SUBDURAL HEMORRHAGES IN INFANTS: CAUSE AND OUTCOME

The incidence, cause, and clinical outcome of subdural hemorrhage in children under 2 years of age were evaluated at the Department of Child Health, Bristol, Wales, UK. Of 33 cases identified, 28 were under 1 year of age. The incidence was 12.8/100,000 children/year (21/100,000 for infants under 1 year). Outcome was poor: 9 (27%) died and 15 (45%) had severe disability, including blindness in 9, seizures in 8, motor impairment in 7, and hydrocephalus in 5. Child abuse was subsequently suspected in 27 (82%), and previous physical abuse is a significant risk factor. In 14 a clear history of shaking was obtained. Only 22 had been adequately investigated. Mandatory evaluations suggested include social assessment, ophthalmologic exam, skeletal survey and bone scan, coagulation screen, and CT or MRI of head. (Jayawant S, Rawlinson A, Gibbon F et al. Subdural haemorrhages in infants: population based study. BMJ 5 Dec 1998;317:1558-61). (Respond: Dr S Jayawant, Dept of Child Health, Southmead Hospital, Bristol BS10 5NB, Wales, UK).

COMMENT. Subdural hemorrhage in infants carries a poor prognosis, and child abuse is a major cause. Clinical presentation varies, with only general malaise in some and impaired consciousness in others. One in 5 is admitted to hospital on several occasions because of drowsiness and lethargy, before the diagnosis of subdural hemorrhage is suspected.

HEAD INJURY IN ATTENTION DEFICIT DISORDER PATIENTS

Characteristics of injuries in 240 children with attention deficit hyperactivity disorder (ADHD) were reviewed retrospectively, using charts submitted to the National Pediatric Trauma Registry, 1988-96, by investigators from Tufts and Harvard Universities, Boston; Children's Memorial Hospital, Chicago; and Johns Hopkins, Baltimore. Compared to controls without ADHD, trauma patients with ADHD sustained head injury more frequently (53% vs 41%), they were admitted to intensive care more frequently (37% vs 24%), and the injury led to disability in 53% vs 48%. They were more likely to be boys (88% vs 66%), and to be injured as pedestrians (27% vs 18%) or bicyclists (17% vs 13%). (DiScala C, Lescohier I, Barthel M, Li G. Injuries to children with attention deficit hyperactivity disorder. Pediatrics Dec 1998;102:1415-1421). (Reprints: Carla DiScala PhD, Dept of Physical Medicine and Rehabilitation, Tufts/NEMC, 750 Washington St, Box 75K/R, Boston, MA 02111).

COMMENT. Parents of children with ADHD should be counselled about increased risks of injury and use of bicycle helmets. Previous reports have stressed the driving-related risks of ADHD adolescents and young adults and have emphasized the need to prolong stimulant therapy, especially in patients with comorbid oppositional behavior. ADHD patients who continue therapy have no more traffic related accidents than controls. (see Progress in Pediatric Neurology II, PNB Publ, 1994;pp209-210).

ATTENTION DEFICIT DISORDERS

PRACTICE VARIABLES IN TREATMENT OF ADHD

The clinical characteristics and treatment methods used for children with ADHD were examined by questionnaires sent to 81 practicing psychiatrists and analyzed at the American Psychiatric Association, Washington, DC. The majority

of patients (86%), usually 10 to 14 years of age, had the combined/predominantly hyperactive subtype, 69% with comorbid disorders, and 97% were treated with medications. Methylphenidate was prescribed in 51%, dextroamphetamine in 17%, clonidine in 20%. and psychotropics other than stimulants in 55%. Patients treated by child psychiatrists were three times more likely to receive dextroamphetamine than those managed by general psychiatrists. Psychiatrists treat a more severely impaired and complex group of patients than those tended by primary care providers. (Zarin DA, Suarez AP, Pincus HA, Kupersanin E, Zito JM. Clinical and treatment characteristics of children with attention-deficit/hyperactivity disorder in psychiatric practice. J Am Acad Child Adolesc Psychiatry Dec 1998;37:1262-1270). (Reprints: Dr Deborah A Zarin, American Psychiatric Association, 1400 K Street, NW, Washington, DC 20005).

COMMENT. Compared to patients referred to pediatric neurologists, children with ADHD treated by psychiatrists are generally severely impaired behaviorally and complicated by comorbid oppositional, conduct, and mood disorders, requiring complex treatment regimens. The relatively frequent use of dextroamphetamine by child psychiatrists, and the absence of mention of antiepileptic medication in selected cases were at variance with neurology practice. Epileptiform discharges are reported in EEGs of 7% of 100 consecutive patients with ADHD examined in a pediatric neurology practice, and seizures can be precipitated by methylphenidate and certain antidepressants (Millichap JG, Attention Deficit Hyperactivity and Learning Disorders. Chicago, PNB Publ, 1998).

ADHD and epilepsy. The indications for an EEG in ADHD patients considered for stimulant therapy include: 1) history of seizures; 2) "daydreaming" or episodic confusion suggestive of absence or partial seizures; 3) family history of epilepsy; 4) abnormal neurologic signs or radiographic evidence of brain pathology. An abnormal EEG in a child with ADHD, when associated with episodic symptoms or neurologic abnormalities, and especially when receiving stimulants or certain antidepressants, warrants treatment with carbamazepine or other appropriate antiepileptic medication.

ADHD, methylphenidate, and Tourette syndrome. A review article from the National Institute of Mental Health, Bethesda (Zametkin AJ, Ernst M. Problems in the management of attention-deficit-hyperactivity disorder. N Engl J Med Jan 7 1999;340:40-46) tends to minimize the risk of stimulant medication in patients with tics and ADHD. The author's condone the use of stimulants but caution that formal informed consent should be obtained, a practice that could be questioned on ethical grounds, and is probably inappropriate, given the alternative medications available.

An estimated 50 to 80% of patients with Tourette syndrome (TS) have ADHD. In sixteen reports (256 cases) published in the literature between 1974 and 1997, methylphenidate (MPH) is cited as the cause of tics in more than 25% of children with ADHD and special education students. In contrast, only 6% of regular classroom students, not exposed to MPH, have tics. Stimulant-induced tics are dose-related, occurring mainly with larger doses. An increased use of MPH in the USA correlates with the recognition of Tourette syndrome by neurologists and a plethora of reports since the 1970s. Before the introduction of MPH for treatment of ADHD, reference to TS in neurology textbooks was lacking, or classified briefly as a psychiatric disorder (Merritt, 1963). MPH appears to play a major role in precipitating or exacerbating tics and TS. Contrary to the evidence presented in the NIH review, MPH should be avoided in patients with a history of TS, and dosage in treatment of ADHD should be conservative (Millichap JG. Methylphenidate role in Tourette syndrome prevalence. JRSM Feb 1999;92, in press).

Buproprion for ADHD and comorbid conduct disorders.

An open trial of buproprion in 13 adolescent boys with ADHD, CD, and substance use disorder in a residential treatment program at the University of Colorado, Denver, found improvements in the mean Conners Hyperactivity Index and Daydream Attention scores, sufficient to recommend a controlled trial. (Riggs PD, Leon SL, Mikulich SK, Pottle LC. J Am Acad Child Adolesc Psychiatry Dec 1998;37:1271-1278). Buproprion may also lower the threshold to seizures and is known to provoke tics.

INFECTIOUS DISORDERS

COXIELLA BURNETII ACUTE CEREBELLITIS

A 9-year-old boy presenting with headache and fever, followed after 10 days by drowsiness, conjugate ocular deviation, and subsequently, cerebellar ataxia, is reported from Akita University, Japan. CSF showed pleocytosis, increased protein, and isolation of *C. burnetii* during convalescence. MRI showed a herniated tonsil and swollen vermis of the cerebellum. Recovery followed treatment with minocycline. A cow-raising family lived in the neighborhood. (Sawaishi Y, Takahashi I, Hirayama Y et al. Acute cerebellitis caused by *Coxiella burnetii*. Ann Neurol Jan 1999;45:124-127). (Respond: Dr Yukio Sawaishi, Department of Pediatrics, Akita University School of Medicine, Hondo 1-1-1, Akita 010-8543, Japan).

COMMENT. *Coxiella burnetii* is the causative rickettsial organism in acute Q fever. The illness is usually manifested by a self-limited flu-like illness, a mild-to-moderate atypical pneumonia, and hepatosplenomegaly. Endocarditis and hepatitis are the major manifestations of chronic disease. Headache occurs in the majority of patients in acute stages, but cerebellitis has not previously been reported. Human disease is uncommon, but animal infection, primarily domestic farm animals, is widespread and usually asymptomatic. Consumption of raw milk and close contact with infected animals are risk factors. Incubation is usually 14 to 22 days. Tetracycline or doxycycline is the drug of choice. (American Academy of Pediatrics, 1997 Red Book, pp433-435).

EEG IN ACTIVE AND INACTIVE NEUROCYSTICERCOSIS

The interictal EEG of 50 epileptic patients, aged 5 to 61 years (mean, 24), with parenchymal neurocysticercosis was analyzed at Charles R Drew University, Los Angeles, CA. Neuroysticercosis was diagnosed by CT/MRI of the brain, positive immunological reaction for cysticercosis in cerebrospinal fluid, or both. Generalized seizures occurred in 36 patients, and partial seizures in 14. Inactive disease with parenchymal calcification was present in 22, active disease with cysts in 21, and both forms in 7. The EEG was abnormal in 14 patients (28%) having either active or mixed forms of neurocysticercosis (50%) or only the active form (48%). The EEG was normal in patients with inactive forms with calcification only. The fronto-temporal lobes were mainly involved in active forms with seizures and abnormal EEGs, and temporal locations were infrequent. Generalized seizures were common while complex partial seizures were rare. (Chayasirisobhon S, Menoni R, Chayasirisobhon W, Locke GE. Correlation of electroencephalography and the active and inactive forms of neurocysticercosis. Clin Electroencephalogr Jan 1999;30:9-11). (Reprints: Sinchai Chayasirisobhon MD, Dept of Neurosciences, Charles R Drew University Med Ctr, 12021 S Wilmington Ave, Los Angeles, CA 90059).