ANTIEPILEPTIC DRUGS

CARBAMAZEPINE EXACERBATION OF ABSENCE EPILEPSY

The inappropriate use of carbamazepine (CBZ) in 8 children, and vigabatrin (VGB) in 2, among 18 consecutive referrals of children with resistant typical absence seizures, is reported from St Thomas' and Guy's Hospitals, London, UK. Frequency of absences had increased in 4 of the children who received CBZ and 2 of these developed myoclonic jerks in addition, which resolved after CBZ withdrawal. Typical absence epilepsy was confirmed by EEG, video-EEG, or both. Subsequent control of seizures was obtained with valproate, lamotrigine, or ethosuximide. (Parker APJ, Agathonikou A, Robinson RO, Panayiotopoulos CP. Inappropriate use of carbamazepine and vigabatrin in typical absence seizures. Dev Med Child Neurol 1998;40:517-519). (Respond: Dr APJ Parker MRCP, Department of Clinical Neurophysiology and Epilepsies, St Thomas' Hospital, London SE1 7EH, UK).

COMMENT. Carbamazepine and vigabatrin may exacerbate or induce typical absence seizures. These AEDs are also contraindicated in myoclonic epilepsies. Patients with absence seizures who fail to respond to sodium valproate or ethosuximide should be treated with either lamotrigine, acetazolamide, or clonazepam. The inappropriate second choice of CBZ or VGB after VPA failure in the patients referred above was unexplained, but misdiagnosis as partial seizures was a possible reason. EEG correlation or video-EEG is essential in arriving at a correct diagnosis. Although the carbamazepine exacerbation of absence seizures has been known since 1974 (Cereghino et al), this report from London and that from Switzerland suggest that clinicians are not sufficiently aware of the hazards of inappropriate use of AEDs.

EFFECT OF AEDs ON LEARNING AND BEHAVIOR

The literature on cognitive and behavioral impairments in children treated for epilepsy with various antiepileptic drugs (AEDs) is reviewed from the Children's Hospital, Boston, MA. Although the prevalence of cognitive and behavioral disorders is higher among children with epilepsy than in their nonepileptic peers, the role of AEDs is generally overrated by statistical analysis of results of group studies. More recent research suggests that the majority of children taking AEDs in therapeutic levels are not at risk, and the minority who are affected can be recognized clinically. Additional factors responsible for mental impairment in epilepsy include heredity, brain damage, seizures, and psychosocial (Lennox WG, 1942). Most reviews concern conventional AEDs. Among add-on trials and case-reports of newer AEDs, gabapentin and vigabatrin (VGB) may cause hyperactivity, aggressive outbursts, and oppositional behavior in learning disabled children, VGB has induced psychosis and depression, and rarely, valproate has caused a reversible pseudoatrophy of the brain associated with a drop in the IQ scores. (Bourgeois BFD. Antiepileptic drugs, learning, and behavior in childhood epilepsy. Epilepsia September 1998;39:913-921). (Reprints: Dr Blaise FD Bourgeois, Dept of Neurology, Harvard Medical School, Hunnewell 2, Children's Hospital, 300 Longwood Ave, Boston, MA 02115).

COMMENT. The reported prevalence of cognitive and behavioral impairments attributed to antiepileptic treatment of childhood epilepsy has been overrated. In the minority affected, deficits may be recognized clinically and can often be explained by polytherapy and/or excessive drug levels. A concomitant ADHD can also underly impairments of attention and behavior, unrelated to the

AEDs. Controlled studies are needed to identify risk factors for AED-induced cognitive and behavioral disorders in children treated for epilepsy.

Bourgeois BFD, the author of the above review, also summarizes the indications, pharmacokinetics, and side effects of the newer antiepileptic drugs, felbamate, gabapentin, lamotrigine, tiagabine, vigabatrin, and oxcarbazepine (Arch Neurol Sept 1998;55:1181-1183).

Clobazam Efficacy. Clobazam (CLB) has equivalent efficacy to carbamazepine and phenytoin as monotherapy for childhood epilepsy, according to a report from a Canadian Study Group for Childhood Epilepsy (Camfield P et al. Epilepsia 1998;39:952-959). The authors conclude that CLB should be considered a first line monotherapy for partial and selected generalized childhood epilepsies.

Lamotrigine Monotherapy for Partial Seizures. A controlled multicenter trial of lamotrigine (LTG) monotherapy compared to valproate (VPA) for partial seizures in adults found 56% successfully maintained on LTG compared to 20% on VPA. (Gilliam F, Vazquez B, Sackellares JC et al. An active-control trial of lamotrigine monotherapy for partial seizures. Neurology Oct 1998;51:1018-1025).

HEADACHE DISORDERS

HEADACHE CHARACTERISTICS WITH BRAIN TUMORS

The incidence and clinical features of headache in 60 children, aged 5 to 18 years, with brain tumors were determined and compared to the pattern of primary headaches in 50 children (migraine without aura (25) and tension-type headaches (25)), in a study at the University of Padua, Italy. In the group with brain tumors (supratentorial in 17 and infratentorial in 43), headache was the first symptom in 27% and the only presenting feature in 10%. Mean time interval from onset of headache to diagnosis of tumor was 3 months for infratentorial and 17 months for supratentorial tumors. The incidence of headache was significantly higher in patients with infratentorial tumors (91%) than with supratentorial tumors (59%). Tumor histology and specific localization showed no correlation with headache patterns. Compared to primary, migraine and tension headaches, secondary tumor headaches were associated with a significantly higher incidence of projectile vomiting (51% v 22%), nocturnal or morning onset (47% v 18%), lack of triggering factors (73% v 22%), and failure of relieving factors such as rest and sleep (77% v 20%). Nausea, photophobia, and phonophobia were infrequent symptoms with brain tumors. (Battistella PA, Naccarella C, Soriani S, Perilongo G. Headache and brain tumors: different features versus primary forms in juvenile patients. Headache Q 1998;9:245-248). (Reprints: PA Battistella MD, Department of Pediatrics, University of Padua, via Giustinani 3, Padova 35128, Italy).

COMMENT. The distinctive features of brain tumor-related headaches include morning or nightly onset, projectile vomiting, and lack of triggering or relieving factors. Although brain tumor is an infrequent cause of childhood headache, in patients with headache of recent onset, having these specific features, neuroimaging is warranted. Brain imaging indications in children with headaches are discussed in Progress in Pediatric Neurology III, PNB Publ, 1997;pp185, 167; and vol II, 1994;pp164-6).

HEADACHE AND PSYCHIATRIC DISORDERS

Headaches and psychopathology were evaluated in 1013 children, aged 9 to 15 years, enrolled in the Great Smoky Mountains Study, and reported from Duke University Medical Center, Durham, NC. Headaches lasted at least 1 hour and