

tumor (DNT), 70% had postoperative partial seizures arising in the ipsilateral hemisphere, but 60% had additional generalized seizures, cognitive, and behavioral disturbance, with multifocal and generalized EEG abnormalities. Nine (20%) patients had immediate seizure-free periods of at least 1 year, and 7 of these had MTS. On relapse of the 7, 4 had ipsilateral and 3 had contralateral temporal seizures. After postoperative MRI, only one missed structural lesion was uncovered, and reoperations were possible in a minority of cases. The majority of seizures with MTS were extrahippocampal. In the majority of surgical failures, the epileptogenic lesion was either extrahippocampal or extratemporal. Acoustic auras and EEG evidence of neocortical seizure origin in some might have indicated a preoperative poor outcome. Emerging improved MRI may demonstrate subtle cortical abnormalities responsible for operative failures. Patients should be counselled concerning the unpredictable nature of postoperative relapse. (Hennessy MJ, Elwes RDC, Binnie CD, Polkey CE. Failed surgery for epilepsy. A study of persistence and recurrence of seizures following temporal resection. Brain December 2000;123:2445-2466). (Respond: Robert DC Elwes, Department of Clinical Neurophysiology, Kings College Hospital, Mapother House, de Crespigny Park, London SE5 9RS, UK).

COMMENT. Despite extensive electroclinical and neuroimaging evaluation of temporal lobe epilepsy, approximately 20% relapse with persistent and recurrent seizures postoperatively, either immediately or after a 12 month seizure-free interval. Until more sophisticated MRI techniques are developed, patients should be aware of the unpredictable outcome.

DEVELOPMENTAL DISORDERS

PET STUDIES OF LISSENCEPHALY

The functional activity of lissencephalic cortex was studied using FD Glucose positron emission tomography in 8 patients, mean age 7.5 years, at Children's Hospital of Michigan, Detroit, MI. Two layers of cerebral cortex were differentiated by metabolic activity: an inner layer with 8 to 63% higher glucose utilization rate than the outer layer. Patients with a higher metabolic ratio between the inner/outer layers had greater delays in communication ($p=.007$) and socialization ($p=.03$). No difference was found with respect to motor skills. PET studies should provide a more complete analysis of gyral anomalies and clinical outcome in lissencephaly compared to neuroimaging alone. (Pfund Z, Chugani HT, Juhasz C et al. Lissencephaly. Fetal pattern of glucose metabolism on positron emission tomography. Neurology December (1 of 2) 2000;55:1683-1688). (Reprints: Dr Harry T Chugani, Division of Pediatric Neurology/PET Center, Children's Hospital of Michigan, 3901 Beaubien Blvd, Detroit, MI 48201).

COMMENT. PET studies in lissencephaly show that larger metabolic differences between inner and outer cortical layers are associated with greater delays in communicative skills and socialization. The degree of gyral anomaly in lissencephaly is directly correlated with the degree of developmental delay. The majority of patients with type 1 lissencephaly develop epilepsy before age 6 months, and one-third have infantile spasms.

SURGICAL MANAGEMENT OF CHIARI TYPE 1 ANOMALIES

A minimally invasive, posterior fossa bony decompression in the management of symptomatic Chiari type 1 anomalies in children was evaluated at