TPM were not explained by sedation. Mead blood levels by the 4-week test period were within clinical therapeutic ranges: TPM (11 mcg/mL); LTG (8.1); and GBP (9.6). (Martin R, Kuzniecky R, Ho S et al. Cognitive effects of topiramate, gabapentin, and lamotrigine in healthy young adults. Neurology Jan 1999;52:321-327). (Reprints: Dr Roy C Martin, UAB Epilepsy Center, Department of Neurology, University of Alabama at Birmingham, 312 CIRC, 1719 6th Avenue South, Birmingham, AL 35294).

COMMENT. The adverse effects on cognitive functioning caused by topiramate in healthy young adults have also been observed in patients treated for epilepsy. The potential long-term effects beyond one month were not addressed. Early-onset side effects may subside and may be less evident when the drug is introduced more slowly.

RENAL TUBULAR DYSFUNCTION WITH VALPROATE AND CBZ

Renal tubular function in epileptic children receiving antiepileptic drugs was evaluated by measurement of lysosomal enzymes at Istanbul University, Turkey. N-acetyl-B-glucosaminidase and B-galactosidase were determined before and 8 months after administration of valproate in 14 children, and carbamazepine in 17, and also in 25 healthy untreated controls. Increased enzyme activities were found in patients treated with AEDs, and valproate-treated patients were affected more frequently than the carbamazepine group (50% cf 18%, respectively). (Yuksel A, Cengiz M, Seven M, Cengiz S, Cenani A. N-acetyl-B-glucosaminidase and B-galactosidase activity in children receiving antiepileptic drugs. Pediatr Neurol Jan 1999;20:24-26). (Respond: Dr Adnan Yuksel, Akdeniz Caddesi No 85 Ki, Fatih, Istanbul, Turkey).

COMMENT. Children treated with AEDs and especially valproate in large doses for extended periods may develop renal tubular dysfunction. In addition to tests of liver function, valproate-treated patients should receive urinary function tests in certain circumstances.

Valproate-induced hyponatremia is reported in an adult with Henoch-Schonlein nephritis who was treated with 2000 mg/day of VPA for idiopathic epilepsy. Water loading tests at different dosages of sodium valproate showed reduced water excretion that was dose-dependent. Inappropriate secretion of antidiuretic hormone was the proposed mechanism. (Branten AJW, Wetzels JFM, Weber AM, Koene RAP. Ann Neurol February 1999;43:265-267). Having regard to the renal tubular dysfunction reported above, renal insufficiency may be an alternative explanation.

CARBAMAZEPINE AND METHYLPHENIDATE LEVELS IN ADHD

A carbamazepine (CBZ)-induced lowering of methylphenidate (MPH) serum levels in a 13-year-old female treated for ADHD and aggressive behavior, is reported from the Eastern Pennsylvania Psychiatric Institute, Philadelphia. ADHD symptoms that had responded to MPH became worse when CBZ was introduced and the dose increased to 800 mg/day (serum level 8.9 mcg/mL). Peak morning serum levels of MPH and ritalinic acid were 5.3 ng/mL on 20 mg MPH 3 times a day (standard range of MPH level is 5-20 ng/mL). After 6 weeks on CBZ, the MPH levels decreased to 4.2, and later to 2.4, when the dose of CBZ was increased to 1000 mg/day. ADHD symptoms worsened despite an increase in MPH dose to 35 mg 3x daily. The beneficial effects of MPH were regained only at doses of 60 mg 3x daily. (Schaller JL, Behar D. Carbamazepine and methylphenidate in ADHD. J Am Acad

Child Adoilesc Psychiatry February 1999;38:112-113). (Respond: Dr James L Schaller, Life Counseling Professional Services, West Chester, PA).

COMMENT. When MPH and CBZ are used together, a worsening of ADHD symptoms may occur that correlates with lowered blood levels of MPH. This observation, not previously reported, is important in patients with ADHD complicated by seizures or abnormal EEGs, when MPH is added after first introducing the AED. Larger doses of MPH may be required to effect a response.

HEREDO-DEGENERATIVE DISEASES

AICARDI-GOUTIERES SYNDROME

The clinical, radiological, and biological features of Aicardi-Goutieres syndrome in 27 patients are reviewed from the Neuropediatric Unit, Hopital des Enfants Malades, Paris, France. The onset was within the first 4 months of life in 19. The head circumference was normal at birth, but 21 developed microcephaly during the first year. CTs showed severe, progressive brain atrophy in all patients, and variable calcification of the basal ganglia. CSF lymphocytosis was chronic and persisted beyond 1 year in 7 patients. High levels of interferon-a occurred in serum and CSF in 14. Nineteen patients who survived, 6 older than 10 years, are severely disabled. Neuropathological findings in 2 patients showed foci of necrosis and diffuse demyelination, without inflammation. An autosomal recessive inheritance is suspected. (Goutieres F, Aicardi J, Barth PG, Lebon P. Aicardi-Goutieres syndrome: an update and results of interferon-a studies. Ann Neurol Dec 1998;44:900-907). (Respond: Dr Goutieres, Neuropediatric Unit, Hopital des Enfants Malades, 149 Rue de Sevres, 75743 Paris Cedex 15, France).

COMMENT. Aicardi-Goutieres syndrome is a familial, often fatal, progressive encephalopathy, probably autosomal recessive, characterized by basal ganglia calcification, microcephaly, chronic CSF lymphocytosis, with high levels of interferon-a in serum and CSF, but negative serological tests for common prenatal infections. The high levels of interferon are considered as a causal factor of the encephalopathy.

PHENOTYPES OF JUVENILE BATTEN DISEASE

The phenotypes of 10 Finnish juvenile neuronal ceroid lipofuscinosis (JNCL; late-onset Batten disease) patients were correlated with the genotypes in a study at Helsinki University, Finland; and the Rayne Institute, University College, London, UK. JNCL is manifested as three phenotypes: classic, delayed classic, and protracted JNCL, with mainly ocular symptoms and slower mental and motor decline. All are compound heterozygotes for 5 rare mutations and the major 1.02-kb deletion in the CLN3 gene. A novel deletion of exons 10 through 13 was present in 6 patients in 3 families, all having a similar clinical course. The development of blindness showed the greatest familial heterogeneity, from 6 to 15 years. (Lauronen L, Munroe PB, Jarvela I et al. Delayed classic and protracted phenotypes of compound heterozygous juvenile neuronal ceroid lipofuscinosis. Neurology Jan 1999;52:360-365). (Reprints: Dr Leena Lauronen, BioMag Laboratory, PO Box 508, Fin-00029, HYKS, Finland).

COMMENT. Late-onset Batten disease (JNCL) is an autosomal recessive, progressive encephalopathy of childhood, with ceroid and lipofuscinlike material in neural and nonneural tissues. The gene is on chromosome 16p11.2-12.1.