degrees of abnormality in the ERPs. In this study, after a transient beneficial response, the cumulative effect of carbamazepine was associated with a chronic impairment of cognitive function, as measured by changes in auditory event-related potentials.

Studies of the effects of carbamazepine on auditory brainstem responses (ABR) in 21 epileptic patients examined at the Institute of Clinical and Experimental Neurology, Thilisi, Republic of Georgia, demonstrated prolongation of ABR peak latencies and interpeak intervals. In addition, CBZ was associated with increases in peak latencies of middle-latency responses and slow cortical potentials. CBZ has suppressive influences on central auditory structures and the acoustic nerve. (Japaridze G et al. Epilepsia Nov/Dec 1993;34:1105-1109).

CARBAMAZEPINE TOXICITY WITH GENERIC SUBSTITUTION

Two 6-year-old children with carbamazepine (CBZ) toxicity, reported from the University of Miami School of Medicine, were found to have 22% and 41% increases in serum CBZ levels after substitution of Tegretol with the generic brand, Epitol, because of insurance company policies. Adverse effects included lethargy, ataxia, slurred speech, and nystagmus. When dosage was adjusted, symptoms of toxicity resolved. (Gilman JT, Alvarez LA, Duchowny M. Carbamazepine toxicity resulting from generic substitution. Neurology Dec 1993;43:2696-7). (Reprints: Dr Jamie Gilman, Clinical Pharmacology, Miami Children's Hospital, 6125 SW 31st Street, Miami, FL 33155).

COMMENT. Generic substitution of Tegretol has previously been associated with lowered serum levels of CBZ and seizure exacerbation. Reduced bioavailability is also reported with moisture-exposed CBZ, resulting in status epilepticus (Bell WL et al. Epilepsia Nov/Dec 1993;34:1102-4). Gilman et al have documented 2 cases of increased bioavailability with Epitol substitution, one of 4 generic carbamazepine products available in the US. In 1988, 70 million CBZ tablets were recalled because of bioinequivalence and clinical seizure exacerbation (Oles KS, Gal P. Bioequivalency revisited: Epitol versus Tegretol. Editorial. Neurology Dec 1993;43:2435-6). Factors other than generic substitution may account for significant variations in CBZ concentrations, including interlot variability, exposure of drug to excessive heat or moisture, food and drug interactions, sample timing, and patient compliance.

ATTENTION DEFICIT AND COGNITIVE DISORDERS

METHYLPHENIDATE AND SLEEP PATTERNS

The effects of methylphenidate (0.3-0.4 mg/kg) cf placebo on sleep in 10 children with ADHD are reported in a double-blind crossover study at the Bnai Zion Medical Center and the Technion-Israel Institute of Technology, Haifa, Israel. Sleep duration was significantly shorter during the drug period compared to placebo or baseline periods. The percent of quiet sleep was lower in the ADHD study group compared with controls in baseline measures, but not during methylphenidate treatment. (Tirosh E et al. Effects of methylphenidate on sleep in children with attention-deficit hyperactivity disorder. AJDC Dec 1993;147:1313-1315). (Reprints: Dr Tirosh, Hannah Khoushy Child Development Center, Bnai Zion Medical Center, POB 4940, Haifa, Israel).

COMMENT. Children with ADHD have significantly prolonged sleep duration and a trend toward a lower percentage of quiet sleep, possibly attributed to hypoarousal or fatigue. Normalization of sleep patterns and decreased sleep duration achieved by methylphenidate could result from increased arousal. Insomnia, frequently reported as a side effect of methylphenidate, requires closer study.

Perceptions of methylphenidate effects on peer interactions of ADHD children were studied by psychologists at the University of California, Los Angeles and Irvine. (Granger DA et al. J Abnormal Child Psychol 1993;21:535). Analyses of observations of videotapes by 96 undergraduates showed that medication increased social withdrawal and dysphoria/disengagement, suggesting negative interpersonal consequences of these unintended internalizing behavior changes, even when not cued by rating scales. A positive medication effect was obtained in the category of leader/planner, behaviors requiring social organization and foresight.

ASPARTAME, BEHAVIOR, AND COGNITION IN ADD

The effects of aspartame (34 mg/kg/day for 2 weeks) on the cognition, behavior, and monoamine metabolism of 15 children with a history of ADD were evaluated at the Yale University School of Medicine, using a randomized, double-blind, placebo-controlled crossover study design. Various measures including Conners Behavior ratings, Children's Checking Task, Airplane Test, and Wisconsin Card Sorting Test revealed no significant differences between aspartame and placebo. The Multigrade Inventory for Teachers showed a significant increase in activity level following aspartame treatments. Phenylalanine and tyrosine levels in plasma were significantly elevated at 1 and 2 hours after aspartame ingestion. (Shaywitz BA et al. Aspartame, behavior, and cognitive function in children with attention deficit disorder. Pediatrics Jan 1994;93:70-75). (Reprints: B A Shaywitz MD, Dept of Pediatrics, Yale University Sch of Med, New Haven, CT 06510).

COMMENT. The authors conclude from this study of 15 ADD children receiving single morning doses before school for 2 weeks that aspartame has no clinically significant effect on behavior and cognition, and does not affect urinary excretion rates of monoamines and metabolites. Studies of aspartame in children with neuropsychiatric problems are limited, but one well controlled evaluation in 10 children with absence seizures has shown that aspartame exacerbates EEG spike-wave discharges. (Camfield PR et al. Neurology 1992;42:1000). The ingestion of aspartame in children with seizures should be limited or avoided until effects on seizure control are investigated further.(Ped Neur Briefs June 1992;6:46-47). Migraine has been exacerbated by aspartame in controlled studies of adult patients.

VASCULAR DISORDERS

STROKES AND VERTEBRAL ARTERY TRAUMA

Three boys, ages 11, 8, and 7 years, with strokes from vertebral artery lesions resulting from neck trauma are reported from Indiana University School of Medicine, Indianapolis, and Baylor College of Medicine, Houston, TX.