

## **SEIZURE DISORDERS**

### **FEBRILE SEIZURE V. MENINGITIS**

Among 309 children with a first seizure and fever seen in 2 ERs in Rotterdam, The Netherlands, 23 (7%) had meningitis. The clinical findings in the patients with meningitis were compared with a control group of 69 children with seizures and fever and no meningitis. The signs of meningitis in 21 cases identified were: petechiae, nuchal rigidity, coma, persistent drowsiness, ongoing convulsions, and paresis or paralysis. Two children who proved to have meningitis had none of these signs. The median age at presentation with the first seizure associated with fever was 18 months (range: 3-52 months); 171 (65%) underwent lumbar puncture. Meningitis could be excluded on clinical grounds at reevaluation in all 138 children (45%) who did not undergo lumbar puncture. Children whose seizures showed no complex features and whose febrile illness revealed no suspicious features did not have meningitis. If all children with positive indicators were considered eligible for lumbar puncture, no meningitis cases would have been missed, and 75 of the 309 children (24%) would have been spared the puncture. The authors conclude that meningitis can be ruled out clinically in children presenting with seizures and fever, and routine investigation of cerebrospinal fluid is unnecessary. (Offringa M. Seizures and fever: can we rule out meningitis on clinical grounds alone? Clin Pediat Sept 1992; 31:514-522.) (Correspondence: M. Offringa, M.D., Center for Clinical Decision Analysis, Room EE 2171, Erasmus University, P.O. Box 1738, 3000 DR, Rotterdam, The Netherlands.)

**COMMENT.** In a questionnaire study to determine the methods of management of febrile seizures by pediatricians and family practitioners in the State of Illinois, spinal taps were employed by 70% of respondents in the workup of an acute febrile seizure (Millichap JG. Clin EEG 1991; 22:5-12). This frequency of spinal taps was higher than that routinely ordered by private pediatric practitioners for children with first febrile seizures in the United States (Nealis JGT. In: Nelson KB, Ellenberg JH (eds) Febrile Seizures, New York, Raven Press, 1981). It was lower than the estimate for children admitted to medical centers (Rutter N, Smales ORC. Arch Dis Child 1977; 52:188-191). Routine taps have been recommended in all children with an initial febrile convulsion (Ratcliffe JC, Wolff SN. Ann Neurol 1977; 1:285-286). Lorber J and Sunderland R have argued against routine lumbar punctures in children with seizures and fever, but recommend examination by a senior staff member if symptoms and signs of meningitis are absent (Lancet 1980; 1:785-786).

The indications for lumbar puncture should be determined not only by the patient's clinical manifestations, but also the physician's experience and clinical acumen and the opportunity for close patient observation. A selective approach avoids many unnecessary lumbar punctures a false sense of security and engendered by a normal premature tap. A second seizure with fever is no less likely to herald

a bacterial meningitis than a first seizure, and the common emphasis on routine taps for first seizures with fever may be misleading.

Another source of confusion is the determination of complex features of febrile seizures. Berg AT et al. have found disagreement among pediatric neurologists regarding the assessment of focality of the seizure (Epilepsia 1992; **33**:661-666). The reasons for disagreement included variation in interpretation of lateral eye deviation, staring episodes and motor asymmetries of the convulsion.

#### **ANTICONVULSANTS FOLLOWING CRANIOTOMY**

A randomized prospective clinical trial of carbamazepine or phenytoin for 6 or 24 months including a control no-treatment group is reported in 276 post-craniotomy patients at the Walton Hospital, Liverpool, England. 103 (37%) patients suffered at least 1 seizure. Of those who developed status epilepticus in the first week after operation, 8% were treated with carbamazepine, 5% with phenytoin, and 2% had no treatment. Serum anticonvulsant levels were not monitored in all patients. In those who were monitored the levels were never in the optimal range, particularly in the phenytoin treated group. Early anticonvulsant treatment did not affect the long-term response of epilepsy to anticonvulsant drugs. The occurrence of seizures within the first post-operative week did not increase the likelihood of late epilepsy. Acute allergic skin rashes occurred in 28 (13%) patients. The authors concluded that prophylactic anticonvulsants should not be recommended routinely following supratentorial craniotomy. (Foy PM et al. Do prophylactic anticonvulsant drugs alter the pattern of seizures after craniotomy? J Neurosurg Psychiatry Sept 1992; **55**:753-757.) (Correspondence: Dr. P.M. Foy, Mersey Regional Department of Medical and Surgical Neurology, Walter Hospital, Liverpool, England.)

**COMMENT.** The authors admit that the small and uncertain effect of antiepileptic drug treatment in this study might be related to non-compliance and failure to achieve optimal blood levels. Of those blood levels available a significant proportion of phenytoin levels were suboptimal, and it could be argued that the more rigorous monitoring might have improved results. In contrast, satisfactory carbamazepine levels were achieved and yet, there was no difference in outcome. These findings suggest that phenytoin has a greater prophylactic action than carbamazepine in postcraniotomy seizure control. According to Drs. Wingkun and Awad at the Cleveland Clinic, changes in antiepileptic drugs, dosages or poor compliance may be important factors in postoperative recurrence of seizures (see Ped Neurol Briefs Jan 1992; **6**:8). The unusually high incidence of skin rashes associated with anticonvulsant treatment in this study suggests that postcraniotomy patients are more susceptible than non-surgical patients with epilepsy. The respective frequency of skin rash with the two anti-convulsants used in this study was not stated. It would be of interest to know if the antibiotic Cefotaxim was administered to these surgical patients in conjunction with the anticonvulsant, since this combination of drugs is