

## OP32

**Epilepsy surgery in infants under a year of age**

Michael Handler<sup>1</sup>, Ramesh Kumar<sup>2</sup>, Susan Koh<sup>1</sup>, Pramote Laoprasert<sup>1</sup>, Kelly Knupp<sup>1</sup>, Brent O'Neill<sup>1</sup>

<sup>1</sup> Children's Hospital Colorado, Aurora, CO, USA

<sup>2</sup> University of Colorado, Aurora, CO, USA

**Introduction:** Infants with epilepsy often have a catastrophic course. There is a historical reluctance to operate in the very young, though experience is accumulating that persistent early seizures are detrimental.

**Methods:** Epilepsy operations performed on children under one year of age between 2002 and 2013 were reviewed for demographic information, seizure outcome, and surgical complications.

**Results:** 25 patients were 18 days to 11 months at operation, the mean age 141 days, and median 99 days. 17 (68%) of these had seizures by the first two weeks of life. All had daily seizures and 80% had more than 10 seizures per day. 22 had an abnormal MRI. 15 (60%) patients underwent hemispherotomy at initial operation, and one an anatomical hemispherectomy. Seven (32%) infants had grid placement followed by focal resection. One of these required a subsequent hemispherotomy. One patient underwent a frontal lobe resection with electrocorticography but required a subsequent grid placement with repeat resection. One had resection of a temporal DIGG. All underwent blood transfusions, but had no other complications. Two hemispherectomies were aborted because of bleeding, and completed at a subsequent operation. Focal cortical dysplasia was the most common pathology (10 patients, 45%) followed by hemimegalencephaly (7 patients, 32%). One patient each had hemispheric infarct, Tuberous sclerosis, Sturge-Weber, atypical Rhatt syndrome, and cobalamin C deficiency. Mean follow-up was 53 months. 21 patients (84%) are seizure free, 10 (40%) on no anticonvulsant. One patient is Engel class 2, and the remaining 3 patients were Engel class 4, one of whom died with status epilepticus from the contralateral hemisphere. Shunts were required in 5 (20%).

**Conclusion:** This large single-institution experience supports that infants with localization-related catastrophic epilepsy can have safe operations and excellent outcomes. There is no reason to delay intervention until they are older and have a longer-standing seizure burden.