EEG IN NONCONVULSIVE STATUS EPILEPTICUS

Ictal and interictal EEG findings and the diagnostic utility of iv diazepam in 78 patients with nonconvulsive status epilepticus (NCSE) are reported from the Department of Neurology, University of Virginia Health Sciences Center, Charlottesville, VA. Ictal discharges were generalized in 59 episodes (69%) of NCSE, diffuse with focal predominance in 15 (18%), and focal in 11 (13%). EEG characteristics were heterogeneous. Atypical spike and wave was the predominant pattern, and typical spike and wave of absence seizures was rare. Rhythmic delta with intermittent spikes was most prevalent in the group with diffuse and focal discharges. Response to iv diazepam, 1 or 2 mg every 30-60 sec, occurred at a dose < 8 mg. Focal NCSE was less likely to respond than generalized NCSE. Persistence of interictal focal discharges after diazepam may differentiate generalized from focal onset NCSE. (Granner MA, Lee SI. Nonconvulsive status epilepticus: EEG analysis in a large series. Epilepsia Jan/Feb 1994;35:42-47). (Reprints: Dr SI Lee, Department of Neurology, Box 394, University of Virginia, Health Sciences Center, Charlottesville, VA 22908).

COMMENT. NCSE is characterized by slowness in behavior and mentation, confusion, or stupor, lasting >1 hour and accompanied by EEG epileptiform, continuous activity, either generalized, focal, or focal with secondary generalization.

In a study of 253 adults with SE admitted to the Medical College of Virginia, Richmond, VA, mortality rates of patients with prolonged (>60 min) compared to nonprolonged (30-59 min) status were significantly different (32% cf 2.7%). Duration of status was a strong prognostic factor, while the type of seizure was not a determinant of mortality. The mortality rate was 30% in 70 patients with partial SE, and 20% in 180 with generalized SE. Anoxia and increasing age were significantly correlated with higher mortality. (Towne AR et al. Determinants of mortality in status epilepticus. Epilepsia Jan/Feb 1994;35:27-34).

SEIZURE DISORDERS

ICTUS EMETICUS INDUCED BY PHOTIC STIMULATION

Occipitotemporal seizures induced by intermittent photic stimulation in three children with brain injuries, aged 10 to 13 years, are reported from the Institute of Developmental Neuropsychiatry, University of Pisa, Italy. Infantile or early childhood seizures (infantile spasms, febrile seizures, or complex partial seizures) had been controlled and medications discontinued. All had a history of occipital spikes on the EEG. Photic stimulation induced electroclinical phenomena localized to the right occipital lobe with spread to mesial temporal limbic structures, including amygdala and hippocampus. Symptoms began with blindness, tonic eye deviation, blinking, oral automatisms, epigastric sensations, fear, reduced responsiveness, rhythmic chewing, and vomiting, appearing as a late ictal manifestation. All patients were seizure free at 1 year follow up; 2 were untreated and one had received carbamazepine. Vomiting can be a late ictal phenomenon resulting from temporal lobe spread of seizures originating in the occipital lobe. (Guerrini R et al. Occipitotemporal seizures with ictus emeticus induced by intermittent photic stimulation. Neurology Feb 1994;44:253-259). (Reprints: Dr Renzo Guerrini,

Institute of Child Neuropsychiatry, University of Pisa, Via dei Giacinti 2, 56018 Calambrone, Pisa, Italy).

COMMENT. Vomiting as an ictal phenomenon is controversial and difficult to distinguish from migraine. In these patients with previous evidence of occipital epileptiform EEG discharges, visual symptoms followed by automatisms and vomiting appeared more likely to result from temporal lobe ictal involvement than a migraine secondary to an occipital seizure. The lateralization of the ictal discharge to the right hemisphere has previously been reported in 13 children with the diagnosis of ictus emeticus. (Kramer RE et al, 1988). Cyclical vomiting as a form of epilepsy in 33 children was described in 1955. (Millichap JG, Lombroso CT, Lennox WG). See Progress in Pediatric Neurology, Chicago, PNB Publishers, 1991, for further reports of ictus emeticus.

VALPROATE-INDUCED HEPATIC FAILURE WITH COX DEFICIT

A fatal hepatic failure in a 3 year-old girl with myoclonic epilepsy after 3 months of treatment with valproate (VPA) is reported from Hopital d'Enfants, Marseilles, and Hopital des Enfants-Malades, Paris, France. Elevated plasma lactate and lactate/pyruvate molar ratios in plasma suggested a defect in oxidative phosphorylation and prompted investigation of respiratory chain activity. Circulating lymphocytes revealed a cytochrome c oxidase (COX) deficiency, later confirmed by post-mortem analysis in liver and cultured skin fibroblasts. Skeletal muscle analysis was normal. (Chabrol B et al. Valproate-induced hepatic failure in a case of cytochrome c oxidase deficiency. Eur J Pediatr 1994;153:133-135). (Respond: Dr B Chabrol, Service de Neuropediatrie, Hopital d'Enfants, CHU de la Timone, F-13385 Marseille Cedex 5, France).

COMMENT. Lactate/pyruvate plasma levels are recommended in children with possible mitochondrial disorders and epilepsy when VPA treatment is employed. Valproate associated hepatotoxicity is discussed in previous issues of Ped Neur Briefs Jan, May, and Aug 1993, and June 1987.

BEHAVIOR DISORDERS

EARLY SIGNS OF AUTISM

A blinded comparison of parental and clinical observations of the behavior of 26 autistic children (23 boys and 3 girls) younger than age 48 months is reported from the Vanderbilt University School of Medicine, Nashville, TN, and The Children's Mercy Hospital, Kansas City. Five most prevalent behavioral characteristics both reported by parents and observed by clinicians were as follows: 1) abnormal social play (eg. nonparticipation in peekaboo and itsy bitsy spider games); 2) lack of awareness of others (eg. noninteraction); 3) impaired imitation (eg. wave goodbye, patty-cake); 4) deficient nonverbal communication (eg. absent social smile or eye contact); and 5) absent imaginative play (eg. pretend games). Autistic behaviors rarely endorsed by parents and clinicians included: abnormal comfort seeking, abnormal speech, distress over change, and insistence on sameness and routines. Parents were more likely than clinicians to report absence of imaginative play and presence of stereotyped movements. (Stone WL, Hoffman EL et al. Early recognition of autism. Parental reports vs clinical observation.