

ANTIEPILEPTIC DRUGS, REACTION TIME, AND IMPULSIVITY

The effects of antiepileptic drugs (AED) on reaction time, attention, and impulsivity in 111 epileptic children, aged 5 to 13 years, are reported from the Children's Hospital of Los Angeles and University of Southern California School of Medicine. Higher total serum levels of AEDs correlated significantly with more impulsive errors. Carbamazepine (CBZ) monotherapy levels in 54 children were negatively correlated with simple and complex reaction times and omission errors, and positively correlated with commission errors; higher serum levels were associated with faster responses and fewer omission errors but impulsive errors on complex reaction time tests were increased. Among 73 children receiving phenobarbital monotherapy, minimal slowing of reaction times and increased omission errors were noted with higher serum levels, but changes were not significant. A number of other AEDs were included in the total drug score analysis, but none was large enough to analyze individually as monotherapy, except for phenobarbital and CBZ. (Mitchell WG et al. Effects of antiepileptic drugs on reaction time, attention, and impulsivity in children. Pediatrics Jan 1993; 91: 101-105). (Reprints: Wendy G Mitchell MD, Neurology, Mail Stop 82, Children's Hospital of Los Angeles, PO Box 54700, Los Angeles, CA 90054).

COMMENT. Contrary to recent concern regarding possible adverse effects of phenobarbital on cognitive function, this study shows no significant effects on reaction time and attention. The authors do not recommend CBZ in preference to other AEDs.

ANGELMAN SYNDROME AND EPILEPSY

Characteristic epileptic seizures and EEG abnormalities are reported in three siblings with Angelman syndrome from the Kansai University Otokoyama Hospital, Kyoto; and the Nagasaki University School of Medicine, Japan. Seizures were generalized, and interictal EEG findings included 2- to 3-Hz high-voltage slow waves bioccipitally and sporadic slow spike wave complexes bifrontally. EEG minor epileptic status occurred in a 38 month old sib and was responsive to clonazepam. The thresholds of wave V in auditory brainstem responses were increased, and the latency of wave I was prolonged in all 3 siblings. Chromosome studies were normal, but DNA deletion of the GABA receptor subunit gene was reported (Saitoh S) in the maternal grandfather, mother, and 3 siblings. (Sugimoto T et al. Angelman syndrome in three siblings: Characteristic epileptic seizures and EEG abnormalities. Epilepsia Nov/Dec 1992; 33: 1078-1082). (Reprints: Dr T Sugimoto, Department of Pediatrics, Kansai Medical University Otokoyama Hospital, Izumi 19, Otokoyama, Yawata-shi, Kyoto, 614 Japan).

COMMENT. Angelman syndrome is characterized by brachycephaly, microcephaly, mental retardation, jerky puppet-like movements of

extremities, inappropriate laughter, and seizures. Seizures are generalized in 90% of patients. Deafness has been reported previously, but the abnormal auditory brain stem responses recorded in this study appear to be unique.

Eight sporadic cases of Angelman syndrome associated with chromosome 15q12 deletion are reported from the Central Hospital, and Kobato Gakuen, Aichi Prefectural Colony, Japan (Matsumoto A et al. Epilepsia 1992; 33: 1083). Angelman syndrome is included in the etiology of West, Lennox-Gastaut and other infantile-onset epileptic syndromes.

KETOGENIC DIET FOR INTRACTABLE SEIZURES

The efficacy of the ketogenic diet in 58 children with multiple seizure types resistant to antiepileptic drugs has been evaluated at the Johns Hopkins University School of Medicine, Baltimore. All patients had severe neurologic handicaps: mental retardation (84%), cerebral palsy (45%), and microcephaly (15%). Mean age at diet initiation was 60 months (range 12-235 months). EEGs showed Lennox-Gastaut pattern (33%), hypsarrhythmia (19%), and focal activity (14%). Antiepileptic drugs, including valproate, showed no adverse interaction. Seizures were completely controlled in 29%, and reduced by half for 4 months in the unimproved group. Dietary benefit was not determined by seizure type. Renal stones required withdrawal of the diet in 2 patients. (Kinsman SL et al. Efficacy of the ketogenic diet for intractable seizure disorders: Review of 58 cases. Epilepsia Nov/Dec 1992; 33:1132-1136). (Reprints: Dr SL Kinsman, Kennedy Krieger Institute, 707 N Broadway, Baltimore, MD 21205).

COMMENT. Despite further demonstration of its efficacy and relative safety, the ketogenic diet is not a popular method of therapy among neurologists generally. Apart from the Mayo Clinic and Johns Hopkins, the diet is not frequently promoted in the training of pediatric neurologists and dietitians. Furthermore, the bias against fat in the diet in today's society adds to the difficulty in convincing mothers to become enthusiastic partners in the treatment program. Millichap JG at the Mayo Clinic (Epilepsia 1964; 5: 239) and Schwartz RM at the John Radcliffe Hospital, Oxford (Dev Med Child Neurol 1989; 31: 145) studied the metabolic effects of the diet and were unable to document any significant changes in blood lipid profiles using the classical diet. For an account of the mechanism of action of the diet, see Millichap JG. Progress in Pediatric Neurology, Chicago, PNB Publ, 1991, p 87-88.

FELBAMATE IN LENNOX-GASTAUT SYNDROME

The Felbamate Study Group report results in 73 patients ages 4 to 36 years with the Lennox-Gastaut syndrome, using a double-blind, placebo-