

and the EEG findings lateralized to one hemisphere. Following cortical resection, two became seizure free and the third was almost seizure free. The authors consider that dysplastic gangliocytoma may be an important and surgically remedial cause of very early malignant partial seizures. (Duchowny M S et al. Dysplastic gangliocytoma and intractable partial seizures in childhood. Neurology April 1989; 39:602-604).

COMMENT. Gangliocytomas are usually localized to the cerebellum and those originating in the cerebral hemispheres are much less common but may be epileptogenic. CT demonstrates hyperdense noncontrast enhancing regions and MRI's reveal medium intensity regions in the T-1 weighted and proton density images. The authors consider that subdural electrode recording can facilitate early surgical intervention by localizing epileptogenic regions and defining cortical regions of functional significance. The use of subdural electrodes to study the EEG features of simple partial seizures in seven patients is described in an additional article in this same issue of Neurology. (Devinsky O et al. Neurology April 1989; 39:527-533).

LEARNING DISABILITIES

READING WITH ONE HEMISPHERE

The reading performance of two right-handed teenage girls who had undergone hemispherectomy for intractable epilepsy was examined at the MRC Applied Psychology Unit, Cambridge, the Department of Developmental Pediatrics, Institute of Child Health and Department of Psychological Medicine, Hospital for Sick Children, and the Neurosurgical Unit, Maudsley Hospital, London. Both subjects had developed normal language and reading capacities before the onset of their illness. One patient, whose symptoms of left hemisphere abnormality commenced at the age of 13 years and whose left hemisphere was removed at the age of 15, was poor at virtually all aspects of reading; but her pattern of reading performance was not one of undifferentiated impairment. She was essentially perfect at recognizing letters, although not very successful at naming them and totally unable to give their sound equivalents. She was reasonably good at discriminating very common words from orthographically similar nonwords, but her lexical decision performance fell off quickly as word frequency declined. She could comprehend printed words as measured by matching to pictures, when those corresponded to common concrete objects but she occasionally made semantic errors in this task, and her success was dependent on maximal degrees of both word familiarity and concreteness. She also had some degree of success in oral reading of the most familiar and highly imageable words of the type that she could understand and had no means of translating a printed word into a phonological response except on the basis of its meaning. She could not read aloud nonsense words although she could repeat them perfectly. This patient's reading performance was identical in pattern though not in level to most cases of acquired deep dyslexia. There is a strong case for the equation of deep dyslexic reading with right hemisphere reading. The reading performance of the second patient whose right hemisphere had been removed was not as advanced in level as that of a normal 17 year old but it showed no abnormality in any subcomponent or reading skill. The discrepancy between her chronological and

reading ages could be entirely explained in terms of the five year history of preoperative illness. This patient's performance suggested that the right hemisphere plays no necessary role in supporting reading skills, at least of the type assessed in the study (mainly single word recognition, comprehension and pronunciation). (Patterson K et al. Reading with one hemisphere. Brain Feb 1989; 112:39-63).

COMMENT. Although the right hemisphere appeared to play no necessary role in supporting reading skills, perhaps it is important both for reading acquisition and for mature efficient reading. In particular, the right hemisphere may be important for quick pattern recognition during speed reading and for semantic-thematic orientation to a situation or narrative. Loss of right hemisphere contribution to reading in adults would lead to subtle deficits in higher order reading which are rarely assessed in the neurological clinic. (Zaidel and Schweiger. Cognitive Neuropsychology 1984; 1:351). The normal acquisition of reading requires two functioning hemispheres and children with one hemisphere have difficulty learning to read whether it is the left or the right hemisphere that has been removed. The vast majority of right-handed people have left hemisphere dominance for language skills such as reading. It had been an unresolved question, however, whether the right hemisphere of a left hemisphere dominant individual also developed significant capacity for reading. Cases of hemispherectomy performed for neurological disease of late onset provide most convincing evidence regarding reading with one hemisphere.

DIET AND NEUROLOGICAL DISORDERS

KETOGENIC DIETS IN EPILEPSY

The classical ketogenic diet, the medium chain triglyceride (MCT) diet, and a modified MCT diet were used in the treatment of 55 children and 4 adults with intractable epilepsy at the University and Clinical Departments of Paediatrics, John Radcliffe Hospital, Oxford, England. The main types of seizures were drop attacks (24), infantile spasms (7), tonic-clonic (6), partial complex (5), primary absence (2), myoclonic absence (2), complex absence (4), and partial simple (4). Forty-five of the patients were under ten years of age. Cooperation and compliance were good and 57 patients completed at least six weeks dietary management and some continued for periods up to four years. Fifty-six had significantly elevated blood ketones bodies and all were reported to have ketonuria. Eighty-one percent showed greater than 50% reduction in seizure frequency. The response was independent of the type of diet used; all three diets appeared to be equally effective in children under the age of 15 years. The high fat diet was found to be palatable by all of the children but the adults found the restrictions unacceptable. Large quantities of MCT oil were also found to be unpalatable by all age groups. No patient found the cream and butter content of the classical diet to be unacceptable. Analysis of variance failed to show any significant difference between the type of seizure and the success of treatment. The EEG showed improvement in 14 cases, 9 while the children were on the MCT diet and 5 while on the classical diet. Nausea, vomiting or abdominal discomfort occurred in approximately one-half the patients taking