

P.134**Long-term quality of life deterioration in vestibular schwannoma patients treated with radiotherapy: a matched cohort with surveillance, radiation and surgery***S Taniguchi (Vancouver)* J Kam (Vancouver) R Akagami (Vancouver)*

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Background: There is an absence of studies evaluating longitudinal quality of life (QoL) amongst vestibular schwannomas (VS) with matched tumor and patient characteristics between treatment groups. We present novel findings of 12 yearlong follow-up of patient QoL and symptomatology outcomes in this matched cohort study. Methods: Symptomatology and 36-Item Short Form Health Survey (SF36) between 2000-2017 in VS patients managed at a single tertiary centre was conducted. Radiation (R) and active surveillance (A) groups were matched for tumor size and age against the surgery (S) group. Results: 14 A patients, 24 R patients, 49 S patients met matching and inclusion criteria. Mean age, tumor diameter and follow up was 69.1 years, 21.6mm and 12.0 years respectively. Mental component summary (MCS) scores deteriorated significantly in the radiation group (3.1 S, 3.7 A, -3.5 R, p-value 0.008). Physical component summary scores remained stable at follow up (-0.2 S, 0.00 S, -4.0 R, p-value 0.227). Various symptoms resolved statistically in surgery group, whereas tinnitus on follow up was higher with radiation (40.8% S, 66.7% R, p-value 0.038). Conclusions: Surgery group demonstrated improvements in long term QoL with good symptom resolution, whilst radiation group demonstrated small but significant deterioration over time.

P.135**Automated awake brain mapping with eloquentaid: a novel tool for low-resource settings***E Guo (Calgary) JG Pascual (Manila)* SN Cua (Manila) KO Khu (Manila) S Lama (Calgary) GR Sutherland (Calgary)*

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Background: Intraoperative testing for awake craniotomies requires a multidisciplinary team which may not be available in low-resource settings. We explored the creation of an AI tool for automated testing. Methods: We developed a NodeJS application, EloquentAid (<https://www.eloquentaid.com/>), for language testing automation. The workflow was as follows: users select an image-based naming task and verbally identify the image in English. Then, the application transcribes the response using OpenAI's Whisper transcription service. Finally, the application evaluates response correctness. Feedback is provided through auditory and color signals. To assess its reliability, we tested the EloquentAid versus a human rater using a 57-item test based on the Boston Naming Test. Participants were neurosurgery and neurology residents from the Philippines. Qualitative surveys were obtained post-test. Results: A total of 798 observations were recorded (N=14). Human-application agreement was 60.52%. Cohen's kappa was 0.31 (fair agreement). There were no false positive identifications by EloquentAid. Noun-type was felt to affect human error (i.e. "knocker," "yolk," "trellis").

Accent and pronunciation were felt to affect EloquentAid errors. Conclusions: EloquentAid is a promising tool to facilitate intraoperative testing and brain mapping using AI for speech recognition and response evaluation. Preliminary data shows fair human-app agreements. Improvements in test items and pronunciation recognition may be made.

P.136**Implementation of BC Children's Hospital's intraventricular hemorrhage of prematurity management pathway: a quality improvement analysis***MW Elder (Vancouver)* A Weir (Vancouver) I Watson (Vancouver) F Haji (Vancouver) A Singhal (Vancouver) M Tamber (Vancouver)*

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Background: Early placement of a ventricular access device (VAD) may decrease the need for permanent CSF diversion and improve cognitive outcomes in premature infants with intraventricular hemorrhage. In 2019, BC Children's Hospital implemented a multidisciplinary early intervention pathway for these infants. This study evaluated process and compliance measures related to protocol implementation. Methods: A retrospective quality improvement chart review of enrolled infants was performed. Select measures included time to neurosurgery consult and intervention, compliance with VAD tapping and ultrasound protocols, overall ultrasound resource use, and complications. Results: Sixteen patients were included. Median time to VAD insertion was 6 days (IQR 4-9.5), greater than the 3-day target. Transfer time from peripheral NICUs and access to OR time were found to be important reasons for delay. Patients received a median 92.2% (IQR 85.1-100%) of the ultrasounds required by protocol, with a median of 36.5 (IQR 29-43.25) ultrasounds per patient. VAD tapping was 88.8% (IQR 75.6-94.8%) compliant; most protocol deviations were indicated taps not performed due to technical difficulties. Conclusions: Compliance with the new protocol was satisfactory. Areas for improvement include continued education at peripheral NICU sites to minimize transfer delays, improved access to the OR, and maintenance of technical skills amongst our NICU partners.

P.137**Neurosurgical consultations in Nova Scotia: a descriptive analysis***E Parker (Halifax)* MA MacLean (Halifax) E Leck (Halifax) J Han (Halifax) A Alwadei (Halifax) R Greene (Halifax) DB Clarke (Halifax)*

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Background: Receiving and managing neurosurgical consultations are central to providing quality patient care but are resource intensive processes. As part of an ongoing quality improvement initiative, we conducted a single-institution descriptive analysis of adult neurosurgical consultations. Methods: A retrospective review of prospectively collected consultation records and call schedules from a 12-month period from February 2019 to 2020 was performed. Consults were graded according to disposition (admission for