVIg. A framework was created to review high dose and chronic users. **Methods:** Utilizing Central Transfusion Registry data, all patients treated with IVIg for approved neuromuscular conditions (CIDP, MG, MMN) since April 1, 2013 were identified. Annual cohorts for patients using higher than usual dose and chronic use (>3 years) were established, and evaluated annually. Patient specific recommendations were made. **Results:** The initial cohort identified 38 high users of 377 patients receiving IVIg. 27 appropriate, 9 "not appropriate". Subsequent cohorts showed a decrease in number of patients receiving inappropriate IVIg doses. In BC there has been a 36% increase in neuromuscular patients treated with IVIg (377 in 2013/14 to 512 in 2016/17). Despite this, IVIg the program has effectively reduced the annual grams/patient from 516 gm/patient in 2013/14 to 489 gm/patient in 2016/17. **Conclusions:** The BC Neuromuscular IVIg Review confirms that the majority of IVIg use is appropriate. Following yearly cohorts of chronic and high dose users helps optimize IVIg use, which may lead to improved patient care.

## P.057

### Multidisciplinary Care for Optimal Management of Complex Nerve Injuries In Canada

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doi: 10.1017/cjn.2021.338

**Background:** Recent advances in management of peripheral nerve injuries is leading to a paradigm shift in the treatment of Canadian patients. Multi-disciplinary care models provide diagnostic, surgical and rehabilitative consultations within a single clinical encounter. Involvement of allied health care professionals has been shown to improve outcome. The purpose of this study was to ascertain the distribution and composition of multidisciplinary teams, and identify regional disparities. **Methods:** Representatives from clinics across Canada were invited to participate in a survey at the Annual Canadian Peripheral Nerve Symposium in London, Ontario in November 2019, with telephone follow up. **Results:** Delegates from 17 programs responded to the survey (12 academic centre and 5 community setting). Program provides electrodiagnostic testing, neuromuscular, rehabilitation and surgical assessment. Access to the following services was reported: occupational therapy=53% (9/17), physiotherapy 29% (5/17), research assistant=17% (3/17), social work=12% (2/17), mental health=6% (1/17). **Conclusions:** Complex nerve injury clinics are being established throughout Canada. Allied health care and research support are limited in many multi-disciplinary complex nerve injury programs. There is variable access, likely resulting in disparities in patient care across Canada. This data will be valuable for lobbying for resources for resources to improve the care of these complex patients.

## P.059

### Results From the Randomized and Open-Label Periods of the CENTAUR Trial of Sodium Phenylbutyrate and Ursodoxicoltaurine in Amyotrophic Lateral Sclerosis (ALS)

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doi: 10.1017/cjn.2021.339

**Background:** An oral, fixed-dose sodium phenylbutyrate-ursodoxicoltaurine (PB-TURSO) coformulation was evaluated in a multicenter ALS trial (CENTAUR). **Methods:** Adults with definite ALS, ≤18 months from symptom onset, (N=137) were randomized 2:1 to PB-TURSO or placebo for 6 months. Completing participants were eligible to receive PB-TURSO in the open-label extension (OLE) (≤30 months). The primary efficacy endpoint in both periods was rate of ALS Functional Rating Scale–Revised (ALSFRS-R) total score decline. All-cause survival was analyzed July 2020 (longest follow-up, 35 months). Safety was assessed in both periods. **Results:** Over 6-month randomized treatment, mean ALSFRS-R total score decline was slower with PB-TURSO vs placebo (difference, 0.42 points/month; $P$=0.03). Participants receiving PB-TURSO in the OLE (continued or crossover from placebo) maintained or initiated functional benefit beyond 6 months of therapy. Mean hazard of death was 44% lower ($P$=0.02) in the original PB-TURSO group. Overall adverse event (AE) incidence was similar, though early (week ≤3) gastrointestinal AEs were more frequent during initial exposure to PB-TURSO (randomized period or OLE). **Conclusions:** PB-TURSO resulted in superior retention of function in the randomized period. Long-term OLE results support functional benefits of early vs delayed therapy and of sustained treatment. Survival was longer in the original PB-TURSO group after nearly 3 years.

## P.060

### Immunoglobulin Use For Neuromuscular Conditions: Updating British Columbia Provincial Guidelines Through Focused Literature Review

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doi: 10.1017/cjn.2021.340

**Background:** Immune-mediated neuromuscular conditions often cause significant disability and may require ongoing immunomodulating therapies such as immunoglobulin (Ig). Ig use in several neuromuscular conditions such as Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) is supported by robust evidence, however Ig is increasingly used for other disorders.

In British Columbia (BC), Ig use has increased annually; last year, expenditure exceeded 51 million dollars, 35% relating to neurological disease. Within the context of the pandemic, Ig supply is at risk of shortages. **Methods:** A focused literature review was conducted of CIDP, Guillain-Barré Syndrome (GBS), Multifocal Motor Neuropathy (MMN), Myasthenia Gravis (MG), and other neuromuscular conditions to compare BC Ig guidelines with international best practices. Provincial recommendations for Ig use were updated accordingly. **Results:** Evidence-based practices include acute and chronic Ig use in CIDP and MMN, and acute or relapse-related treatment in GBS and MG. Ig may be beneficial in other treatment-refractory inflammatory disorders such as Lambert-Eaton Myasthenic Syndrome and vasculitic neuropathy. Objective outcome measures can optimize patient care and ensure appropriate resource utilization. **Conclusions:** Updated BC guidelines emphasize using established diagnostic criteria, objective outcome measures and minimum effective Ig doses for neuromuscular conditions. Periodic literature reviews on Ig use allow guidelines to remain evidence-based.

## Neuroscience Education

### P.061

**Stroke Care and Neurological Emergency Response Simulation (SCaNERS): Creation and Implementation into a Resident Curriculum**

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doi: 10.1017/cjn.2021.341

**Background:** Resident physicians often observe stroke alerts before managing them alone. However, this practice exposes patients to potential harm from trainees' lack of experience. To address this, we created a acute stroke simulation course. Simulation training offers a low-risk environment for skill acquisition, complimenting the Royal College's recent transition away from a time-based to competency-based learning curriculum. The purpose of this project was to develop and implement a stroke simulation training program into resident neurology rotations at the University of Saskatchewan. **Methods:** Six high-fidelity acute stroke simulation cases were developed with the aid of a Simulation Operation Specialist. We identified objectives corresponding to Royal College Entrustable Professional Activities for Adult Neurology encompassing several diagnostic and therapeutic goals of acute stroke care. To increase fidelity, a standardized patient was recruited and trained on how to respond to neurologic exams given a specific stroke syndrome. A standardized debrief was given after each session in a safe, non-judgemental environment. **Results:** Simulation sessions have been running monthly since March 25, 2021. **Conclusions:** The creation and implementation of high-fidelity simulation training into a resident curriculum is feasible. Ongoing data is being collected to explore residents' experiences and knowledge improvement in stroke, and to asses local reductions in treatment delays.

## Neurovascular, Stroke and Neurointerventional

### P.062

**Does the intensity of brain parenchymal contrast staining on post-recanalization dual energy head CT (DECT) of stroke patients predict the fate of brain tissue?**

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doi: 10.1017/cjn.2021.342

**Background:** On DECT, the ratio of maximum iodine concentration within parenchyma compared to the superior sagittal sinus has been shown to predict hemorrhagic transformation. We aimed to determine if this ratio also predicts the development of an infarct. **Methods:** 53 patients with small infarct cores (ASPECTS≥7) and good endovascular recanalization (mTICI 2b/3) were enrolled. Maximum brain parenchymal iodine concentration as per DECT relative to the superior sagittal sinus (iodine ratio) was correlated with the development of an infarct on follow up CT. **Results:** All patients showed contrast staining, 52 developed infarcts in the area of staining. The extent of infarction (smaller, equal or larger than area of staining) did not correlate with the iodine ratio. **Conclusions:** Brain parenchyma with contrast staining on post-procedure head CT almost invariably goes on to infarct, however the extent of infarct development is not predicted by the intensity of contrast staining.

**n=53 patients with successful recanalization of anterior circulation LVO infarct (TICI2b,3) with post procedural parenchymal iodine staining**

| F/U infarct extent | Number | Hemorrhage(n) | Iodine ratio on intial CT (median/range) |
|---|---|---|---|
| 0: No infarct in area of staining | 1 | 0 | 101(101-101)* |
| 1: Infarct smaller than staining | 8 | 0 | 138(64-341)* |
| 2: Infarct equal to staining | 14 | 0 | 140(74-259)* |
| 3:Infarct larger than staining | 30 | 6 | 120(23-1715)* |
| 0,1:No or smaller infarct than staining | 9 | 0 | 114(64-341)* |
| 2,3 :equal or larger infarct than staining | 44 | 6 | 126(23-1714)* |
| all | 53 | 6 | 123(23-1714)* |

There was no correlation between the degree of contrast staining on initial post procedural CT as expressed in iodine ratio and F/U infarct extent.