PEDIATRIC NEUROLOGY BRIEFS

A MONTHLY JOURNAL REVIEW

J. GORDON MILLICHAP, M.D., F.R.C.P., EDITOR

Vol. 4, No. 6 June 1990

SEIZURE DISORDERS

RISK OF SEIZURE RECURRENCE AFTER FIRST SEIZURE

The frequency of seizure recurrence in 283 children presenting with a first unprovoked seizure was studied in the Montefiore/Einstein Epilepsy Management Center, Bronx, NY; Yale University School of Medicine, New Haven, CN; and Columbia College of Physicians and Surgeons, New York, NY. Seizures recurred in 101 children (36%). The mean time interval of recurrence was 9.2 months (median 6 months). Risk of recurrence was greatest in the first few months after the first seizure; 51% within six months. The cumulative risk of seizure recurrence for the entire group was 26% at 12 months, 36% at 24 months, 40% at 36 months, and 42% at 48 months. The risk of recurrence in children with an idiopathic first seizure was significantly lower than those with symptomatic seizures. An abnormal electroencephalogram was the most important predictor of recurrence in children with an idiopathic first seizure. A history of epilepsy in a first degree relative was a significant risk factor only in idiopathic cases with abnormal electroencephalograms. A history of prior febrile seizures or a partial seizure were significant predictors of recurrence in children with a remote symptomatic first seizure. The age at the first seizure and duration of seizure were not predictive in either the idiopathic or remote symptomatic group. The majority (84%) were not treated with antiepileptic drugs or were treated for less than two weeks. The risk of recurrence was not affected by treatment. In the opinion of the authors even children with risk factors for recurrence should not be routinely treated following a first unprovoked seizure. In the two major high risk groups, 1) remote symptomatic patients; and 2) idiopathic patients with abnormal EEG's, recurrence risk is estimated at 50% at two years following the initial seizure. (Shinnar S et al.

PEDIATRIC NEUROLOGY BRIEFS (ISSN 1043-3155) @1990 covers selected articles from the world literature and is published monthly. Subscription requests ($28 US or £15 UK annually; add $5 (£3) for airmail outside North America) may be sent to: Pediatric Neurology Briefs - J. Gordon Millichap, M.D., F.R.C.P. - Editor, P.O. Box 11931, Chicago, IL 60611, USA, or Nat Wst Bnk, 94 Kensington High Street, London W8, UK. The Editor is Professor of Neurology and Pediatrics at Northwestern University Medical School, Chicago, and is presently at Southern Illinois University School of Medicine, Springfield, Illinois, USA.

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