

COMMENT. Children with ADHD have significantly prolonged sleep duration and a trend toward a lower percentage of quiet sleep, possibly attributed to hypoarousal or fatigue. Normalization of sleep patterns and decreased sleep duration achieved by methylphenidate could result from increased arousal. Insomnia, frequently reported as a side effect of methylphenidate, requires closer study.

Perceptions of methylphenidate effects on peer interactions of ADHD children were studied by psychologists at the University of California, Los Angeles and Irvine. (Granger DA et al. J Abnormal Child Psychol 1993;21:535). Analyses of observations of videotapes by 96 undergraduates showed that medication increased social withdrawal and dysphoria/disengagement, suggesting negative interpersonal consequences of these unintended internalizing behavior changes, even when not cued by rating scales. A positive medication effect was obtained in the category of leader/planner, behaviors requiring social organization and foresight.

ASPARTAME, BEHAVIOR, AND COGNITION IN ADD

The effects of aspartame (34 mg/kg/day for 2 weeks) on the cognition, behavior, and monoamine metabolism of 15 children with a history of ADD were evaluated at the Yale University School of Medicine, using a randomized, double-blind, placebo-controlled crossover study design. Various measures including Connors Behavior ratings, Children's Checking Task, Airplane Test, and Wisconsin Card Sorting Test revealed no significant differences between aspartame and placebo. The Multigrade Inventory for Teachers showed a significant increase in activity level following aspartame treatments. Phenylalanine and tyrosine levels in plasma were significantly elevated at 1 and 2 hours after aspartame ingestion. (Shaywitz BA et al. Aspartame, behavior, and cognitive function in children with attention deficit disorder. Pediatrics Jan 1994;93:70-75). (Reprints: B A Shaywitz MD, Dept of Pediatrics, Yale University Sch of Med, New Haven, CT 06510).

COMMENT. The authors conclude from this study of 15 ADD children receiving single morning doses before school for 2 weeks that aspartame has no clinically significant effect on behavior and cognition, and does not affect urinary excretion rates of monoamines and metabolites. Studies of aspartame in children with neuropsychiatric problems are limited, but one well controlled evaluation in 10 children with absence seizures has shown that aspartame exacerbates EEG spike-wave discharges. (Camfield PR et al. Neurology 1992;42:1000). The ingestion of aspartame in children with seizures should be limited or avoided until effects on seizure control are investigated further. (Ped Neur Briefs June 1992;6:46-47). Migraine has been exacerbated by aspartame in controlled studies of adult patients.

VASCULAR DISORDERS

STROKES AND VERTEBRAL ARTERY TRAUMA

Three boys, ages 11, 8, and 7 years, with strokes from vertebral artery lesions resulting from neck trauma are reported from Indiana University School of Medicine, Indianapolis, and Baylor College of Medicine, Houston, TX.

The 11 year-old woke with left-leg ataxia and sore neck, the morning after being tackled at a football game. He had continued playing to finish the game. Brain stem and cerebellar signs, including left exotropia with nystagmus, impaired adduction of the left eye in convergence, and deviation to the left in compass gait test, were explained by a linear filling defect of the left vertebral artery at C1-2 level consistent with intimal dissection, documented by a 4-vessel cerebral arteriogram. CT and brain and cervical spine MRIs were normal. He recovered rapidly and was discharged to take one aspirin daily and avoid contact sports. The 8-year-old also recovered after minor neck trauma followed by recurrent episodes of ataxia, hemiparesis, and visual field defect with left VA thrombus at C-2 and multiple emboli in posterior cerebral arteries. The 7-year-old sustained a traumatic pseudoaneurysm with persistent hemiparesis and ataxia. Clinical data are summarized of 16 cases culled from the literature. (Garg BP, Fishman MA et al. Strokes in children due to vertebral artery trauma. Neurology Dec 1993;43:2555-2558). (Reprints: Dr Bhuwan P Garg, Section of Child Neurology, Department of Neurology, Riley Children's Hospital, Rm 1757, 702 Barnhill Drive, Indianapolis, IN 46202).

COMMENT. Fortunately, the prognosis for survival in vertebral artery stroke in children is generally excellent. Only one of 19 patients died. Two had residual quadriplegia, 9 had mild to moderate residual hemiparesis, ataxia, and/or dysarthria, and 7 (37%) recovered.

OUTCOME OF NEONATAL STROKE

Evaluations, including MRI, MR angiography, and neuropsychological tests, at 1.5-8.4 years, of 8 infants after neonatal stroke involving the middle cerebral artery are reported from the University of Heidelberg, Mannheim, Germany. Seven had mental and motor retardation and hemiparesis and 4 had epilepsy. Major deficits in cognitive function were found in 4 older children. One patient with normal development showed only a localized temporal lobe lesion on MRI and unremarkable MRA. Children with marked disorders of motor and cognitive development had defects of temporo-parietal lobes, basal ganglia, thalamus and internal capsule on MRI and recanalization of the middle cerebral artery shown on MRA. Those without recanalization had a poorer prognosis. (Koelfen W et al. Results of parenchymal and angiographic magnetic resonance imaging and neuropsychological testing of children after stroke as neonates. Eur J Pediatr Dec 1993;152:1030-1035). (Respond: Dr W Koelfen, Department of Pediatrics, Faculty of Clinical Medicine Mannheim, University of Heidelberg, Theodor Kutzer Ufer, D-68167 Mannheim, Germany).

COMMENT. Magnetic resonance angiography (MRA) images intracranial blood vessels without necessity for invasive contrast media. Children with neonatal stroke, seizures, and abnormalities shown on MRA have severe cognitive delays and the least favorable prognosis on long-term follow up.

ASPIRIN-INDUCED NEONATAL INTRACRANIAL HEMORRHAGE

A term newborn infant with intracranial hemorrhage associated with maternal acetylsalicylic acid ingestion before delivery is reported from the Departments of Pediatrics and Neurology, Eastern Virginia Medical School, Norfolk, VA. Pregnancy was complicated by alcohol abuse. Alka-Seltzer, 6 tablets daily, had been taken for 2 weeks for relief of hangover. The infant's serum salicylate level at 8 hours was 5.4 mg/dL. Hematocrit decreased from