

HIPPOCAMPAL MALFORMATION AND FEBRILE SEIZURES

The MRIs of 13 members of two families with febrile convulsions (FC) and 10 members without FC were compared with 23 control subjects in a study at the Universities of Magdeburg and Bonn, Germany. One member of each family with febrile convulsions had developed temporal lobe epilepsy (TLE) and both TLE patients showed left-sided hippocampal sclerosis. All subjects with febrile convulsions and without subsequent epilepsy and six unaffected relatives showed asymmetric hippocampal volumes, the left smaller than right. The pattern and left-sided involvement of hippocampal sclerosis in TLE patients was similar to that in their relatives without epilepsy. Additional subcortical heterotopias were found in one FC patient. (Fernandez G, Effenberger O, Vinz B et al. Hippocampal malformation as a cause of familial febrile convulsions and subsequent hippocampal sclerosis. Neurology April 1998;50:909-917). (Reprints: Dr Guillen Fernandez, Klinik fur Epileptologie, Sigmund-Freud-Str, 25, 53105 Bonn, FR Germany).

COMMENT. Patients with familial febrile convulsions may have a subtle, inherited form of pre-existing hippocampal malformation that predisposes to and is not a consequence of febrile convulsions. The hippocampal malformation may facilitate the development of hippocampal sclerosis in patients with temporal lobe epilepsy and antecedent febrile convulsions. A dominant mode of inheritance is suggested. These findings are interesting and provocative but not entirely supported by previous reports.

In an editorial, Sloviter RS and Pedley TA comment that other large series of surgical resections for TLE had not found a predilection for the left side in patients with hippocampal sclerosis (Neurology April 1998;50:846-849). Bilateral hippocampal abnormalities and dual pathologies, focal cortical dysplasia occurring with mesial temporal sclerosis, were reported in patients with TLE treated at the University of Alabama (see Ped Neur Briefs April 1998;12:26). Routine MRIs may miss subtle abnormalities, and special techniques are necessary to uncover hippocampal structural anomalies.

RISK OF FEBRILE SEIZURE RECURRENCE AND OUTCOME

The influence of febrile episodes, a risk factor for recurrence of febrile seizures, and outcome in 180 children followed prospectively after their first febrile seizure, were studied at the University of Oulu, Finland. In a 2-year follow-up of 156 patients, each febrile episode increased the risk of febrile seizure recurrence by 18%. Of 38 patients with recurrences, 27 had single and 11 had multiple recurrences. EEG spikes or spike-and-wave abnormalities occurred in 14% of 35 children with recurrences and in 9% of 121 without recurrences. Each degree of temperature (Celsius) increase during subsequent infections almost doubled the risk of seizure recurrence. Age, sex, or family history of febrile seizures or epilepsy were not risk factors for febrile seizure recurrence. (Tarkka R, Rantala H, Uhari M, Pokka T. Risk of recurrence and outcome after the first febrile seizure. Pediatr Neurol 1998;18:218-220). (Respond: Dr Heikki Rantala, Department of Pediatrics, University of Oulu, FIN-90220 Oulu, Finland).

COMMENT. This study corroborates previous reports that the height of a fever is the most important determinant of a febrile convulsion, and treatment aimed at prevention of infection and a rise in temperature to the "threshold convulsive level" should decrease the risk of febrile seizure recurrence (Millichap JG. Febrile Convulsions. New York, Macmillan, 1968). Rantala and colleagues show that the frequency of febrile episodes after the initial seizure is a