P.034

Eptinezumab Demonstrated Early Relief from Episodic and Chronic Migraine: Consistency of Effect Across 4 Clinical Trials

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doi: 10.1017/cjn.2021.316

Background: Eptinezumab is approved in the US for migraine prevention. We demonstrate the consistency in migraine reduction from Day 1 across 4 weeks in patients with episodic (EM) or chronic migraine (CM) treated with eptinezumab. **Methods:** Four double-blind, placebo-controlled, randomized trials evaluated eptinezumab for migraine prevention: NCT01772524 (EM); NCT02559895 (EM, PROMISE-1); NCT02275117 (CM); NCT02974153 (CM, PROMISE-2). The percentage of patients experiencing migraine was evaluated on Day 1, then as an averaged daily occurrence weekly through Wk4; baseline was averaged over the 28-day screening period. **Results:** Approximately 31% of EM patients experienced migraine on any given day during baseline. PROMISE-1 percentages of patients with migraine on Day 1: 14.8% (100mg), 13.9% (300mg), 22.5% (placebo); during Wk4: 17.1%, 15.8%, 20.5%. NCT01772524 on Day 1: 4.8% (1000mg), 13.7% (placebo); during Wk4: 10.0%, 17.6%. Approximately 58-59% of CM patients experienced migraine on any given day during baseline. PROMISE-2 percentages on Day 1: 28.6% (100mg), 27.8% (300mg), 42.3% (placebo); during Wk4: 31.8%, 28.8%, 36.0%. NCT02275117 on Day 1: 29.3% (100mg), 26.5% (300mg), 48.7% (placebo); during Wk4: 30.2%, 30.1%, 41.0%. **Conclusions:** Across 4 migraine prevention trials, eptinezumab consistently demonstrated rapid onset of migraine preventive benefit, beginning Day 1 after initial treatment and sustained through ≥4 weeks.

P.035

Health System Utilization and Medication Use among Adults with Migraine in Alberta: An observational cohort study using Alberta administrative health data

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doi: 10.1017/cjn.2021.317

Background: Migraine is costly to governments. Despite significant burden, Canada lacks population data regarding migraine prevalence, resource and medication utilization. We sought to characterize the demographics, health resource utilization, and medication use in an adult migraine cohort in Alberta. **Methods:** Migraine cohort: previously validated case definition of migraine (ICD 10 + dispensation of abortive and/or preventative migraine drug (04/2010-03/2016). Patients over 18 years, followed three years from index date [first dispensation of migraine medication]. Health resource utilization (HRU) assessed by emergency department (ED) visits, hospital admission and physician claims. Medication assessed province-wide dispensation database linkage. Patient demographics and Charlson Comorbidity Index (CCI) included. **Results:** Over 5 years: 53,333 migraine cases identified (mean age 40.5 years, 79% female). Common comorbidities: hypertension, COPD, diabetes mellitus, cancer, cerebrovascular disease. Mean CCI 0.55 (SD 1.06). Metropolitan patients: 48%, urban 34.6%, rural 17.4%. Initial migraine diagnosis: 46% by GP, 31% in ED. Rural patients present more to ED/hospital for care in 3-year follow-up (IRR 2.95 [2.83, 3.08]). **Conclusions:** Our migraine case definition is more specific than sensitive and underestimates Alberta's migraine prevalence. Higher female prevalence as expected. Rurally, migraine care largely occurs in ED/hospital. Study of prevalence, HRU and medications may help inform health policy in Alberta and Canada.

P.036

Burden of illness in patients with migraine in Canada: A patient survey and retrospective chart review

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doi: 10.1017/cjn.2021.318

Background: There are limited Canadian data on the impact of migraine on quality of life, economic, and societal burden. Therefore, the aim of this study was to characterize the humanistic and economic burden of illness of migraine in Canada. **Methods:** *Retrospective medical chart review and prospective patient survey were used to evaluate the clinical, social, and economic burden of migraine in patients who failed at least two prior prophylactic therapies.* **Results:** 287 migraine patients were included. High- frequency episodic migraine (8 to 14 MMDs) and chronic migraine (15+ MMDs) made up the majority of the cohort (35.2% and 35.9%, respectively). 72.8% of the patients had underlying comorbidities 78% indicated that they experienced severe disability on their daily life due to their headaches. The total estimated annual cost of chronic migraine was $25,669 per patient while high-frequency episodic and low-frequency episodic migraine was associated with an annual cost of $24,885 and $15,651 per patient respectively. **Conclusions:** This study provides a recent and comprehensive assessment of the burden of illness associated with migraine in Canada and showed that migraine is associated with a substantial humanistic and economic burden for patients and healthcare systems.

Movement Disorders

P.037

Benefits of Treatment with OnabotulinumtoxinA in Naive and Non-naive Patients with Cervical Dystonia are Sustained over Time in CD PROBE

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doi: 10.1017/cjn.2021.319

Background: The sustained effects of onabotulinumtoxinA in patients with cervical dystonia (CD) who were naïve or non-naïve

to botulinum toxin at enrollment in CD PROBE (CD Patient Registry for Observation of BOTOX® Efficacy) were evaluated. **Methods:** Patients were included if they completed all three treatment cycles and had accompanying data in this prospective, observational study. Assessments included CD severity, Cervical Dystonia Impact Profile (CDIP-58), Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS), treatment interval, total dose, and adverse events (AEs). **Results:** Changes in severity following each onabotulinumtoxinA treatment were generally similar between naïve (n=212) and non-naïve (n=138) patients. Severity scores were maintained or improved in most patients with mild/moderate symptoms, while 30.0-66.7% with the highest severity scores shifted to a lower score across treatments. Sustained improvements were seen in all CDIP-58 subscales and TWSTRS total scores irrespective of baseline CD severity and toxin status. The median time interval between injections was similar in naïve (93.0–98.0 days) and non-naïve patients (96.0–97.0 days); doses tended to be lower in naïve patients. The most common AEs (dysphagia, muscular weakness) were similar. **Conclusions:** CD severity was attenuated by repeat onabotulinumtoxinA treatments at consistent intervals regardless of prior botulinum toxin exposure. Treatments were well tolerated.

P.038

Impact of Disease Severity on Presentation Subtype and OnabotulinumtoxinA Utilization in Patients with Cervical Dystonia in the CD PROBE Completer Population

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doi: 10.1017/cjn.2021.320

Background: The impact of cervical dystonia (CD) severity on presentation subtype and onabotulinumtoxinA utilization was examined in the completer population from CD PROBE (CD Patient Registry for Observation of BOTOX® Efficacy). **Methods:** In this multicenter, prospective, observational registry, patients with CD were treated with onabotulinumtoxinA according to injectors' standard of care. Completers were patients that completed all 3 treatment sessions and had accompanying data. **Results:** Of N=1046 patients enrolled, n=350 were completers. Completers were on average 57.3 years old, 74.9% female, 94.6% white, and 60.6% toxin-naïve. Baseline severity was mild in 32.6%, moderate in 54.3%, and severe in 13.1%. Torticollis was the most common presentation at baseline (mild: 44.7%, moderate: 55.8%, severe: 63.0%), followed by laterocollis (mild: 42.1%, moderate: 32.6%, severe: 26.1%). Median onabotulinumtoxinA dose increased over time; 160U–200U for torticollis and 170U–200U for laterocollis. For all severities, median total dose increased from injection 1 to injection 3 (mild: 138U–165U, moderate: 183U–200U, severe: 200U–285U). Eighty-one patients (23.1%) reported 139 treatment-related adverse events. There were no treatment-related serious adverse eventsand no new safety signals. **Conclusions:** CD severity impacted presentation subtype frequency and onabotulinumtoxinA utilization in CD PROBE, with higher and tailored dosing observed over time and with increasing disease severity.

P.040

Prognosis in Arm and Leg Tremor Onset Parkinson Disease

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doi: 10.1017/cjn.2021.321

Background: There is no biological marker of progression in early Parkinson Disease (PD). Upper limb (UL) tremor is the most common motor symptom at onset. The significance of lower limb (LL) tremor remains unknown. We report on longitudinally followed autopsy-verified PD tremor onset cases. **Methods:** A chart review of longitudinally followed autopsy-verified PD cases was performed. Age and mode of onset were recorded at initial evaluation. Prognosis was measured by change in Hoehn and Yahr scale while on levodopa (LD). **Results:** Fourty-nine patients were included. Thirty-eight cases had upper limb (UL), four lower limb (LL), and seven upper and lower limb (ULL) onset tremor. UL had 86.8% response to LD, LL 50% and ULL 85.7%. Sub-analysis of UL responders found 20% mild improvement, 53.3% moderate and 26.7% marked. ULL had moderate response in 83.3% and marked in 16.7%. LL responders only had mild improvement with LD. **Conclusions:** Tremor onset is most common in UL, followed by ULL and then LL. LL onset tremor cases have an inferior response to LD when compared to UL and ULL cases.

P.041

First Degree Movement Disorders Cases and Research

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doi: 10.1017/cjn.2021.322

Background: While researchers pursue the etiology, pathophysiology and treatment of movement disorders, presently there is no biological marker for the two most common disorders – essential tremor (ET), and Parkinson's disease and variants (Parkinson syndrome, or PS). The diagnosis of each remains clinical, but definitive diagnosis is made on brain pathology. Population epidemiological studies are hampered by a lack of diagnostic precision. Twins with the same disorder are scarce, and the next best option is studies of well-documented first-degree family members. **Methods:** Patients were seen at the Saskatchewan Movement Disorders Program (SMDP). All autopsied cases with known clinicopathological diagnosis of a movement disorder between 1970 and 2019 were reviewed. Only those with a first-degree family member – parent, child, and/or sibling - with a movement disorder were included. **Results:** 671 cases with movement disorders seen at SMDP have been autopsied. 29 cases including probands were found and thirteen first-degree families were identified; eight families were multiple (2 or more) siblings and five families included one parent/one child. In seven families, the diagnosis was concordant. **Conclusions:** Movement disorders in first degree relatives with autopsied verified diagnosis are dissimilar in nearly half the cases. Such small intensively studied groups offer unique research opportunities.