Alzheimer's disease (AD) CSF biomarker testing impacts clinical management. Methods: IMPACT-AD BC (NCT05002699, impactAD.org) is an observational, longitudinal study examining the role of AD CSF biomarker testing (i.e., amyloid-beta and tau proteoforms) in medical and personal decision-making, and health economics. For medical decision-making, physicians completed surveys on patient management plans before and after receiving the biomarker findings. Overall change in management was assessed as a composite measure of changes in the use of: (i) AD symptomatic medications, (ii) other dementia-relevant medications, (iii) diagnostic procedures, and (iv) referrals or counselling. Results: Of the 142 participants, 66% were determined to have CSF biomarker profiles on the AD continuum. Overall change in management was observed in 89% of patients, with the greatest changes by category being: diagnostic procedures > referrals and counselling > AD symptomatic medications > other dementia-relevant medications. Conclusions: The use of AD CSF biomarker testing increases diagnostic confidence and aids in medical decision-making. Notably, the addition of biomarker testing leads to a reduction in the use of other diagnostic procedures, helps optimize pharmacotherapy and results in increased physician-patient/family member counselling.

P.007

Web-based monitoring for cognitive decline following deep brain stimulation

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Background: There is a pressing need to monitor the cognitive outcomes of patients undergoing deep brain stimulation (DBS) for movement disorders, despite the prevalence of pre-operative cognitive evaluations. Previous research has demonstrated the potential for DBS to induce reversible cognitive decline, highlighting the need for post-operative cognitive monitoring. Methods: To address this issue, the present study sought to improve upon the existing Autonomous Cognitive Examination through the development of a 5-minute web-based exam. This examination leverages the capacity of machine-learning algorithms to evaluate complex multimodal inputs, including cognitive and movement disorders, and is made available through a web-based platform for physicians to administer to their patients. Results: The outcome of this study was the development of a cognitive evaluation platform, which enables physicians to administer and view results of a brief cognitive examination with sensitivity to multiple domains of cognition, including movement disorders. The web-application based screening examination is easily accessible and can be used on any device. Conclusions: This web-based cognitive examination offers a crucial solution for monitoring longitudinal cognition in high-risk patient populations undergoing DBS for movement disorders. Its ability to assess complex multimodal inputs has broad applications beyond movement disorders and serves as a valuable tool for detecting cognitive decline.

P.008

Alzheimer's disease biomarker testing from the perspective of patients and caregivers

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Background: To enrich our understanding of the impact of Alzheimer's disease (AD) CSF biomarker testing on patients and caregivers, we examined these perspectives within the IMPACT-AD BC study. Methods: IMPACT-AD BC (NCT05002699, impactAD.org) is an observational, longitudinal study examining the impact of AD CSF biomarker testing (i.e., amyloid-beta and tau proteoforms) on personal and medical utility, and health economics. Patients underwent AD biomarker testing as part of medical care (n=142), and for the personal utility arm, a subset of patients (n=34), and their 'care partner' (n=31), were interviewed post-biomarker disclosure to understand their decision-making to undergo testing and the impact of learning the test results. Results: The primary consideration in patients' decision to undergo testing was the desire for diagnostic clarity (63%). After biomarker result disclosure, patients' positive feelings stemmed largely from having greater diagnostic certainty (55%) and the ability to plan for the future (23%), including making financial changes (58%) and care plans (21%). Care partners conveyed that biomarker testing provided needed information to help plan for the future and spurred them to connect with community resources. Conclusions: Patients and care partners value the diagnostic clarity from AD biomarker testing and use the information to make informed future plans.

P.009

Comparison of Montreal Cognitive Assessment (MoCA) and Rowland Universal Dementia Assessment Scale (RUDAS) scores in diverse populations

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Background: The Montreal Cognitive Assessment (MoCA) and Rowland Universal Dementia Assessment Scale (RUDAS) are tests used to detect mild cognitive impairment (MCI) and dementia. However, it has been suggested that the MoCA may not be appropriate for diverse populations, and that the relatively newer RUDAS may be better suited as a universal cognitive test. Methods: The MoCA and RUDAS were administered at baseline visits for participants enrolled in the Prospective Registry of Persons with Memory Symptoms (PROMPT). Test scores were compared for patients with different levels of educational attainment, first language, and race using the Kruskal-Wallis test.

Results: The difference in MoCA (0.029) and RUDAS (0.0041) scores between patients with different levels of educational attainment (n = 141) was significant. The difference in MoCA (0.62) and RUDAS (0.78) scores between patients with a different first language (n = 141) was not significant. The difference in MoCA (0.64) and RUDAS (0.96) scores between patients of different race (n = 141) was not significant. Conclusions: The difference between MoCA and RUDAS scores remained consistent regardless of level of educational attainment, first language and race. The results suggest that the RUDAS may not be more appropriate than the MoCA in detecting MCI and dementia across diverse populations.

Epilepsy and EEG

P.10

Adding a neuroimaging safety net to the work up of status epilepticus at the Ottawa Hospital

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Background: CT angiogram of the head and neck (CTA) is not part of the routine work-up of status epilepticus (SE), which could miss acute ischemic stroke (AIS) as the cause. We hypothesized that healthcare savings from early treatment of otherwise undiagnosed AIS would be greater than the cost of adding a routine CTA for work-up of SE (all comers). Methods: The total number of patients presenting to ER with SE (defined as seizure/epilepsy +hospital admission), and the subgroup who were diagnosed with a new ischemic stroke, or received a CTA were retrospectively calculated at the Ottawa Hospital between 2010-2019. CTA costs, and savings of early treatment of AIS were obtained from the Department of Radiology and literature review, respectively. Results: 727 individuals presented with SE. 3% (n=22) had a new ischemic stroke-of these, 95% (n=21) did not receive a CTA (considered missed AIS). Assuming CTA could help detect every case of ischemic stroke missed this could result in 2.27 additional strokes caught early/year, and assuming if all thrombolysis candidates this would net cost $7,967/year (vs no acute treatment), or if all thrombolysis+thrombectomy candidates would net save $19,823/year (vs thrombolysis alone). Conclusions: Routine CTA in SE in the ER has potential to result in healthcare savings.

P.011

Is the effect of the vagus nerve stimulation different in lesional and nonlesional medically resistant epilepsies?

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Background: The incidence of drug resistant epilepsy (DRE) is around 30% patients with epilepsy. Vagus nerve stimulation (VNS) is offered to patients who are not candidates for epilepsy resective surgery, however the results of lesional cases has not been explored previously Methods: The study was a retrospective cohort study that involved patients with DRE implanted with VNS at the Epilepsy program at Western University, Ontario. We classified our VNS cohort based on brain imaging of lesional (L) and nonlesional (NL) epilepsy. Results: The median age was 31.8 years, 70.69% were females. The VNS-L group average age was 31.8 years and the NL 35.2 years. The most common abnormality was nodular heterotropias 31.34% (n=9). 16 patients underwent palliative procedures before the VNS implantation, 12 in VNS-L and 4 in VNS-NL. The median period of follow-up was 69.97 months. 62% of the VNS-L group had a seizure reduction of 50% or greater, compared to 41.38% in the VNS-NL group. Seizure freedom was 10.34% in VNS-L, compared to 6.99% in VNS-NL. Conclusions: This is the first study reporting the outcome of VNS in lesional cases. Our results suggest that VNS in lesional cases is effective. However, a large multicenteric study is needed.

Headache

P.013

Patient preferences for selection of preventive migraine therapies in Canada: results from a discrete choice experiment

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Background: This study assessed the importance of mode of administration relative to other treatment attributes when selecting a preventive migraine therapy. Methods: Cross-sectional study among Canadian adults diagnosed with migraine with ≥5 monthly migraine days and tried ≥2 prescription migraine treatments (any kind/duration). Preferences for treatments varying in the following attributes were evaluated via a discrete choice experiment: speed of efficacy (effective in 24hr/1wk/3mo), duration of efficacy (wears off never/1wk/2 wks before next dose), mode of administration (infusion/auto-injection/cranial injections), administration setting (clinic/home), and administration frequency (1mo/3mo). Attribute-level preference weights were estimated using Hierarchical Bayes modeling. Results: Of 200 respondents, 142 experienced episodic migraine and 58 experienced chronic migraine. Preference weights confirmed that respondents' most preferred treatments were those that provided fast and long-lasting efficacy (effective in 24hr = 0.59; wears off never = 1.07) and were offered via infusion (0.58) or auto-injection (0.47) over intracranial injection (-1.04). Respondents reported being moderately willing to receive infusions in either a home or clinic setting (1-6 Likert scale from "not at all" to extremely" willing). Conclusions: Second to speed and duration of efficacy, respondents were most concerned with mode of administration when selecting their preferred migraine preventive, suggesting that physicians should consider patient preferences in treatment decision-making.