

A febrile seizure has long been recognized as the most common complication of exanthem subitum, occurring in 22 percent of 581 patients reported in 11 publications (Millichap JG. Febrile Convulsions. New York, Macmillan, 1968). Evidence for an encephalitic process and a direct involvement of the brain was lacking, and the degree of fever was considered sufficient to explain the frequent complication of convulsions. The present report demonstrates that seizures associated with exanthem subitum and fever are not always simple in type. They are occasionally prolonged and complex and a manifestation of encephalitis or encephalopathy.

E COLI HEMORRHAGIC COLITIS AND NEUROLOGIC SYMPTOMS

The neurological manifestations of hemorrhagic colitis in seven kindergarten children with *Escherichia coli* 0157:H7 infection are reported from the Saitama Children's Medical Center, Saitama, Japan. Generalized convulsions, occurring in 5 comatose patients, were intractable in 3 and required toxic doses of anticonvulsants for their control. Two patients died after 5 and 7 days of illness. Transient symptoms, delayed in onset for 2 to 6 weeks and after consciousness improved, included phrenic nerve paralysis in 1 patient, neurogenic urinary incontinence in 3, gaze nystagmus in 3, action tremor and oral dyskinesia in 1, and vertigo in 1 patient. Pyrexia and hemolytic uremic syndrome were seen only in patients with neurologic complications. Diarrhea, bloody diarrhea, and abdominal pain were more frequent and severe in this group compared to 7 patients with no neurologic symptoms who were admitted to hospital. Contaminated well water was the source of infection, and verotoxin-I (Shiga-like toxin I) was the likely cause of neurological symptoms. (Hamano S et al. Neurological manifestations of hemorrhagic colitis in the outbreak of *Escherichia coli* 0157:H7 infection in Japan. Acta Paediatr May 1993; **82**: 454-458). (Respond: S Hamano MD, Division of Neurology, S Children's Medical Center, 2100 Magome, Iwatsuki, Saitama 339, Japan).

COMMENT. Fever, high white blood cell count, young or old age, and prolonged antimotility drug use are risk factors for complications of this strain of *E. coli* infection. The neurologic and other complications of foodborne and waterborne infections, pollutants, and additives, are covered in Environmental Poisons in Our Food, Chicago, PNB Publishers.

SEVERE REACTIONS TO DTP VACCINE

Severe reactions experienced by 60 children within 48 hours of DTP immunization were reported from the UCLA School of Medicine, Los Angeles, CA. These included seizures in 40 or 66% (6 with fever >40.5°C), collapse episodes in 14, and persistent crying in 6. Subjects with encephalopathy were not included in the study. Those with seizures had a high rate of personal and

family histories of seizures, and 10% were afebrile. Chinese hamster ovary cell assays failed to reveal active pertussis toxin in acute sera. Long-term follow-up for possible neurologic sequelae was not performed. (Blumberg DA, Cherry JD et al. Severe reactions associated with diphtheria-tetanus-pertussis vaccine: Detailed study of children with seizures, hypotonic-hyporesponsive episodes, high fevers, and persistent crying. Pediatrics June 1993; 91: 1158-1165). (Reprints: Dean A Blumberg MD, Dept of Pediatrics, UCLA School of Medicine, 10833 Le Conte Ave, Los Angeles, CA 90024).

COMMENT. Seizures induced by pertussis immunization and fever are more severe than simple febrile seizures. Cherry JD and associates report that a first febrile convulsion within 3 or 7 days of pertussis immunization is more likely to last longer than 10 minutes, to be recurrent, and to have a focal pattern when compared to first seizures occurring more than 7 days after immunization (J Pediatr June 1993; 122: 900-3). They have estimated that one in a 1000 children immunized will have a seizure, and 6% of first febrile seizures are associated with pertussis immunization. The use of acellular DTP vaccines, recently approved by the FDA, may hopefully reduce the frequency and severity of neurological complications.

MOVEMENT DISORDERS

BASAL GANGLIA AND MRI IN TOURETTE'S SYNDROME

Volumetric MRI changes in the basal ganglia of 37 children with Tourette's syndrome (TS), with and without ADHD, compared to 18 controls are reported from Johns Hopkins University School of Medicine, Baltimore, MD. Major findings were 1) right-handed control children had asymmetry of the putamen with left-sided predominance; 2) 13 TS patients had a reversal of putamen asymmetry compared to controls; and 3) ADHD in TS patients is associated with reduction in volume of the left globus pallidus and lenticular asymmetry. (Singer HS, Denckla MB et al. Volumetric MRI changes in basal ganglia of children with Tourette's syndrome. Neurology May 1993; 43: 950-956). (Reprints: Dr Harvey S Singer, Department of Neurology-Harvey 811, Johns Hopkins Hospital, 600 N Wolfe Street, Baltimore, MD 21287).

COMMENT. The basal ganglia appear to be involved in the pathogenesis of TS. ADHD in TS patients is associated with additional anatomic changes in the globus pallidus and lenticular region that differ from those primarily associated with tics.

Reduced basal ganglia volumes on MRI of TS patients are also reported from the Yale Child Study Center, New Haven, CT (Peterson B et al. Neurology May 1993; 43: 941-949). The left lenticular nuclei in TS