

TIC SEVERITY AND PSYCHOLOGICAL FUNCTION

The relationship between tic severity and neuropsychological function was examined in 12 monozygotic twin pairs with Tourette's syndrome at the National Institute of Mental Health, Bethesda, MD. Children with more severe tic symptoms had poorer overall performance on psychological tests, and differences were significant on individual tests of attention, visuospatial perception, and motor function. In each twin pair, the twin with more severe tics had poorer global neuropsychological function. (Randolph C et al. Tourette's syndrome in monozygotic twins. Relationship of tic severity to neuropsychological function. Arch Neurol July 1993; 50: 725-728). (Reprints: Dr Randolph, Experimental Therapeutics Branch, National Institute of Neurological Disorders and Stroke, Bldg 10, Room 5C104, 9000 Rockville Pike, Bethesda, MD 20892).

COMMENT. Tic severity and psychological function in children with Tourette's syndrome appear to be influenced by nongenetic factors with a common pathophysiology. The authors found that disturbances of attention were a cardinal psychological feature of TS, but most neuropsychological measures were close to normal means.

FEBRILE SEIZURES

DIAZEPAM PROPHYLAXIS OF FEBRILE SEIZURES

The results of a double-blind, randomized, placebo-controlled trial of oral diazepam administered only at the time of fever are reported from Tufts University School of Medicine and Boston University School of Public Health, Boston. Among 406 children of mean age 24 months who received diazepam, 0.33 mg/kg/body wt, or placebo orally every 8 hours during febrile illnesses, the reduction in risk of recurrence of febrile seizures in the diazepam-treated group, based on an intention-to-treat analysis, was 44% during a mean follow-up of 1.9 years. An analysis restricted to children who had seizures while actually taking the prescribed medication (45 seizures in 36 children) showed 29 seizure occurrences in the placebo group and only 7 in the diazepam group, an 82% reduction in recurrence risk. Moderate side effects, including ataxia, lethargy, or irritability, were reported in 59 (39%) of 153 children who took at least one dose of diazepam. Mild side effects occurred with the same frequency. (Rosman NP et al. A controlled trial of diazepam administered during febrile illnesses to prevent recurrence of febrile seizures. N Engl J Med July 8 1993; 329: 79-84). (Reprints: Dr Rosman, Division of Pediatric Neurology, Floating Hospital for Children, New England Medical Center, 750 Washington St, Box 330, Boston, MA 02111).

COMMENT. The authors advocate the prevention of recurrence of all febrile seizures and recommend oral diazepam, taken at the first sign of

illness, as the optimal prophylactic medication. The benefit demonstrated in this zealously monitored study may not be duplicated in practice when compliance is often less than satisfactory. In a previous controlled trial, Autret and colleagues in France found the results of intermittent oral diazepam therapy disappointing, a lack of efficacy explained by poor compliance (J Pediatr 1990; **117**:490). An approved rectal preparation of diazepam for the home treatment of the acute febrile seizure in high risk patients may offer one alternative to the universal prophylactic intermittent regimen proposed. A survey of pediatric neurologists found only 22% in favor of diazepam (mean dose, 0.46 mg/kg/day at times of fever) in 1990 (see Millichap JG. Progress in Pediatric Neurology, Chicago, PNB Publ, 1991). A more general acceptance of diazepam by pediatricians and parents may be expected following the Boston report, and the results of this wider experience will determine the practical value and safety of this form of treatment.

A clearer understanding of the mechanism of susceptibility to febrile seizures may lead to more specific therapies. Experiments at Ehime Univ School of Medicine, Japan, demonstrate a hyperthermia-induced increase in cortical extracellular glutamate correlating with a decrease in seizure threshold temperature in rats (Morimoto T et al. Pathogenic role of glutamate in hyperthermia-induced seizures. Epilepsia May/June 1993; **34**:447-452).

METABOLIC DISORDERS AND SEIZURES

BIOTINIDASE DEFICIENCY AND SEIZURES

The clinical features of 78 symptomatic children with biotinidase deficiency were reviewed and the response to antiepileptic drugs and biotin therapy in 43 (55%) with seizures are reported from the Medical College of Virginia, Richmond, VA. Seizures were the presenting symptom in 30 (38%) patients, with onset between 2 and 24 months (mean, 8 months). Seizure patterns were generalized tonic-clonic or clonic in 56%, infantile spasms or myoclonic in 16%, and partial in only 5%. EEGs were abnormal in 16 (76%) of 21 patients tested; spike or epileptiform discharges were reported in 9. Antiepileptic drugs controlled seizures in 22 (51%) patients, but treatment was withdrawn without relapse after biotin therapy was initiated. Biotin orally, 5 to 10 mg daily, stopped seizures within 24 hours in 12 of 16 (75%) children whose seizures were uncontrolled by AEDs. Five infants died and 3 sustained permanent brain damage before the biotinidase deficiency was diagnosed. (Salbert BA, et al. Characterization of seizures associated with biotinidase deficiency. Neurology July 1993; **43**: 1351-1355). (Reprints: Dr Barry Wolf, Dept of Human Genetics, Medical College of Virginia, Box 33, MCV Station, Richmond, VA 23298).