EARLY VERSUS LATE ONSET ATTENTION DEFICIT DISORDER

The validity of the age-of-onset criterion (AOC), with symptoms emerging before age 7, in the diagnosis of attention deficit/hyperactivity disorder was evaluated by analysis of data from interviews with 9- to 16-year-olds from the Great Smoky Mountains Study, at the University of North Carolina, Chapel Hill, NC. A majority of youths with ADHD were reported to first exhibit symptoms in early childhood and before age 7. Most parents considered symptoms to have "always" been present, without a specific date of onset. The percentage of youths first exhibiting symptoms after age 7 was higher in the inattentive group (26%) than in the hyperactive-impulsive (8%) and combined groups (13%). Patients with early onset inattentive symptoms were at increased risk for comorbid ODD, while those with late-onset inattentive symptoms were at increased risk for comorbid depression. The current AOC results in the underidentification of youths in the inattentive group, late onset type. The continued inclusion of the AOC for the assessment of combined but not the inattentive type of ADHD is supported. Early onset ADHD was associated with worse clinical outcome in youths with the combined subtype but not with the inattentive subtype. (Willoughby MT, Curran PJ, Costello EJ, Angold A. Implications of early versus late onset of attention deficity/hyperactivity disorder symptoms. J Am Acad Child Adolesc Psychiatry December 2000;39:1512-1519). (Reprints: Mr Willoughby, Davie Hall CB #3270, Department of Psychology, University of North Carolina, Chapel Hill, NC 27599).

COMMENT. The recent challenge to the inclusion of an age-of-onset criterion for the diagnosis of ADHD may be valid for patients with the inattentive subtype. The current AOC of less than 7 years may exclude patients in the late onset inattentive group, but it appears to be valid for the assessment of the combined group.

METHYLPHENIDATE TOXIC EXPOSURE REPORTS

Methylphenidate (MPH) exposures reported to a regional poison control center during a 2-year period were analysed at Wayne State University School of Medicine, Detroit, MI. Of 289 patients exposed, 41% had taken their own medication. Only cases involving non-sustained release MPH were included. The mean overdose of MPH ingested was 1.7 mg/kg (range, 0.06-29 mg/kg). Symptoms, most commonly tachycardia, agitation, and lethargy, developed in 31%; and showed a dose-response relationship. Symptoms were more severe and 3 times as frequent with intentional compared to unintentional exposures. Of 149 accidental ingestions, 143 were in children, of whom 65% developed symptoms, including tachycardia, agitation, insomnia and rash. Multiple symptoms including abdominal pain, emesis, or hypertension, in combination with tachycardia or agitation, occurred in the remainder. Most therapeutic errors occurred in the 6 to 11 year-old group, whereas the highest rate of symptoms was reported in the 0 to 5 year-old group. These included lethargy, agitation, headache, dystonia, and vomiting. Outcome was not significantly altered by gastric decontamination, performed in 105 patients. The peak age period for exposure was 6 to 9 years, and therapeutic error was the most common reason. (White SR, Yadao CM. Characterization of methylphenidate exposures reported to a regional poison control center. Arch Pediatr Adolesc Med Dec 2000;154:1199-1203). (Reprints: Suzanne R White MD, Children's Hospital of Michigan Regional Poison Control Center, Suite 616, 4160 John R, Detroit, MI 48201).

COMMENT. Methylphenidate exposure is associated with symptoms in one

third of patients. Tachycardia, agitation, and lethargy are the most frequent symptoms. Accidental ingestion is more common than intentional exposure, and therapeutic error occurs most frequently during the 6 to 11 year-old period. The potential for the development of lethargy and impaired consciousness argues against the use of syrup of ipecac or charcoal in prehospital recommended treatment measures.

HERITABILITY OF ADHD

A twin study design was used to examine the the genetic validity of attention deficit hypoeractivity disorder (ADHD)-related phenotypes. Parent-rated symptoms were reported by questionnaires received for 2082 twin pairs, and teacher-rated symptoms were available for 1470 twin pairs. Parent-rated, teacher-rated, and both parent and teacher-rated ADHD categories were highly heritable. Shared environmental effects were found for teacher-rated ADHD. ADHD reported by both parent and teacher is as heritable as ADHD symptoms defined only by maternal reports. A common genetic factor influences maternal and teacher-rated ADHD but not all teacher-rated ADHD. Teacher reports alone may be distinct from parent-rated ADHD, since they are influenced by shared environmental factors and by additional genetic and nonshared environmental factors. (Thapar A, Harrington R, Ross K, McGuffin P. Does the definition of ADHD affect heritability? J Am Acad Child Adolesc Psychiatry Dec 2000;39:1528-1536). (Respond: Dr Thapar, Child and Adolescent Psychiatry Section, Department of Psychological Medicine, University of Wales College of Medicine, Heath Park, Cardiff, Wales, UK CF14 4XN).

COMMENT. Broadly defined pervasive (both parent and teacher-rated) ADHD symptoms are as heritable as ADHD behaviors defined by maternal reports alone. A common genetic factor influences maternally rated and teacher rated ADHD. ADHD symptoms are highly heritable.

Dopamine D4 receptor gene and ADHD. Linkage of the dopamine D4 receptor gene and ADHD is supported by further studies at Toronto Western Hospital (Sunohara GA, Roberts W, Malone M et al. J Am Acad Child Adolesc Psychiatry Dec 2000;39:1537-1542).

Is ADHD a noradrenergic disorder? This topic is reviewed by Biederman J and Spencer TJ (J Am Acad Child Adolesc Psychiatry Oct 2000;39:1330). Data implicate norepinephrine dysfunction and frontosubcortical pathways that control attention and motor behavior. Drugs with anti-ADHD activity share a common noradrenergic/dopaminergic activity.

ROLE OF TEMPORAL LOBE IN AUTISM

Regional cerebral blood flow was measured with positron emission tomography (PET) in 21 school-aged children with primary autism and in 10 nonautistic children with idiopathic mental retardation, at the Institut National de la Sante, Tours, and Hopital La Salpetriere, Paris, France. A highly significant hypoperfusion was noted in both temporal lobes, centered in auditory and adjacent cortex, in 76% of autistic children. (Zilbovicius M, Boddaert N, Belin P et al. Temporal lobe dysfunction in childhood autism: a PET study. Am J Psychiatry Dec 2000;157:1988-1993). (Reprints: Dr Zilbovicius, Commisariat a l'Energie Atomique, Service Hopitalier Frederic Joliot, 4 place du General Leclerc, 91406, Orsay, France).

COMMENT. Hypoperfusion in the temporal lobes of children with primary autism suggests a temporal lobe dysfunction as the basis for the variety of