

OP37

Surgery for drug resistant epilepsy in children – Clinical spectrum, surgical techniques and outcome

Arimappamagan Arivazhagan, Malla Bhaskara Rao, Sinha Sanjib, B.A. Chandramouli, P. Satishchandra

Departments of Neurosurgery and Neurology, NIMHANS, Bangalore, India

Background: Epilepsy surgery in children is unique by the different etiologies, concepts of developing brain and cognitive skills and difficulties in functional studies and intra operative assessment. We present our latest experience of surgery for drug resistant pediatric epilepsy over the last five years.

Methods: All patients are evaluated by a comprehensive epilepsy program using 3T MRI, VEEG, neuropsychometry in all patients. SPECT/ PET/MEG were done when indicated. Surgical decision was made based on the evaluation findings.

Results: Fifty five children underwent surgery for drug resistant epilepsy during the study period. The age ranged from 2-18 yrs (mean: 12.8 years). Twenty one children were diagnosed to have mesial temporal sclerosis and underwent ATL and AH. Lesionectomy was performed in 21 patients with intra operative electrocorticographic guidance. Focal cortical dysplasia was the commonest lesion followed by tumors, gliosis and calcification. 10 patients underwent disconnection surgeries namely hemispherotomy (n=8) and posterior quadrant disconnection (n=2). Three patients underwent invasive EEG recording for multifocal lesions (B/L occipital gliosis =1, B/L temporal origin =2) and underwent surgical resection based on the invasive EEG findings. Among MTs patients, Engel's class A outcome was noted in 72% patients. Among the patients with lesionectomy, 60.7% had Engel's class A seizure free outcome, 21.4% had Engel's class B outcome. 85.7% of Patients with DNET demonstrated the best seizure free outcome (85%), while gliosis had relatively poor outcome (25% class A outcome). Special issues noted in management of children included inability to perform awake surgeries in very young patients, difficulties in obtaining functional MRI, etc. Disconnection surgeries resulted in seizure control in 7 out of 10 patients.

Conclusions: Epilepsy surgery in children presents with special issues which need consideration during management. The etiologies and their incidence are significantly different compared to adults. Well planned surgical techniques result in seizure control in majority of patients.