

a 1-month, placebo (PBO)- and active-controlled (zolpidem; not discussed here) study, and Study E2006-G000-303 (NCT02952820), a 12-month, randomized, PBO-controlled study (first 6-months), evaluated the efficacy/safety of LEM 5mg (LEM5) and LEM 10mg (LEM10) in subjects with insomnia disorder. The primary/secondary endpoints in both studies included multiple objective/subjective sleep parameters and patient-reported measures, which were assessed for concordance. Results: In both studies, statistically significant improvements with LEM5/LEM10 were reported in multiple objective and patient-reported measures versus PBO, showing a concordance of results, with observed improvements continuing through 12 months. LEM was well tolerated; most treatment-emergent adverse events were mild/moderate. Conclusions: When deciding which sleep agent to prescribe, it is important that improvement can be demonstrated in both objective and patient-reported measures. LEM treatment showed concordance among observed measures.

P.054

Older subjects with insomnia disorder and comorbid pain at baseline: response to Lemborexant

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Background: There is a well-established reciprocal relationship between pain and poor sleep. Therefore, we evaluated whether an approved sleep-promoting drug, lemborexant (LEM), could improve sleep in older adults who reported both insomnia and pain. Methods: Study E2006-G000-304 (NCT02783729) was a 1-month, placebo (PBO)- and active-controlled study in subjects (age ≥ 55 y) with insomnia disorder. Those reporting some/severe pain on the pain/discomfort dimension of the EQ-5D-3L at baseline were included. Subjects were randomized to placebo (PBO), LEM 5mg (LEM5), 10mg (LEM10) or zolpidem (not reported here). Changes from baseline (CFB) in objective sleep parameters latency-to-persistent sleep (LPS) and total-sleep-time (TST) were analyzed in paired polysomnograms. Results: 183/743 (24.6%) subjects in the PBO ($n=55/208[26.4\%]$), LEM5 ($n=78/266[29.3\%]$) and LEM10 ($n=50/269[18.6\%]$) treatment groups reported some/extreme pain at baseline, with median LPS (minutes): 31.0, 29.4, 42.1, respectively. Respective median CFB for LPS at the beginning (Nights[NT]1/2: +2.5, -8.4, -15.8; $P<0.005$) was significantly larger/decreased for LEM5/LEM10 versus PBO and LEM5 at treatment end (NT29/30: -7.1, -9.9, -9.0; $P=0.031$). Mean baseline TST (minutes) was 335.3 (PBO), 336.3 (LEM5), 324.3 (LEM10), and mean CFB was significantly larger/increased ($P<0.001$) for LEM5/LEM10 versus PBO at NT1/2 and NT29/30. Conclusions: Results suggest LEM may effectively treat insomnia in older adults with comorbid pain.

Support: Eisai Inc.

P.055

Does age matter in the CaRMS neurology match?

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Background: The Canadian Resident Matching Services (CaRMS) collects comprehensive data on residency applicants. However, match outcomes by age were not reported. It was unclear whether older applicants found it more difficult to match to the specialties of their choice, i.e. does age influence match? We ask in particular, does age affect the neurology match? Methods: In response to written request, CaRMS provided pre-pandemic age data for 2015-2019 inclusive, divided into group 1 (30 or younger) and group 2 (31-40 inclusive). Results: In 2019, 39 of the 69 group 1 and 6 of the 23 group 2 neurology applicants were matched into neurology (odds ratio (OR)=2.21 $p=0.01$). In contrast, urology (OR=6 $p=0.001$) had the worst odds and family medicine (OR=1.2 $p=0.002$) had the best odds for older applicants in 2019. Average OR (2015-2019) was 1.6 for neurology, 3.1 for urology, 1.3 for family medicine, and between 1.3 and 3.1 for nearly all other specialties. Conclusions: Older neurology applicants were less likely to match than younger peers while match probability was statistically significantly lower in nearly all specialties for older applicants.

P.056

Dual-energy CT for differentiating intracerebral hemorrhage from Contrast Extravasation after Acute Ischemic Stroke Intervention (DECT-ICH)

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Background: Thrombolysis (tPA) and endovascular thrombectomy (EVT) are interventions for acute ischemic stroke (AIS) that can be accompanied by intracerebral hemorrhage (ICH), which can alter the patient's management, or contrast extravasation (CE), which is relatively benign. Previous retrospective studies have shown that dual-energy CT (DECT) is significantly more accurate for differentiating ICH from CE compared to conventional, single-energy CT (SECT). We are performing a prospective study to investigate this question. Methods: Our primary outcome is the sensitivity and specificity of DECT in differentiating ICH from CE. In AIS patients who receive intervention, we will be performing a DECT scan at the same time as the standard-of-care SECT scan at 24 hours post-intervention. In patients who have a hyperdensity on CT, a repeat scan will be done at 72-hours, which will be used as the gold-standard to determine if the hyperdensity was ICH or CE. Results: We expect that DECT will be significantly more sensitive and specific for differentiating ICH from CE compared to SECT.

Conclusions: This study will determine if DECT is superior to SECT in differentiating ICH from CE, validate the use of DECT in AIS patients who receive intervention, and potentially change the imaging paradigm for acute stroke in the future.

STROKE

P.057

A case of cerebral fat embolism in the absence of right-to-left shunt

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Background: A 64-year-old man underwent an elective right total hip arthroplasty. Post-operatively, his GCS was 6, despite reversal of anesthetic agents. His toes were upgoing bilaterally. He did not have other focal neurologic deficits. He was intubated for airway protection. His only vascular risk factor was hypertension. Methods: [Case Report]Results: A CT/CTA/CTP head was unremarkable. A 1.5T MRI showed a few tiny, bihemispheric, embolic infarcts. These were not significant enough to account for his decreased level of consciousness. His blood work did not show evidence of coagulopathy. A subsequent 3T MRI demonstrated widespread, tiny embolic infarcts in a starfield pattern, consistent with cerebral fat embolism. A transesophageal echocardiogram with bubble study failed to demonstrate a right-to-left shunt. By post-operative day 11, he returned to his neurological baseline. Conclusions: A high degree of suspicion is required to diagnose cerebral fat embolism. There are reports of cerebral fat embolism in the absence of right-to-left shunt. The proposed mechanism is physiologic stress leading to systemic release of free fatty acids and inflammatory mediators, which damage capillary beds and disrupt the blood-brain barrier. This diagnosis has important prognostic implications as fat vacuoles deform easily and deficits are typically more reversible than those occurring with other embolic events.

P.058

Reasons for withholding tissue Plasminogen Activator (tPA) administration during the COVID-19 pandemic at a tertiary stroke centre

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Background: Stroke is a leading cause of death and disability worldwide, including Canada. Treatments for stroke are time dependent and IV tPA for acute ischemic stroke decreases the chance of disability at 90 days if given within 4.5 hours of symptom onset. The onset of the Covid-19 pandemic was initially associated with a decrease in acute stroke treatment with thrombolysis across North America. These decreases seemed transient, with a rebound in numbers seen in other provinces across Canada

as widespread lockdown orders were lifted. However, a rebound in thrombolysis was not seen at Royal University Hospital (RUH) in Saskatoon, Saskatchewan during the same period. We will analyze documented reasons why thrombolysis was withheld. Methods: We conducted a retrospective chart review of adult patients with ischemic strokes presenting within 4.5 hours of symptom onset to the RUH from March 2019 –January 2021. We received a waiver of consent from the Research Ethics Board. Results: 128 patients met the inclusion criteria. Statistical analysis is currently ongoing. Conclusions: Initial results suggest that there are similar reasons for withholding tPA before and after the Covid-19 pandemic. The main reasons include rapidly resolving/resolved symptoms and a documented tPA exclusion criterion.

P.059

Cerebral small vessel disease burden as a predictor of longitudinal cognition in patients with transient ischemic attack

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Background: Cerebral small vessel disease (CSVD) is associated with stroke, cognitive decline, and dementia. In this study, we examined how SVD is longitudinally related to cognitive performance in transient ischemic attack (TIA) patients compared to controls. Methods: We rated CSVD at baseline on MRI in TIA patients (n=197) and controls (n=113) for microbleeds (CMB), lacunes, white matter hyperintensities (WMH), and perivascular spaces (EPVS). Neuropsychological testing was administered across 5 years using the following assessments: BVMT, RAVLT, TMTA, TMTB, WAIS-R. Results: Periventricular WMH ≥ 2 yielded slower performance on TMTB across all timepoints (adjusted difference 20.3 seconds, 95%CI [8.4,32.2]), as did deep WMH ≥ 2 (20.1 sec, 95%CI [7.6,32.6]). Basal ganglia EPVS >20 performed slower on TMTA (10.1 sec, 95%CI [4.7,15.5]) and TMTB (21.2 sec, 95%CI [3.4,39.1]). Centrum semiovale EPVS >20 performed slower on TMTB (27.2 sec, 95%CI [10.6,43.8]) and worse on WAIS-R at 5-years (-18.6, 95%CI [-35.0,-2.2]). Lacunes ≥ 3 performed slower on TMTA across all timepoints (4.0 sec, 95%CI [0.1,7.9]). Total CSVD ≥ 2 performed slower on TMTA (3.7 sec, 95%CI [0.4,7.0]) and TMTB (13.9 sec, 95%CI [2.9,24.9]) across 5 years. When stratifying results, associations were generally found in TIA, not controls. Conclusions: Findings demonstrate that CSVD is associated with poorer cognitive performance longitudinally, and is more pronounced in TIA compared to control.

P.060

Teamwork makes dreamwork: a stroke of genius

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Background: Interprofessional collaboration is at the center of much of our work as Neurologists, yet often Medical Education inadequately prepares students for the complexities of