et al. Early-onset absence epilepsy and paroxysmal dyskinesia. Epilepsia Oct 2002;43:1224-1229). (Reprints: Prof R Guerrini, Institute of Child Health and Great Ormond Street Hospital, London WC1N 2AP, UK).

COMMENT. Absence epilepsy and paroxysmal dyskinesias may coexist. The age at onset of absence seizures and 3Hz spike-and-wave in this comorbid syndrome is unusually early, often in infancy.

RISK OF OVULATORY FAILURE WITH EPILEPSY

The association of ovulatory dysfunction with epilepsy and antiepileptic drugs (AEDs) was evaluated in women aged 18 to 40 years not receiving hormones recruited from the Stanford and Columbia Universities Comprehensive Epilepsy Centers and from other sources. Patients were followed for three menstrual cycles, a transvaginal ovarian ultrasound was obtained, and multiple endocrine and metabolic factors, including luteinizing hormone were sampled over 8 hours on days 2 to 5 of one cycle. Anovulatory cycles occurred in 10.5% of cycles in control patients without epilepsy (23), 14.3% of cycles with localization-related epilepsy (59 patients), and 27.1% of cycles with idiopathic (primary) generalized epilepsy (35 patients). At least one anovulatory cycle occurred in 38.1% of women with epilepsy who were taking valproate currently or within 3 years, and in 10.7% of non-valproate medicated patients. Risk factors for ovulatory dysfunction include idiopathic generalized epilepsy, exposure to valproate AED, high free testosterone, and reduced luteinizing hormone pulses. Patients with polycystic-appearing ovaries (41% of those with idiopathic generalized epilepsy cf 16% women without epilepsy) are not at increased risk and may ovulate normally. (Morrell MJ, Giudice L, Flynn KL et al. Predictors of ovulatory failure in women with epilepsy. Ann Neurol December 2002;52:704-711). (Respond: Dr Martha J Morrell, The Neurological Institute, Department of Neurology, 710 West 168th Street, New York, NY 10032).

COMMENT. Women with idiopathic generalized epilepsy are at increased risk for ovarian dysfunction, anovulatory cycles, and polycystic-appearing ovaries. Those treated with valproate, a cytochrome P450 enzyme inhibiting AED, are at highest risk, and this AED has an additive adverse effect. Cytochrome P450 inducing AEDs (carbamazepine, phenytoin, phenobarbital), and AEDs with no effect on cP450 (lamotrigine, gabapentin) have no adverse additive effect on ovarian function. Ovarian function should be monitored in women with epilepsy. The anovulatory cycles may be the only sign of reproductive dysfunction.

PERIODIC SYNDROMES

DIAGNOSIS OF CYCLIC VOMITING

In a study at Children's Hospital, Ann Arbor, MI, and Children's Memorial Hospital, Chicago, designed primarily to compare cost-effectiveness of three methods of management of cyclic vomiting cases, one group of patients received an extensive diagnostic evaluation, a second was treated with empiric antimigraine drugs for 2 months, and a third an upper GI series with small-bowel follow-through (UGI-SBFT) plus empiric therapy. Cyclic vomiting is defined as >3 episodes of vomiting within a 3 month period, peak intensity averaging 6 emeses per hour, and intervals of normal health averaging 2 to 4 weeks. The most cost-effective approach was the UGI-SBFT followed by antimigraine therapy. A CT scan before antimigraine therapy to rule out a brain tumor would be cost-saving, even

though the prevalence of brain tumor was 0.5% (range 0-2%). Except for a missed diagnosis of volvulus resulting in extensive small-bowel resection, the cost of delay in diagnosis of other causes of cyclic vomiting (eg metabolic) were less than the diagnostic tests. (Olson AD, Li BUK. The diagnostic evaluation of children with cyclic vomiting: a cost-effectiveness assessment. J Pediatr November 2002;141:724-728). (Reprints: Allan D Olson MD, MBA, Centocor Inc, 200 Great Valley Parkway, Malvern, PA 19355).

COMMENT. According to these authors and based on cost-effectiveness, the most practical approach to the diagnosis of cyclic vomiting(CV) is an initial small-bowel radiograph to rule out malrotation followed by a 2-month empiric trial of antimigraine medication. A positive family history of migraine is reported in 82% of patients with idiopathic CV, and their response to migraine prophylaxis is better than those without a family history of migraine (79% vs 36%). (Li B. Pediatrics 1998;102:583-587). Only 12% have serious underlying disorders such as intestinal malrotation with volvulus, brain tumors, or metabolic disorders.

Cyclic vomiting is reported as a form of epilepsy in children (Millichap JG et al. Pediatrics 1955;15:705-712), and *ictus emeticus* with nondominant temporal lobe involvement is a well documented form of autonomic epilepsy, sometimes induced by photic stimulation (Guerrini R et al. Neurology 1994;44:253-259). See Progress in Pediatric Neurology I & III, 1991 & 1997, for further review of ictus emeticus.

Vomiting as an ictal phenomenon is controversial and difficult to distinguish from migraine. Symptoms should be paroxysmal and associated with ictal epileptiform discharges on the EEG. In our own retrospective study of 33 children with cyclic vomiting reported in 1955, 25 (76%) had interictal seizure discharges in the EEG, some focal with temporal localization, and 7 (21%) had a history of complex partial or generalized seizures. Epilepsy should certainly be considered in the differential diagnosis of cyclic vomiting, an omission in the above report, and an EEG obtained, if possible during a vomiting episode. A history of previous seizures and family history of epilepsy, brain pathology, and a beneficial response to antiepileptic drugs will help to corroborate the diagnosis. An abnormal EEG is common in children with migraine, and AEDs are an effective migraine prophylaxis (Millichap JG. Child's Brain 1978;4:95-105), a further confounding factor in the diagnosis of cyclic vomiting and differentiation of an epilepsy or migraine.

KLEINE-LEVIN SYNDROME: AN AUTOIMMUNE HYPOTHESIS

Clinical, polysomnographic, CSF, CT, and MRI records and genotype data of 30 unrelated patients with Kleine-Levin syndrome (KLS) and their families were studied at Hopital Gui-de-Chauliac, Montpellier, France, and other sleep centers. The sex ratio showed a predominance of males (25/5). The mean age at onset was 15 +/- 3 years. The mean number of episodes per year was 4 +/- 3 and the mean duration of episodes was 12 +/- 8 days. Viral upper respiratory tract infection was a precipitating factor in 16/23 (70%). The two essential diagnostic criteria, recurrent hypersomnia with asssociated cognitive and mood disturbances, were present in all patients. Hyperphagia occurred in 17 (57%), and hypersexuality in 14 (47%) patients. Brain imaging and CSF were normal. EEGs were not recorded. Treatment for hypersomnia that was partially effective included the stimulant, modafinil, carbamazepine, and lithium. Neuroleptics were ineffective. The genotype data analysis of KLS patients, contrasted with normal controls, found a significant increase in the frequency of human leukocyte antigen (HLA)-DQB1*0201 allele, and 3 patients with KLS were homozygous for DQB1*0201, 2 from