Children with ADHD had significantly impaired performance in fine and gross motor skills, as measured by the Bruininks-Oseretsky Test of Motor Proficiency and compared to 42 age- and sex-matched children without ADHD. Attention, impulse control, and parent ratings of activity level were the best predictors of gross motor skills, while attention and impulse control were the best predictors of fine motor skills for children with ADHD. Different behavioral processes may be involved in fine and gross motor performances. (Tseng MH, Henderson A, Chow SMK, Yao G. Relationship between motor proficiency, attention, impulse, and activity in children with ADHD. **Dev Med Child Neurol** 2004;46:381-388). (Respond: Mei Hui Tseng ScD, School of Occupational Therapy, College of Medicine, National Taiwan University, 7 Chung-shan South Rd, Taipei, Taiwan 100).

COMMENT. Children with ADHD-combined type perform poorly in tasks that measure motor performance, attention, impulse control, and activity level. Sustained attention and impulse control are important predictors of both fine and gross motor skills. In this study, hyperactivity is a predictor of gross motor incoordination but is not significantly correlated with fine motor skills. Measures of motor performance should be included in the diagnostic criteria for ADHD. Based on the frequency of subtle neurologic abnormalities in children with ADHD and impaired motor performance (eg. tandem gait dyspraxia, impaired alternating forearm movements, mirror movements), a primary motor deficit is a more likely explanation than motor incoordination secondary to impaired attention and lack of impulse (inhibitory) control. Subclinical epileptiform abnormalities in the EEG are more prevalent in children with ADHD, especially the hyperactive/impulsive subtype (Deonna et al, 2000; Becker et al, 2004).

PRIAPISM ASSOCIATED WITH METHYLPHENIDATE^{SR} (CONCERTA) WITHDRAWAL

A 15-year-old boy with attention deficit hyperactivity disorder, inattention subtype (ADHD), developed stuttering priapism (intermittent, prolonged, painful erections) after withdrawal of OROS methylphenidate (Concerta^{R}) 36 mg/day, and is reported from Inova Fairfax Hospital for Children, Falls Church, VA, and Children's National Medical Center, Washington, DC. Symptoms began after the dose was increased from 27 mg/day to 36 mg/day, 6 days per week, with scheduled withdrawal on Sundays. Symptoms were exacerbated when a dose of 54 mg/day was prescribed later. An estimated 5 to 10 painful erections occurred on the first Sunday after one week of treatment, and each lasted 10 to 15 minutes or sometimes longer. On the following weekdays, erections recurred early AM on the school bus but stopped suddenly within 1 hour after taking the morning dose, only to return the following morning. After reducing the dose to 27 mg/day and gradually discontinuing treatment completely, symptoms immediately disappeared, with no recurrence of priapism at 6 months follow-up. Urinalysis for other drugs was negative. (Schwartz RH, Rushton HG. Stuttering priapism associated with withdrawal from sustained-release methylphenidate. **J Pediatr** 2004;144:675-676). (Reprints: Richard H Schwartz MD, 115 Park St SE, Ste 203, Vienna, VA 22180).

COMMENT. Priapism has been reported with sickle-cell hemoglobinopathy in children, but not with stimulant drugs. In the present case, the problem was not initially disclosed because of embarrassment, and further undiagnosed cases are possibly occurring.

TRAUMATIC DISORDERS

DIFFUSE AXONAL INJURY AFTER TRAUMATIC BRAIN INJURY

Forty children and adolescents with traumatic brain injury and suspected diffuse axonal injury were studied for hemorrhagic lesions, using a high-resolution magnetic resonance imaging susceptibility-weighted technique, at Loma Linda University Medical Center, CA. The extent of parenchymal hemorrhage was correlated with initial Glasgow Coma Scale scores (GCSS) and outcomes at 6 to 12 months after injury. Lower GCSS (<8, n=30) or prolonged coma (>4 days, n=20) was associated with a greater average number (p=0.007) and volume (p=0.008) of hemorrhagic lesions. Normal outcome or mild disability (n=30) was correlated with fewer hemorrhagic lesions (p=0.003) and lower volume (p=0.003) than moderate or severe disability or vegetative state. Regional injuries also showed a significant correlation with clinical variables. (Tong KA, Ashwal S, Holshouser BA, et al. Diffuse axonal injury in children: clinical correlation with hemorrhagic lesions. **Ann Neurol** July 2004;56:36-50). (Respond: Dr Tong, Department of Radiology, Loma Linda University Medical Center, 11234 Anderson St, Loma Linda, CA 92354).

COMMENT. Susceptibility-weighted imaging (SWI) shows 6 times more hemorrhagic lesions and 2-fold greater hemorrhage volume than conventional gradient-recall echo (GRE) imaging (Tong et al, 2003). Diffuse axonal injury (DAI) is reported in 40% of children with traumatic brain injury (TBI) (Mittl et al, 1994), motor vehicle accidents being the major cause. MRI has demonstrated the greatest involvement in subcortical white matter. The greater the number of DAI lesions, the poorer the prognosis. SWI provides more accurate assessment of TBI and its long-term outcome.

Risk factors for intracranial injury in minor head trauma. A meta-analysis of the literature regarding minor head trauma shows that predictors for intracranial hemorrhage (ICH) in children with minor head injury are: 1) a reduced level of consciousness, 2) focal neurologic signs, 3) skull fracture, and 4) loss of consciousness. Headache and vomiting do not increase risk of ICH. (Dunning J, Batchelor J, Stratford-Smith P, et al. A meta-analysis of variables that predict significant intracranial injury in minor head trauma. **Arch Dis Child** 2004;89:653-659).

Retinal hemorrhages (RH) and head injury. RH occur more often in abusive head injury compared to accidental injury and are more frequently bilateral. Abusive head injury is more likely to present with abnormal mental status and seizures, whereas children with accidental injury are more likely to show scalp hematomas. (Bechtel K, Stoessel K, Leventhal JM, et al. Characteristics that distinguish accidental from abusive injury in hospitalized young children with head trauma. **Pediatrics** July 2004;114:165-168).