Treatment resistant epilepsy is a major health burden. Recurrent seizures can result in negative sequelae which include seizure related injury, cognitive and memory impairment, and increased healthcare utilization. Hemispheric surgery is an excellent and potentially curative option for carefully selected patients and is currently underutilized. One of the important modalities used to assess patient suitability for the surgery is the electroencephalogram (EEG), which can non-invasively study brain activity. The goal of this project was to evaluate the role of EEG in predicting surgery outcome. We hypothesized that generalized or bilateral epileptic abnormalities captured on EEG would be associated with risk of ongoing seizures and ongoing need for anti-epileptic drugs (AEDs), post-surgery. To test this hypothesis, the medical records of all patients who had undergone hemispheric surgery at BC Children’s Hospital were evaluated. Data was gathered on clinical history, neuroimaging, EEG reports, seizure types, seizure frequency pre- and post-surgery and AED use. Analysis of the data showed trends towards increased seizure recurrence and AED use with bilateral or generalized brain abnormalities, as hypothesized. However, these results were not significant, likely due to small sample size. It was also observed that over 90% of patients had very good outcomes in terms of seizure freedom, therefore any modest prediction capability with regards to seizure recurrence would be of limited clinical use. However, 43% percent of patients were still using AEDs post-surgery despite seizure freedom. This points to a potential utility for EEG in informing post-surgical care regarding AED weaning.

Themes:
Check (highlight) the most applicable theme according to the abstract.

| Innovation and Technology | Health and Wellness | Individual and Society | Sustainability and Conservation |

Comments:
Good abstract – addressed the problem and purpose of the research; results from the study and included implications (and next steps) as a result of the study; my only question is that would this study be repeated again given the small sample size?