P.009

Characterizing drug-resistant epilepsy in an adult cohort with new-onset epilepsy

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Background: There are few studies exploring rates of drug resistant epilepsy in populations with new-onset epilepsy (NOE). This prospective cohort study characterizes the development of drug-resistant epilepsy (DRE) and risk factors in an adult cohort with NOE or newly-diagnosed epilepsy (NDE). **Methods:** Patients are from the Single Seizure Clinic (SSC) in Saskatoon, SK between 2011 and 2018. The SSC sees patients who experience their first seizure; approximately 30% are diagnosed with epilepsy. Patients were followed prospectively. We identified the following variables in the cohort: epilepsy type, seizure onset, etiology, syndromes, and rates of DRE. Inclusion criteria included patients with NO and NDE, at least 18 years at diagnosis, and a minimum 1 year of follow-up. **Results:** Ninety-five patients were included, 46 females and 49 males. Median age of onset was 33 years. Of those, 28.4% developed DRE. Average time between onset and DRE diagnosis was 1.44 years. Bivariate analysis identified age, gender, and cranial trauma as significant risk factors for DRE. The multivariate model was not significant. **Conclusions:** Our study shows that patients with new-onset epilepsy have are less likely to develop DRE compared with patients from epilepsy clinics. This study contributes valuable information about NO epilepsy in adults and the development of DRE.

Headache

P.010

Efficacy, safety, and tolerability of ubrogepant for the acute treatment of migraine: a single-attack phase 3 study, ACHIEVE II

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Background: To evaluate efficacy, safety, and tolerability of ubrogepant for acute treatment of migraine attacks. **Methods:** Multicenter, double-blind, phase 3 study (NCT02867709). Randomized patients (1:1:1, placebo or ubrogepant 25mg or 50mg) had 60 days to treat one migraine attack (moderate/severe pain intensity). Co-primary efficacy endpoints (2 hours post initial dose): headache pain freedom and absence of most bothersome migraine-associated symptom (MBS). Secondary endpoints: pain relief, sustained pain relief, sustained pain freedom, and absence of migraine-associated symptoms. **Results:** 1686 patients were randomized (safety population: n=1465; mITT population: n=1355). Mean age: 41 years; white: 81%; female: 89%. Significantly greater proportions of ubrogepant-than placebo-treated patients achieved 2-hour pain freedom (placebo: 14.3%; 25mg: 20.7%, adjusted *P*=0.0285; 50mg: 21.8%, adjusted *P*=0.0129) and absence of MBS for 50mg (placebo: 27.4%; 50mg: 38.9%, adjusted *P*=0.0129). Secondary endpoints (except absence of nausea at 2h) met statistical significance versus placebo for ubrogepant 50mg. Absence of MBS and secondary outcomes were not significant for 25mg after multiplicity adjustment. Ubrogepant's and placebo's AE profiles were similar. **Conclusions:** Co-primary endpoints were met for ubrogepant 50mg. Ubrogepant 25mg was significantly superior to placebo for 2h pain freedom. Ubrogepant was well tolerated. Results support the efficacy, tolerability, and safety of ubrogepant for acute treatment of migraine attacks.

P.011

OnabotulinumtoxinA, quality of life, health resource utilization, and work productivity in chronic migraine: interim results from PREDICT

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Background: We assessed long-term health-related quality of life (HRQoL) and functioning in adults receiving onabotulinumtoxinA for CM. **Methods:** Interim analysis of multicentre, prospective, observational study in adults naïve to botulinum toxin (NCT02502123). Mean change from baseline in Migraine-Specific Quality of Life (MSQ) score (primary); healthcare resource utilization (HRU) and work productivity (secondary) assessed in patients receiving 4 of 7 onabotulinumtoxinA treatments (Tx4; ~10 months). **Results:** Across treatments (baseline, n=196, post-Tx2, n=173, post-Tx4, n=137), the mean (SD) between-session interval and onabotulinumtoxinA dose was 13.1 weeks and 170.4 (17.2) U, respectively. MSQ scores increased significantly (P<0.0001) (baseline to post-Tx4; all role function domains). Patient percentages declined from baseline to post-Tx2 and post-Tx4 for emergency room visits (17.3%; 9.3%; 6.6%), hospital admissions (3.6%; 2.9%; 1.5%), and headache-related diagnostic testing (35.9%; 15.9%; 8.1%). The percentages of patients employed at baseline (73.5%) and post-Tx4 (72.3%) were similar. Hours worked increased slightly from baseline to post-Tx4 (28.0 [SD=15.4]; 29.4 [SD=16.0]). Headache-related missed work hours decreased (5.9 [SD=9.5]; 2.5 [SD=5.9]). Patients reported less headache-related impact on work productivity from baseline to post-Tx4 (5.4 [SD=2.1] vs 3.9 [SD=2.6]) and ability to perform daily activities (6.1 [SD=2.1] vs 4.2 [SD=2.8]). **Conclusions:** OnabotulinumtoxinA for CM improved HRQoL and work productivity and reduced HRU.

Movement Disorders

P.012

Bilateral pallidal deep brain stimulation in a patient with chorea-acanthocytosis

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Background: Chorea-acanthocytosis (ChAc) is a rare autosomal recessive neurodegenerative disease due to mutation of the VPS13A gene encoding the protein chorein. ChAc is a slowly progressive

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disorder that typically presents in early adulthood, and whose clinical features include chorea and dystonia with involuntary lip, cheek and tongue biting. Some patients also have seizures. Treatment for ChAc is symptomatic. A small number of ChAc patients have been treated with bilateral deep brain stimulation (DBS) of the globus pallidus interna (GPi), and we now present an additional case. **Methods:** Patient chart, functional measures, and laboratory findings were reviewed from the time of ChAc diagnosis until 6 months after deep brain stimulation (DBS) surgery. **Results:** Here we present a case of ChAc in a 31 year old male positive for VPS13A gene muations who presented with chorea, tongue biting, dysarthria, weight loss, and mild cognitive dysfunction. GPi-DBS using monopolar stimulation was associated with significant improvement in chorea and dysarthria. **Conclusions:** This case adds to the current state of knowledge regarding the efficacy and safety of bilateral GPi-DBS for symptomatic control of drug-resistant hyperkinetic movements seen in ChAc. Controlled trials are needed to better assess the impact of DBS in ChAc.

P.013

Needs assessment of rural telemedicine care for Parkinson disease in British Columbia

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Background: People with Parkinson disease (PD) face progressive mobility loss, but medical treatment is dependent on clinical assessment and examination. Regional patient and physician density patterns pose further problems to accessing care. Telehealth may improve access particularly among rural populations, but an approach to this problem should consider patient perspectives. **Methods:** We surveyed and conducted a focus group for people with PD and their caregivers. Questions assessed perceptions of barriers to neurological care and use of telehealth for PD management. Thematic analysis was performed to classify qualitative data. **Results:** 18 individuals completed the survey and 7 parties joined the focus group. 52% of participants travel >50km for neurologist appointments (range = 59 to 842km). Perceived barriers include cost and difficulty of travel, wait times, lack of interdisciplinary healthcare and deep brain stimulation outside large cities. 80% of participants (95% C.I. 64-96%) would likely or very likely use telehealth for follow-up neurologist appointments if proven as good as in-office visits. Participants associated telehealth with improved quality of care, improved access to care, and cost savings. **Conclusions:** This sample of people with PD and their caregivers report willingness to access care via telehealth to reduce perceived cost and travel for specialty care.

P.014

OnabotulinumtoxinA-treated cervical dystonia patients report improvements in health-related quality of life in a prospective, observational study: POSTURe

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Background: The clinical benefit of onabotulinumtoxinA in cervical dystonia (CD) is proven, but its impact on health-related quality of life (HRQoL) is largely unknown. **Methods:** Multicentre, prospective, observational study (NCT01655862) of CD patients treated with onabotulinumtoxinA at physician discretion (maximum 9 treatments). Patient-reported HRQoL outcomes and work productivity were collected at baseline, 4- or 8-weeks post-treatment, and final visit (prior to 9th treatment). OnabotulinumtoxinA utilization was assessed. **Results:** 61 patients received ≥1 treatment; 74.1% completed all treatments. Average total dose/treatment was 186.9U. The splenius capitis was most frequently treated (100% patients). Average pain numeric rating scale score was significantly improved at final visit (2.1) versus baseline (4.6; $p<0.001$) as were CD impact profile questionnaire-58 scores across all subscales (head/neck symptoms, pain/discomfort, sleep, upper limb activities, walking, annoyance, mood, psychosocial functioning; all $p<0.001$). Fewer patients (16.0%) reported loss of work productivity at final visit versus baseline (48.4%). 121 AEs were reported by 67.2% patients. 62 AEs in 44.3% patients were treatment-related, the most common being neck pain (18%). One serious AE (not treatment-related) was reported by 1 patient. No new safety signals were identified. **Conclusions:** Long-term use of onabotulinumtoxinA is a safe, effective treatment for CD, improving HRQoL and work productivity.

P.015

Long-term progression and prognosis in different subtypes of Parkinson's disease: validation of a new multi-domain subtyping method

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Background: Parkinson's disease (PD) varies in clinical manifestations and course of progression from person to person. Identification of distinct PD subtypes is of great priority to develop personalized care approaches. We aimed to compare long-term progression and prognosis between different PD subtypes. **Methods:** Data on 421 individuals with *de novo* early-onset PD was retrieved from Parkinson's Progression Markers Initiative (PPMI). Using a newly developed multi-domain subtyping method (based on motor phenotype, RBD, autonomic disturbance, early cognitive deficit), we divided PD population into three subtypes at baseline: "*mild motor-predominant*", "*Diffuse malignant*" and "*Intermediate*". Rate of global progression (mixed motor and non-motor features) and developing dementia were compared between the subtypes. **Results:** Patients with "*diffuse malignant*" PD experienced 0.5 z-score further worsening of global composite outcome (p=0.017) and 2.2 further decline in MOCA score (p=0.001) after 6-years of follow-up. Hazard for MCI/dementia was significantly higher in "*diffuse malignant*" (HR=3.2, $p<0.001$) and "intermediate" (HR=1.8, $p<0.001$) subtypes. Individuals with "*diffuse malignant*" PD had the lowest level of CSF amyloid-beta (p=0.006) and SPECT striatal binding ratio (p=0.001). **Conclusions:** This multi-domain subtyping is a valid method to predict subgroups of PD with distinct patterns of long-term progression at drug-naïve early-stage with potential application in real-life clinical practice.

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