

GENETIC FACTORS IN FEBRILE SEIZURES

Population based twin panels containing 14,352 twin pairs established in Norway and Virginia were used to study the occurrence of febrile seizures and epilepsy at the Departments of Human Genetics and Neurology, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA; and the Institute of Medical Genetics, Oslo, Norway. There was a history of febrile seizures reported in 257 pairs and a history of epilepsy in 1 or both members of 286 pairs of twins. Virginia twins reported febrile seizures (1.98%) slightly more often than Norwegian twins (1.61%). Norwegian twin pairs reported epilepsy (2.19%) slightly more often than Virginia twin pairs (1.66%). There were no significant differences in the concordance rates between Virginian and Norwegian twins for either febrile seizures or epilepsy (for febrile seizures, 0.33, in monozygotic twins and 0.11 in dizygotic twins; for epilepsy, 0.19 monozygotic and 0.07 dizygotic). The excess of concordant monozygotic twin pairs observed for both epilepsy and febrile seizures was significant and showed a factor of almost 3 to 1 (Corey LA et al. The occurrence of epilepsy and febrile seizures in Virginian and Norwegian twins. Neurology Sept 1991; 41:1433-1436). (Reprints: Dr. Linda A. Corey, Department of Human Genetics, Medical College of Virginia, Box 33 MCV Station, Richmond, VA 23298-0033.)

COMMENT. The inheritance of febrile seizures is multifactorial. Siblings have approximately an 8-12% risk of also having febrile seizures. If the index child and 1 parent are affected, the risks to siblings are 30%-40% (50% if both parents are affected) (Progress in Pediatric Neurology, Millichap JG ed, Chicago, PNB publishers).

INFANTILE SPASMS

PET STUDIES OF INFANTILE SPASMS

Positron emission tomography (PET) was used to determine local cerebral metabolic rates for glucose in 44 infants with spasms at the Departments of Neurology and Pediatrics, Division of Nuclear Medicine and Biophysics and the Brain Research Institute, University of California, Los Angeles, School of Medicine, CA. Ictal events were detected in the EEG in 10 studies during PET. The most consistent abnormality on PET was the symmetrical increase of relative cerebral metabolic rate for glucose in the lenticular nuclei and was apparent in 32 of the 44 infants. This relative hypermetabolism of the lenticular nuclei occurred with both cryptogenic or symptomatic spasms, and was not characterized by any specific EEG abnormality. Every infant with focal abnormalities on CT and/or MRI also had a focal abnormality on PET in the same location, but 17 of 28 infants with focal abnormalities on PET had no detectable focal abnormalities on CT and/or MRI (Chugani HT et al. Infantile spasms: II. Lenticular nuclei and brain stem activation on positron emission tomography. Ann Neurol Jan 1992; 31:212-219). (Correspondence: Dr. Chugani, Division of Pediatric Neurology, Room 22-464 MDCC, UCLA School of Medicine, Los Angeles, CA 90024.)