SURGERY FOR INTRACTABLE EPILEPSY

The outcome and implications of early surgery for epilepsy are reviewed from the literature by the Comprehensive Epilepsy Center, Miami Children's Hospital, Miami, FA. Focal resection, corpus callostomy, and hemispherectomy are the three major neurosurgical procedures for epilepsy. In 40 children less than 15 years of age treated by removal of the anterior temporal lobe 23 were completely free of seizures postoperatively, eight almost seizure free and five improved significantly. (Davidson, Falconer. Lancet 1975; 1:1260). Subsequent studies have confirmed these early results and freedom or near freedom from seizures is usually achieved in 50-90% of selected cases. The indications for focal resection are 1) intractable partial seizures, 2) localized structural lesion, 3) behavioral and academic deterioration, and 4) localized seizure focus. The contraindications are 1) medication noncompliance, 2) neurodegenerative disorder, and 3) multifocal seizure origin. Complication risks include quadrantanopic visual field deficit, transient dysphasia, third nerve palsy, cerebrovascular accident, and infection. Corpus callostomy is indicated for primary generalized seizures - atonic, tonic, clonic; partial seizures with secondary generalization; Lennox Gastaut syndrome; bilateral synchronous seizure discharges; multifocal seizure foci. Atonic seizures are particularly benefitted by corpus callostomy with 80% relief or reduction; tonic, clonic and partial seizures are improved in only 25-75% of cases. Hemispherectomy is indicated for partial seizures with hemiparesis, hemianopic visual field deficit, behavioral and cognitive disorder, and lateralized electroencephalographic focus. The lateralized (partial) seizures may be reduced by 80-90% and behavioral and cognitive status improved. The risks of hemispherectomy include hemosiderosis, hydrocephalus, and greater cognitive deficit. (Duchowny MS. Surgery for intractable epilepsy: Issues and outcome. Pediatrics November 1989; 84:886-894).

> COMMENT. The author comments that the psychosocial benefits constitute the most important argument in favor of early surgical intervention for intractable epilepsy in children. Relatively little is known about neural reorganization after early focal resection of hemispheric disconnection. The benefits of hemispherectomy for childhood epilepsy were described in a 36 year study (Lindsay J et al. See Ped Neur Briefs 1987; 1:24 and 45). It has been used successfully in some children with intractable neonatal onset seizures with hemispherectomy performed as early as 1½ to five years of age. (See Ped Neur Briefs 1988; 2:62).

RELAPSE AFTER ANTIEPILEPTIC DRUG WITHDRAWAL

The recurrence risks and predictive factors of relapse after antiepileptic drug (AED) discontinuation in a prospective analysis of 425 children with epilepsy are reported from the Instituto di Neuropsichiatria Infantile, Universita La Sapienza, Via dei Sabelli, Rome, Italy. AEDs were discontinued in children who had not had seizures for at least two years and the follow-up after withdrawal was 1.6 to 12 years, mean 8 years. The relapse rate after drug withdrawal was 12% and