of Eastern Ontario, University of Ottawa, and Children's Hospital, Dalhousie University, Halifax, Nova Scotia, Canada. Seizures were partial in pattern and two patients had associated focal structural cerebral lesions. Blood sugar determinations confirming the diagnosis of diabetes were indicated by the onset of polyuria and polydipsia. Seizures were controlled following treatment with insulin and correction of hyperglycemia. All three patients were receiving phenytoin. (Whiting S, Camfield P, Artab D, Salisbury S. Insulin-dependent diabetes me!litus presenting in children as frequent, medically unresponsive, partial seizures. J Child Neurol April 1997;12:178-180). (Respond: Dr Sharon Whiting, Children's Hospital of Eastern Ontario, 401 Smyth Road, Ottawa, Canada K1H 8L1).

COMMENT: Children with epilepsy, especially those with epilepsia partialis continua refractory to antiepileptic drugs, should be checked for hyperglycemia and possible diabetes mellitus. The diabetes may be precipitated or exacerbated by administration of phenytoin and other antiepileptic drugs.

A hyperglycemic response to phenytoin was first reported from the Division of Neurology, Children's Memorial Hospital, Chicago, at the 1964 meeting of the American Epilepsy Society. (Belton NR, Etheridge JE Jr, Millichap JG. Effects of convulsions and anticonvulsants on blood sugar. Epilepsia 1965;6:243-249). An inhibition of insulin secretion by phenytoin demonstrated in vitro (Kizer JS et al. 1970) was subsequently confirmed in human volunteers (Malherbe C et al. 1972).

ANTIEPILEPTIC DRUGS

BARBITURATE AEDS, EEG AND COGNITIVE PERFORMANCE

Neuropsychological performance and quantitative EEGs were studied in 11 epileptic children, aged 7 to 14 years, both during treatment and without phenobarbital and mephobarbital, and in comparison to 13 matched controls, at Tulane University Medical School, New Orleans, LA. Barbiturates at therapeutic levels (10-40 mcg/ml) had no effect on the EEG in frequency bands 0.6 to 32 Hz. Compared to controls, the WISC-R Verbal, Performance, and Full Scale Scores, Bender-Gestalt, and Achenbach Behavior Rating Scale showed no significant change during barbiturate treatment; only the Stroop color/word test showed an adverse difference. Compared to scores off-drug in 8 subjects analyzed, adverse on-drug effects were found in the WISC-R Verbal, Stroop, and Achenbach aggression scales. Performance of the Bender-Gestalt improved during treatment with barbiturates. Irritability, oppositional attitude, and overactivity were reported in 6 of 11 subjects, but the parents of 4 elected to continue treatment. Mephobarbital caused less behavioral problems than phenobarbital. (Willis J, Nelson A, Black FW, Borges A, An A, Rice J. Barbiturate anticonvulsants: a neuropsychological and quantitative electroencephalographic study. J Child Neurol April 1997;12:169-171). (Respond: Dr John Willis, Tulane University Medical School, 1430 Tulane Ave, New Orleans, LA 70112).

COMMENT. Contrary to a previous report of adverse effects of phenobarbital in younger children treated for febrile seizures, barbiturates appear to cause negligible cognitive impairments, only mild behavioral changes, and no effects on the EEG in older school age children treated for epilepsy.