

VERBAL MEMORY AND THE HIPPOCAMPUS

The relationship of memory impairment and hippocampal damage was studied in 35 patients with medically refractory epilepsy localized to the temporal lobe at the Departments of Neurosurgery, Neuropathology, and Neurology and Psychiatry, Yale University School of Medicine, New Haven, CT. The temporal lobe lesion was left-sided in 18 and right-sided in 17. A history of febrile convulsions was obtained in 27. The mean age at which seizures became recurrent was ten years and the mean age at surgery was 29 years. The groups (left foci versus right foci) did not differ significantly with regard to the history of febrile convulsions, age when recurrent seizures developed, and age at surgery. All patients were seizure-free after surgery at a minimum follow-up of six months. Patients completed the Verbal Selective Reminding Test and the WAIS-R before surgery which involved anteromedial temporal lobectomy and radical hippocampectomy. Contrasted with normative standards for the verbal memory test, the means of patients with left temporal seizure foci (78.9) and right temporal seizure foci (101) were less than that achieved by healthy adults (115). Left temporal seizure foci were associated with significantly greater preoperative verbal memory impairment than right temporal seizure foci. Volumetric cell densities of hippocampal subfields (CA3 and the hilar area) were reduced in all patients with temporal lobe epilepsy when contrasted with autopsy controls and measures of long term memory retrieval were correlated significantly with pyramidal cell densities in CA3 and the hilus for patients with left temporal seizure foci only. No significant correlations were found between measures of memory retrieval and the cell densities of CA1, CA2 or the granular layer. Left temporal seizure foci were associated with significantly greater preoperative verbal memory impairment than right temporal seizure foci. (Sass KJ et al. Verbal memory impairment correlates with hippocampal pyramidal cell density. *Neurology* Nov 1990; 40:1694-1697).

COMMENT. This study demonstrates impaired verbal memory in patients with confirmed hippocampal damage. The verbal memory impairment was significantly correlated with hippocampal pyramidal cell density in patients with left temporal seizure foci. A history of febrile seizures in 77% of this group of patients with subsequent complex partial seizures is noteworthy. Lennox WG (*Pediatrics* 1953; 11:341) found a significantly higher incidence of psychomotor seizures among patients with a history of febrile seizures compared to those with generalized tonic-clonic and absence patterns; psychomotor seizures were diagnosed in 17% of the febrile seizure group and in 5.9% of the grand mal and petit mal groups.

CEREBRAL GLUCOSE METABOLISM AND ADHD

Whole brain and regional rates of glucose metabolism were assessed by PET scanning in 25 adults with hyperactivity of childhood onset at the Section on Clinical Brain Imaging and Child Psychiatry Branch, National Institute of Mental Health, Bethesda, MD. Global