

year history of early- and insidious-onset, rapidly progressive symptoms resembling CBS (parkinsonism, severe apraxia, global cognitive impairments, personality changes, depression, and functional decline). Brain MRI showed severe atrophy with frontoparietal predilection, asymmetric ex vacuo dilatation, atrophic corpus callosum, and patchy, asymmetric T2/FLAIR hyperintensities in the subcortical white matter. Spine MRI showed no cord signals. Brain MR spectroscopy revealed elevated choline with reduced N-acetyl-aspartate levels. The vasculitis screening, and leukodystrophy and CADASIL workups were all unremarkable. Finally, whole exome sequencing was done and a heterozygous variant of *CSF1R* (c.1735C>T, p.Arg579Trp) was found. Conclusions: Our patient's novel *CSF1R* variant was found to be associated with ALSP. This report supports the utility of a comprehensive genetic testing in adult patients clinically presenting as CBS but with white matter abnormalities on T2-weighted MRI. Given that ALSP has several other clinical and radiologic mimickers, whole exome sequencing proves fundamental and can improve the diagnostic rates and understanding of ALSP. A well-informed diagnosis can lead to appropriate preventive genetic counseling to affected families.

CANADIAN STROKE CONSORTIUM (CSC)

B.1

Imaging metabolic changes in white matter following ischemic and hemorrhagic stroke onset in an animal model

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Background: White matter (WM) is particularly sensitive to ischemia and WM changes are observed following onset of ischemic stroke as well as during expansion of the stroke lesion. To better correlate neurobehavioural and functional assessments in our models we have developed imaging methods to aid in the differentiation and quantification of WM injury. Methods: We employ 3 mouse models of stroke: photothrombotic, temporary middle cerebral artery occlusion, and intracerebral hemorrhage. Naïve controls and surgical shams (for each model) are also characterized. We use Fourier transform infrared (FTIR) imaging and synchrotron-based X-ray fluorescence microscopy (XFM) to visualize metabolites and elemental markers, respectively. These post-mortem imaging techniques are combined with conventional histology to confirm neuroanatomic features and cell types. Results: The metabolic profile of WM in naïve, sham, and stroke models has been characterized in C57BL/6 mice. The metabolic markers we identify are highly specific and enable the automated differentiation of WM from other tissues. Our methods have been re-tooled to identify degeneration and injury of WM regions. Conclusions: The combination of FTIR

imaging and XFM afford the means to readily differentiate WM changes following stroke onset. Significant dysregulation can be observed before the core or penumbra of the stroke lesion reaches WM-containing regions.

B.2

Short-term outcome in simultaneous acute code stroke activations in the emergency department

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Background: We aim to assess the effect of simultaneous acute code stroke activation (ACSA) in patients undergoing reperfusion therapies in the emergency department on home time at 90 days. Methods: We assessed ACSA over 20 months from the QuICR (Quality Improvement and Clinical Research Alberta Stroke Program) Registry. We defined Simultaneous reperfusion therapy as, ACSA within 60 min of the arrival of any patient receiving intravenous thrombolysis or ACSA within 150 min of the arrival of any patient receiving endovascular thrombectomy (based on the Canadian Triage and Acuity Scale, average local door-to-needle and door-to-puncture times) Results: A total of 2607 ACSA occurred at a mean±SD of 130.8±17.1 per month during the study period. 545 (20.9%) underwent acute reperfusion therapy with a mean age of 70.6±14.2 years, 45.9% (n=254) were female and a median (IQR) NIHSS of 13(8-18). Simultaneous reperfusion therapies occurred in 189(34.6%). There was no difference in the median door-to-CT time between the simultaneous (16, 11-23 min) and non-simultaneous (15, 11-21 min, p=0.3) activations. There was no difference in the median home time at 90 days between the two groups. Conclusions: Simultaneous ACSA occurs in one-third of patients receiving acute reperfusion therapies. An optimal workflow may help mitigate the clinical and system burden associated with simultaneity.

B.3

Sex differences in thrombolysis and thrombectomy workflow: the INTERRSeCT study

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Background: Women are reported to have worse outcomes than men following ischemic stroke despite similar treatment effects for thrombolysis and endovascular treatment. Methods: We performed a post-hoc analysis of patients with acute ischemic stroke and intracranial occlusion enrolled in INTERRSeCT, an