Risk of seizure recurrence following a first unprovoked seizure in childhood: A prospective study. Pediatrics June 1990; 85:1076-1085).

COMMENT. The growing concern and awareness of the potential adverse effects of long-term antiepileptic medications in children have led to an increasing reluctance to prescribe regular prophylactic therapy except in patients with multiple risk factors. To treat or not to treat is an individualized decision depending on many criteria: 1) Risk of seizure recurrence and associated brain injury; 2) Adverse effects of antiepileptic medications particularly on cognitive function and behavior; 3) Psychosocial consequences; 4) Geographic location and proximity of physician or hospital emergency services; and 5) Parental compliance and ability to provide CPR and first aid care at seizure recurrence. The more conservative the treatment approach the greater the time required in counseling parents regarding emergency medical care and treatment of the acute seizure. Further trials of efficacy and safety of rectal preparations of anticonvulsants are needed so that FDA approval may be extended to their use by parents in the home. Epilepsy in brain-injured children and the effects of seizures on brain damage and brain function are reviewed by Aicardi J (Dev Med Child Neur March 1990; 32:191-202).

COGNITIVE DYSFUNCTION IN CHILDREN OF EPILEPTIC MOTHERS

Specific cognitive abilities and motor function were investigated at 5½ years in 104 children of epileptic mothers and in 105 control children with normal intelligence at the Child Neurology Department, Children's Castle Hospital, Lastenlinnantie, Helsinki, Finland. The children of the epileptic mothers had been exposed to antiepileptic drugs during pregnancy, most commonly phenytoin (69%), and maternal seizures had occurred during pregnancy in 52%. The WPPSI and ITPA test results showed that the children of epileptic mothers had impaired visuospatial and auditory phonemic skills whereas motor development was normal. Increased risk was associated with maternal partial seizures, with seizures occurring during pregnancy, and with low paternal education, but not with exposure to antiepileptic drugs. The mechanisms suggested include subtle brain damage secondary to fetal asphyxia during the mother's convulsions, genetically transmitted brain abnormalities, and psychosocial disadvantage. Most mothers in the study had relatively low anticonvulsant drug levels during pregnancy and polytherapy was extremely rare. (Gaily E et al. Specific cognitive dysfunction in children with epileptic mothers. Dev Med Child Neur May 1990; 32:403-414).

COMMENT. The mechanisms by which maternal epilepsy might affect a child's intellectual development may include a teratogenic effect of antiepileptic drugs, fetal brain damage or maldevelopment induced by maternal convulsions, or hereditary causes. In this study the prevalence of mental deficiency (1.4%) and borderline intelligence (1.7%) was not significantly

higher than in the general population but specific cognitive dysfunctions were uncovered in children of epileptic mothers.

PROLONGED POSTICTAL ENCEPHALOPATHY

Prolonged postictal confusion lasting from four to ten days is reported in 11 patients (ages 7½ to 40 years) from the Epilepsy Research Center, Department of Neurology, University of Minnesota and MINCEP Epilepsy Care, P.A., Minneapolis. Age of seizure onset averaged 10.7 years. The remote etiology was meningitis in 5, trauma 2, genetic 1, and birth anoxia 1. Mild to borderline mental retardation was present in nine and nine had nonspecific structural abnormalities on MRI or CT, including mild cortical atrophy and mild ventricular enlargement. Previous episodes of status epilepticus had occurred in ten. The encephalopathy always occurred after a cluster of seizures which were generalized tonic-clonic in eight, complex partial in two, and atypical absence in one. The patient with absence seizures, a girl aged 7½, would regress into what mother described as an "infantile stage" after each cluster of seizures lasting a period of a week. During this stage which persisted seven to ten days she would not be able to talk, sit, walk, feed herself, or even chew food placed in her mouth. She was awake and would respond very slowly. Repeated loads of diazepam, valproic acid, ethosuximide, and methsuximide did not result in any clinical or EEG improvement. Metabolic drug toxicity as well as ongoing nonconvulsive status was ruled out as the cause of the confusional state. (Biton V et al. Prolonged postictal encephalopathy. Neurology June 1990; 40:963-966).

COMMENT. This study demonstrates the adverse effects of repetitive seizures on the state of consciousness and mentation, particularly in patients who have previously experienced status epilepticus. The lack of response of this confusional state to anticonvulsant drugs is documented but the details of treatment and serum levels of anticonvulsant medications are not provided. This report suggests that patients who have a tendency to clusters of seizures, mild cerebral atrophy, a history of status epilepticus, and mild to borderline intellectual retardation, are particularly vulnerable to develop transient encephalopathy and are candidates for vigorous and regularly monitored anticonvulsant treatment.

SURGERY FOR PARTIAL EPILEPSY IN INFANCY

Focal resection of epileptic tissue was performed in five infants under one year of age with malignant partial seizures and deteriorating developmental status at Miami Children's Hospital and the Comprehensive Epilepsy Center, Miami, FL. Surgery was performed between two and 11 months of age. Pathology of resected specimens was as follows: Dysplastic gangliocytoma, hamartoma with tuberous sclerosis, gliosis and neuronal degeneration, and localized cortical gliosis. Remission of seizures was obtained in three of five infants and surgery did not result in significant neurologic deficit. (Duchowny MS et al. Focal resection for malignant partial seizures in infancy. Neurology June 1990; 40:980-984).