requiring the integrity of the frontal lobes and corpus callosum, is expressed by a reduction of reaction time or errors over trials. In contrast, declarative memory, mediated by a corticothalamocortical circuit, is the ability to store and recall visual pictures, words or events. The anatomy of memory is discussed in Progress in Pediatric Neurology II, PNB Publ, 1994;pp178-9.

SEIZURE DISORDERS

OUTCOME OF LATE FEBRILE SEIZURES

The clinical and EEG features, the occurrence of subsequent seizures, and the neurologic outcome in 50 children who had febrile seizures (FS) after 5 years of age were studied at the University of British Columbia, Canada. FS had occurred before 5 years of age in 38, and recurred before 5 years in 27. In addition to this group with both early and late FS occurrence, 12 had the first FS after 5 years of age. There was no significant difference between these two groups with respect to early history, EEG or outcome. During a 1-13 year follow-up (median, 5 yrs 6 mths), 40 had two or less FS after 5 years, and none occurred after 10 years of age. FS were complex in 20 (40%), and 16 (32%) had a family history of FS in a first-degree relative. Afebrile seizures developed in 5 (10%), 18 (36%) had school difficulties, and 9 (18%) had abnormal psychological tests. Learning difficulties in 18 were associated with developmental delay in 33%, motor incoordination in 44%, and afebrile seizures in 22%. Epileptiform EEGs occurred in 22 (44%). (Webb DW, Jones RR, Manzur AY, Farrell K. Retrospective study of late febrile seizures. Pediatr Neurol April 1999;20:270-273). (Respond: Dr Kevin Farrell, Department of Paediatrics, University of British Columbia, 4480 Oak Street, Vancouver, British Columbia, V6H 3V4, Canada).

COMMENT. Children with febrile seizures that occur late, after 5 years of age, have a higher frequency of recurrence of early onset FS, complex FS in 40%, a remission of FS before 10 years, a strong family history of FS, afebrile seizures in 10%, and a risk of learning disabilities in one third. Other factors known to influence the outcome of FS, such as the height of the fever at the time of the seizure ("FS threshold"), and the duration of the FS, would have been of interest (Millichap JG. Febrile Convulsions, New York, Macmillan, 1968). The 32% familial incidence observed in the Canadian study is similar to that in an unselected group of 95 FS patients followed in my own clinic. The evidence for an inherited predisposition to FS was equally strong in those who had afebrile in addition to FS.

Rectal diazepam gel for treatment of acute repetitive seizures in children at home is evaluated by an analysis of pediatric data from two previously published reports of the effects of Diastat (DZP) in children and adults (Kriel RL, Cloyd JC, Pellock JM et al. Pediatr Neurol April 1999;20:282-288). Comparing the results of 68 DZP-treated children and 65 receiving placebo, the DZP group showed a significant reduction in median seizure frequency, and more DZP-treated children remained seizure free at the completion of the 12-hour observation period (40 vs 20, P=.001). Doses of Diastat were based on age and weight: 0.5 mg/kg for ages 2-5 years; 0.3 mg/kg for ages 6-11 years; and 0.2 mg/kg at 12 years and older. Somnolence occurred more frequently in the Diastat group of patients (25% vs 7.7%, P=.009), but no instance of serious respiratory depression was reported. Rectal DZP is effective and relatively safe when used to abort an episode of acute repetitive seizures in a child, and seizure recurrence is lessened in a 12 hour observation period. A single dose is recommended, but if seizures are refractory, a

second dose has proven safe after 4 hours.

ACTH vs VIGABATRIN IN INFANTILE SPASMS

The comparative efficacy and safety of ACTH (110 IU/m2 once daily for 15 days) and vigabatrin (100-150 mg/kg/daily in bid doses) was evaluated by a retrospective analysis of medical records of 42 infants (21 in each group) with infantile spasms and hypsarrhythmia treated at the Universite de Montreal, Hopital Sainte-Justine, Montreal, Canada. Seizure response was similar in the ACTH and vigabatrin-treated infants at 12 month follow-up (61% vs 71% benefited, respectively), but vigabatrin was better tolerated than ACTH. Side effects of ACTH in 5 patients included hypertension and Cushing's syndrome, requiring discontinuation of therapy in 3; hypotonia and sleep disturbance in 3 vigabatrin-treated patients were transient and did not require drug withdrawal. No cases of visual field restriction were encountered. Vigabatrin was recommended as the first-line treatment for infantile spasms. (Cossette P, Riviello JJ, Carmant L. ACTH versus vigabatrin therapy in infantile spasms: a retrospective study. Neurology May 1999;52:1691-1694). (Reprints: Dr Lionel Carmant, Service de Neurologie, Hopital Sainte-Justine, 3175, Cote Sainte-Catherine, Montreal, Qc, H3T 1C5 Canada).

COMMENT. Vigabatrin and ACTH appear to show equal effectiveness in the treatment of infantile spasms, but the plethora of reports of vigabatrin-induced visual field defects in adults are a concern. The majority of the cases cited are in adults, but asymptomatic visual field constriction also occurs in children. Two affected children, ages 10 and 15, treated with vigabatrin in doses ranging from 1000 to 3500 mg/kg, are reported from the Children's Hospital, University Hospital of Kuopio, Finland. (Vanhatalo S, Paakkonen L. Neurology May 1999;52:1713-1714).

At least with long-term therapy, vigabatrin should be used with caution in infants, until more is known about the risk factors involved.

PERIVENTRICULAR HETEROTOPIA AND ABSENCE EPILEPSY

A 7-year-old child with absence seizures and a 3-Hz generalized and occasional focal, spike-and-wave EEG pattern, responsive to treatment with valproic acid, had an MRI with periventricular nodular heterotopias, primarily right sided. The neurologic examination was normal. (Giza CC, Kuratani JD, Cokely H, Sankar R. Periventricular nodular heterotopia and childhood absence epilepsy. Pediatr Neurol April 1999;20:315-318). (Respond: Dr Raman Sankar, Pediatric Neurology, Box 951752, UCLA School of Medicine, Los Angeles, CA 90095).

COMMENT. Focal abnormalities in an otherwise typical and generalized EEG pattern for childhood absence epilepsy prompted an MRI in this case which uncovered the unexpected cerebral migration lesion.

NOCTURNAL FRONTAL LOBE EPILEPSY

The clinical and polysomnographic findings in 100 consecutive cases of nocturnal frontal lobe epilepsy (NFLE) were analysed in a study at the Neurological Institute, University of Bologna, Italy. Males predominated, in a male/female ratio of 7:3. Nocturnal paroxysmal episodes presented at any age from 1 to 64 years (mean 14+/-10 years) but mainly during infancy and adolescence; parasomnias in infancy were followed by NFLE seizures after intervals of 1 to 30 years. A family history of epilepsy or parasomnias occurred in 25% or 39%, respectively. Past histories included sleep disorders (talking, enuresis, head banging, and sleep walking) in early childhood; 7 had birth anoxia, 3 febrile convulsions, and 3 antecedent mild head trauma. CT or MRI