



The Beginnings of the Epilepsy Surgery Center in the Southern Gulf

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Introduction

Pediatric epilepsy is a prevalent neurologic condition with annual incidence of 50 per 100,000. Despite major strides in the medical management of epilepsy, a large percentage of children continue to experience medically intractable seizures and associated morbidities; surgical management is their last resort for seizure control and better quality of life. Surgical intervention requires a comprehensive team approach involving trained epileptologists, EEG technologists, expert neurosurgeons, and support staff in addition to specialized equipment. Hence, the goal of our research was to establish whether our young center is efficient at alleviating this common pediatric malady.

Methods

This study was a retrospective chart review of epilepsy surgery performed between 2005 - 2013, and included a cohort of patients younger than 21 years of age who underwent surgical intervention and had at least 1 year of follow up. Total number of patients = 33

Outcome was based on postoperative seizure frequency, medications and neurocognitive testing, as compared to age of onset, duration, pre-operative cognitive impairment, location, histopathology, preoperative workup.

Methods

Pre-op workup

- WADA test used prior to 2010
- fMRI used after 2010
- Neuropsychiatric testing
- EEG video-monitoring
- SPECT scans

Results

Our cohort consisted of 33 patients who underwent single or two-stage surgery with grid placement and epileptogenic focus resection. Majority of the surgeries were two-stage procedures. Temporal lobectomies were prevalent (42%), followed by frontal lobe resections (18%) and hemispherectomy (13%). Focal cortical dysplasia was the most common pathology (59% of cases). The Engel classification was used to measure outcome with 72% of our patient population achieving Engel Class I, 12% Engel II, and 15% Engel III. There were no Engel Class IV patients.

Conclusions

Epilepsy surgery is an effective tool for patients with identifiable focal lesions. Significant improvement can be achieved through the use of an individualized and multidisciplinary team approach. There is a low complication and high satisfaction rate with significant improvement in the number and frequency of seizures, even in a newly established epilepsy center.

Learning Objectives

Determine the correlation between pre- and perioperative variables on the outcome of children undergoing surgery for medically intractable seizures and the efficacy of our budding epilepsy center.

References

Ngugi et al. Incidence of Epilepsy. *Neurology*. 77 (20): 1005-1012. Sept 2011.

Simpson et al. Post-surgical outcome for epilepsy associated with type I focal cortical dysplasia subtypes. *Mod Pathol*. 27 (11): 1455-60. Nov 2014.

Asadi-Pooya et al. Management of epilepsy in resource-limited areas: establishing an epilepsy surgery program in Iran. *Med J Islam Republic Iran*, 28 (1): 24. Mar 2014.

Cataltepe et al. *Pediatric Epilepsy Surgery*, 2010, p. 1