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SEIZURE DISORDERS

TREATMENT OF FEBRILE SEIZURES

The risk of febrile seizure recurrence was studied in 186 consecutive children aged between 6 and 72 months admitted to the Booth Hall and Royal Manchester Children's Hospitals, Pendlebury, Manchester, England. Patients were allocated randomly to one of three study groups if they had a febrile convulsion in the first year of life, a complicated febrile convulsion (defined as more than five minutes in a child with a positive family history, two or more febrile convulsions in one day, duration more than 15 minutes, or a focal convulsion), or more than one febrile convulsion within two years. The three study groups were: 1) A controlled group receiving no regular anticonvulsant treatment (a convulsion lasting longer than five minutes was treated with diazepam 0.5 mg/kg rectally); 2) a group given sodium valproate 30 mg/kg divided into twice daily doses; 3) a group given phenobarbital 5 mg/kg once daily at night. Follow-up was at three to six month intervals and medication was withdrawn after freedom from convulsions for two years. Serum anticonvulsant levels were measured after treatment was established, following a seizure recurrence or if side effects occurred. One hundred twenty-seven patients who completed the study were followed further by mail questionnaires. The overall risk of recurrence was 30% and the risk of a prolonged seizure was 2%, even in patients with adequate drug levels. Prophylactic treatment with sodium valproate or phenobarbital did not significantly lessen the risk of febrile seizure recurrence. Side effects occurred in 24% of the valproate group and in 61% of the phenobarbital group. Comparative data for infants with onset of febrile seizures at less than 12 months were not available. The authors do not recommend the use of sodium valproate or phenobarbital prophylaxis for children with febrile convulsions even in those considered high risk categories. They

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endorse the key role of family counseling and education of those who care for young children with febrile convulsions and they recommend that rectal diazepam be made available to the families of children with high recurrence risks. (McKinlay I, Newton R. Intention to treat febrile convulsions with rectal diazepam, valproate or phenobarbitone. Dev Med Child Neurol October 1989; 31:617-625).

COMMENT. To treat or not to treat the febrile convulsion is a question that remains controversial. The results of this study are of interest but drug-level monitoring was performed infrequently; in children with recurrences the levels of valproate and phenobarbital were subtherapeutic in 40-60% of cases.

In a more recent article concerning the use of long-term phenobarbital for febrile seizures (Farwell JR et al. N Engl J Med Feb 8, 1990; 322:364-9) the authors concluded that "phenobarbital depresses cognitive performance in children and that this disadvantage is not offset by the benefit of seizure prevention". The statistical design and analysis of this study is complicated, requiring explanations for patient dropout rate and poor compliance. In those with seizure recurrence, blood phenobarbital levels were unavailable and parents had discontinued phenobarbital in one-third of cases.

Phenobarbital is the safest drug available and is prescribed for complex febrile seizures by 90% of pediatricians and family practitioners in Illinois. (Millichap JG et al. Ann Neurol (abstract) Sept 1989; 26:473). Significant reductions in seizure recurrence have been reported by several investigators when compliance is carefully controlled. Until new approaches to the management of febrile seizures can be defined by well controlled studies, the following recommendations are suggested: 1) Emphasis on parental counseling and education in the management of fever and convulsions. 2) Intermittent prophylactic therapy with oral diazepam, 0.5 mg/kg/daily in divided doses, at times of subsequent fever, as an alternative to long-term phenobarbital. 3) An approved rectal preparation of diazepam for the treatment of the acute febrile seizure in the home for use by selected parents in high risk patients. 4) Phenobarbital, when indicated in selected patients, should be limited to 6-12 months seizure free periods and monitored by blood levels ($\geq$15 mcg/ml) at six weeks to three month intervals and by behavioral and psychological evaluations before and during therapy.

RECURRENCE RISK AFTER A SINGLE SEIZURE

The risk of recurrence after a single, unprovoked, generalized tonic-clonic seizure was assessed in 119 children aged 2 to 16 years, resident in Normandy and examined at the Hopital General, Le Havre and the Hopital Charles Nicolle, Rouen, France. All children in the study