Poster Presentations

Adult Neurology (CNS)

Dementia and Cognitive Disorders

P.001

Rate of cognitive decline in dementias in patients from rural and remote Saskatchewan

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doi: 10.1017/cjn.2019.103

Background: To determine whether there is a difference in the average annual rate of decline in Mini Mental Status Examination (MMSE) scores between those with Alzheimer's disease, vascular dementia, frontotemporal dementia and dementia with Lewy bodies. **Methods:** We conducted a retrospective chart review of 225 consecutive patients with dementia who attended the Rural and Remote Memory Clinic in Saskatoon, Saskatchewan. The data collected included MMSE scores and demographic information. Statistical analysis with ANOVA compared the average the annual rate of decline in MMSE score between patients with different types of dementia. **Results:** There was no statistically significant difference in the rate of MMSE score decline between these groups. Patients with frontotemporal dementia and vascular dementia were referred to the clinic at younger ages than those with Alzheimer's disease and dementia with Lewy bodies. **Conclusions:** The rate of decline in MMSE did not differ between these four types of dementia. Patients with frontotemporal dementia and vascular dementia often experience cognitive decline earlier in life than those with Alzheimer's disease and dementia with Lewy bodies.

P.002

Quality of life across types of dementia in rural and remote memory clinic patients

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doi: 10.1017/cjn.2019.104

Background: Quality of life (QOL) is of great importance in dementia. We examined QOL across types of dementia in patients presenting to a rural and remote memory clinic (RRMC). **Methods:** This analysis included 343 RRMC patients seen between 2004 and 2016. Patients were diagnosed with mild cognitive impairment (MCI, n=74), frontotemporal dementia (FTD, n=42), Alzheimer's disease (AD, n=187), vascular dementia (VD, n=22), or Lewy Body dementia (DLB, n=18). Patients and caregivers completed questionnaires at their initial visit. Data collection included patient-rated patient QOL (QOL-PT), caregiver-rated patient QOL (QOL-CG), MMSE score, age, and other patient demographics. Statistical analysis assessed patient variables and differences in QOL across types of dementia using one-way ANOVA, χ^2 tests, and t-tests. **Results:** QOL-PT did not differ by diagnosis, whereas QOL-CG did. QOL-CG was significantly higher in MCI (34.6±7.1) compared to FTD (30.9±5.2) and AD (31.7±5.9). QOL-PT and QOL-CG differed in certain dementia types. QOL-PT was significantly higher than QOL-CG in MCI (QOL-PT=37.3±5.0, QOL-CG=35.3±7.3), FTD (QOL-PT=37.2±6.1, QOL-CG=31.7±5.5), and AD (QOL-PT=37.0±9.7, QOL-CG=32.1±5.9). **Conclusions:** We found that QOL-PT does not differ across dementia types, QOL-CG is higher in MCI compared to FTD and AD, and patients rate their own QOL higher than their caregivers do in MCI, FTD, and AD.

P.003

Differences between younger and older dementia patients at a rural and remote memory clinic

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doi: 10.1017/cjn.2019.105

Background: Young-onset dementia (YOD) patients and their caregivers face unique challenges in diagnosis and management. We aimed to compare the characteristics of rural YOD and late-onset dementia (LOD) patients. **Methods:** A total of 333 consecutive patients (YOD=61, LOD=272) at a rural and remote memory clinic between March 2004 and July 2016 were included in this study. Each patient had neuropsychological assessment. Health, mood, function, behaviour, and social factors were also measured. Both groups were compared using χ^2 tests and independent sample tests. **Results:** YOD patients were more likely to be married, employed, current smokers, and highly educated. They reported fewer cognitive symptoms, but had more depressive symptoms. YOD patients were less likely to live alone and use homecare services. YOD caregivers were also more likely to be a spouse and had higher levels of distress than LOD caregivers. **Conclusions:** Our findings indicate YOD and LOD patients have distinct characteristics and services must be modified to better meet YOD patient needs. In particular, the use of homecare services and caregiver support may alleviate the higher levels of distress found in YOD patients and their caregivers. Additional research should be directed to addressing YOD patient depression, caregiver distress, and barriers to services.

Epilepsy and EEG

P.005

Long-term retention on adjunctive brivaracetam in adults with focal seizures and previous carbamazepine, lamotrigine, levetiracetam, or topiramate use: Post-hoc analysis

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doi: 10.1017/cjn.2019.106

Background: Previous post-hoc analysis of three 12-week, double-blind, placebo-controlled trials of adjunctive brivaracetam (BRV) in patients with focal seizures demonstrated similar efficacy

over placebo regardless of previous carbamazepine (CBZ), lamotrigine (LTG), levetiracetam (LEV), or topiramate (TPM) failure. This analysis explored long-term retention of adjunctive BRV in patients with previous CBZ/LTG/LEV/TPM. **Methods:** Post-hoc analysis of double-blind, placebo-controlled trial (N01358 [NCT01261325]) and open-label extension (N01379 [NCT01339559]; cut-off 15-March-2017) of adjunctive BRV in patients (≥16 years) with focal seizures. Outcomes were assessed in patients randomized to BRV (100 or 200 mg/day) who had previous CBZ/LTG/LEV/TPM (stopped ≥90 days before BRV initiation). **Results:** 503 patients were analyzed. Baseline characteristics were generally similar in subgroups with previous CBZ/LTG/LEV/TPM (n=209/162/256/182). Overall, Kaplan-Meier-estimated BRV retention at 1-, 3-, and 5-years was 71.0%, 50.9%, and 32.4%. Across previous antiepileptic drug (AED) subgroups, Kaplan-Meier-estimated BRV retention (1-year: 64.8%–73.2%; 3-year: 41.9%–49.9%; 5-year: 31.5%–35.7%), BRV discontinuations (58.4%–63.0%), and most common reasons for discontinuation (lack of efficacy: 23.0%–25.3%; adverse event: 16.7%–22.2%) were generally similar. **Conclusions:** Post-hoc analysis demonstrated similar long-term retention rates and discontinuation reasons with adjunctive BRV in adults previously treated with CBZ/LTG/LEV/TPM. Adjunctive BRV provides long-term effectiveness in patients who failed common AED treatments, including LEV.

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P.006

Efficacy of adjunctive brivaracetam in adult patients with secondarily generalized tonic-clonic seizures at baseline: pooled results from long-term follow-up trials

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doi: 10.1017/cjn.2019.107

Background: Previous post-hoc analysis of three 12-week, double-blind, placebo-controlled trials showed adjunctive brivaracetam (BRV) reduced focal and secondarily generalized tonic-clonic seizures (SGTCS; Type IC) in patients with baseline SGTCS. This analysis explored long-term efficacy of adjunctive BRV in these patients. **Methods:** Patients (≥16 years) with focal seizures with SGTCS at Baseline were identified from 12-week double-blind, placebo-controlled trials (NCT00490035/NCT00464269/NCT01261325) and subsequent open-label, long-term follow-up (LTFU) trials (NCT00175916/NCT00150800/NCT01339559). Outcomes were assessed at protocol-specified time-points (up to 60 months). We report post-hoc efficacy data for patients receiving BRV (50–200 mg/day). **Results:** At double-blind Baseline, 409 patients had SGTCS (mean epilepsy duration: 22.2 years); 28.4%, 38.9%, and 32.8% had 0–1, 2–4, and ≥5 previous AEDs. Baseline median seizure frequency/28 days was 8.1 (focal) and 3.0 (SGTCS only). 325/409 patients (79.5%) entered LTFU. In the 12-month (n=150), 24-month (n=89), 36-month (n=73), 48-month (n=68) and 60-month (n=57) exposure cohorts, median percent reduction from Baseline in SGTCS frequency/28 days was 81.1%, 84.0%, 89.2%, 91.0%, and 90.6%, respectively. ≥50% responder rates for SGTCS were 75.3%, 78.7%, 80.8%, 79.4%, and 78.9%. No safety concerns were identified. **Conclusions:** Adjunctive BRV (50–200 mg/day) reduced SGTCS frequency during LTFU (up to 60 months) in patients with SGTCS at Baseline.

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P.007

Déjà vu evoked by stimulating the insula in two patients suffering from intractable temporal lobe epilepsy

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doi: 10.1017/cjn.2019.108

Background: Déjà vu is a common manifestation of temporal lobe seizures. It can be reproduced by electrical stimulation of the hippocampus, amygdala and temporal neocortex with stereotactically implanted electrodes. We report here déjà vu triggered by the stimulation of the insula. **Methods:** Two patients suffering from intractable temporal lobe epilepsy exhibiting auras of déjà vu underwent invasive EEG studies. One patient had a prior temporal lobectomy with reoccurrence of similar symptoms after surgery. We performed functional connectivity analyses using phase locking value (PLV) to estimate changes in connectivity between different brain regions in the standard EEG frequency bands during stimulation. **Results:** Stimulation of the insular cortex induced reproducible déjà vu symptoms in both patients. In one patient, PLV analysis showed increased synchronization in the alpha band between insular and temporal regions after an evoked déjà vu compared to a control stimulation. **Conclusions:** Our results suggest that the insula may in rare occasions generate déjà vu. This implies that insular epileptogenicity cannot be ruled out in patients exhibiting such an aura nor in patients with persisting déjà vu despite an initial amygdalo-hippocampectomy.

P.008

Triphasic waves in powassan encephalitis: a case report

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doi: 10.1017/cjn.2019.109

Background: Powassan virus is a tick borne virus which can lead to encephalitis. **Methods:** 63 year old woman with history of migraine presented with 2 days of fever, headache, language difficulty and right sided facial droop. Her examination revealed right upper motor neuron type facial weakness and expressive aphasia. She rapidly deteriorated within 24 hours becoming non verbal and ultimately comatose. **Results:** MRI brain revealed T2 hyperintensities in bilateral caudate and putamen. Subsequent MRI brain showed progression of the caudate and basal ganglia changes and new T2 hyperintensities in bilateral thalami and midbrain with no abnormal enhancement. CSF revealed lymphocytic pleocytosis with normal protein and glucose. Viral Encephalitis was suspected and she was continued on Acyclovir until Varicella zoster and Herpes simplex virus serology in CSF returned negative. Prolonged video EEG showed near continuous generalized triphasic pattern without any evolution or seizure pattern. There was no improvement in clinical status or EEG with antiepileptic treatment. Paraneoplastic panel , serum HIV, Lyme and 14-3-3 protein were negative. Extensive viral serologies were sent and ultimately Powassan serology came back positive. **Conclusions:** This case highlights powassan virus as a cause of encephalitis and occurrence of triphasic waves in non metabolic causes of encephalopathy such as infectious encephalitis.