

family histories of seizures, and 10% were afebrile. Chinese hamster ovary cell assays failed to reveal active pertussis toxin in acute sera. Long-term follow-up for possible neurologic sequelae was not performed. (Blumberg DA, Cherry JD et al. Severe reactions associated with diphtheria-tetanus-pertussis vaccine: Detailed study of children with seizures, hypotonic-hyporesponsive episodes, high fevers, and persistent crying. Pediatrics June 1993; 91: 1158-1165). (Reprints: Dean A Blumberg MD, Dept of Pediatrics, UCLA School of Medicine, 10833 Le Conte Ave, Los Angeles, CA 90024).

**COMMENT.** Seizures induced by pertussis immunization and fever are more severe than simple febrile seizures. Cherry JD and associates report that a first febrile convulsion within 3 or 7 days of pertussis immunization is more likely to last longer than 10 minutes, to be recurrent, and to have a focal pattern when compared to first seizures occurring more than 7 days after immunization (J Pediatr June 1993; 122: 900-3). They have estimated that one in a 1000 children immunized will have a seizure, and 6% of first febrile seizures are associated with pertussis immunization. The use of acellular DTP vaccines, recently approved by the FDA, may hopefully reduce the frequency and severity of neurological complications.

## MOVEMENT DISORDERS

### **BASAL GANGLIA AND MRI IN TOURETTE'S SYNDROME**

Volumetric MRI changes in the basal ganglia of 37 children with Tourette's syndrome (TS), with and without ADHD, compared to 18 controls are reported from Johns Hopkins University School of Medicine, Baltimore, MD. Major findings were 1) right-handed control children had asymmetry of the putamen with left-sided predominance; 2) 13 TS patients had a reversal of putamen asymmetry compared to controls; and 3) ADHD in TS patients is associated with reduction in volume of the left globus pallidus and lenticular asymmetry. (Singer HS, Denckla MB et al. Volumetric MRI changes in basal ganglia of children with Tourette's syndrome. Neurology May 1993; 43: 950-956). (Reprints: Dr Harvey S Singer, Department of Neurology-Harvey 811, Johns Hopkins Hospital, 600 N Wolfe Street, Baltimore, MD 21287).

**COMMENT.** The basal ganglia appear to be involved in the pathogenesis of TS. ADHD in TS patients is associated with additional anatomic changes in the globus pallidus and lenticular region that differ from those primarily associated with tics.

Reduced basal ganglia volumes on MRI of TS patients are also reported from the Yale Child Study Center, New Haven, CT (Peterson B et al. Neurology May 1993; 43: 941-949). The left lenticular nuclei in TS

patients were significantly reduced in volume, and the left globus pallidus and putamen mean volumes showed a 10% reduction. TS basal ganglia lacked the volumetric asymmetry (left greater than right) seen in normal controls.

Five of 7 patients with concurrent Tourette's and Asperger's syndromes showed developmental cortical anomalies on MRI, whereas normal MRI scans were found in 8 of 9 TS patients without AS, in a report from the Neurology Service, Hospital Clinic and Provincial, Barcelona, Spain (Berthier ML et al. J Am Acad Child Adolesc Psychiatry May 1993; 32: 633-639). The group with concurrent TS and AS had more clinical signs of CNS dysfunction and were more impaired on complex problem-solving and spatial tests than did TS patients without AS.

## ATTENTION DEFICIT DISORDERS

### **RITALIN SIDE EFFECTS: PLACEBO CONTROLLED EVALUATION**

The frequency of side effects of Ritalin was examined in a randomized double-blind placebo-controlled cross-over trial in 206 children aged 5 through 15 years with ADHD at the Marshfield Clinic and Research Foundation, Marshfield, WI. The Barkley Side Effects Questionnaire (BSEQ) was completed by parents at baseline and at the end of each of 4 treatment weeks; 0.3 mg/kg and 0.5 mg/kg per dose of Ritalin were compared to placebo in separate 2-week trials. Each treatment was given three times a day for 7 consecutive days. Five of the side effects studied, insomnia, decreased appetite, stomachache, headache, and dizziness, were significantly increased by Ritalin, even at the relatively low dose of 0.3 mg/kg; the frequency of appetite suppression was dose-related and was doubled at the higher dose. Four behaviors, daydreaming, irritability, anxiety, and nailbiting, were all significantly reduced in frequency during treatment with the higher dose of Ritalin. (Ahmann PA et al. Placebo-controlled evaluation of Ritalin side effects. Pediatrics June 1993; 91: 1101-1106). (Reprints: Peter A Ahmann MD, Dept of Neurology, Marshfield Clinic, 1000 North Oak Ave, Marshfield, WI 54449).

**COMMENT.** Patients with Tourette's syndrome were excluded from the study. Tics were reported in baseline questionnaires by 12% of parents, but there was no reported increase in either motor or vocal tics and no tics were seen on subsequent evaluations. Parents felt less anxious about potential side effects during close monitoring. The authors advocate the use of the BSEQ in monitoring patients taking Ritalin for ADHD. Ritalin as opposed to generic methylphenidate was prescribed because a difference and less consistency in effectiveness had been noted with the generic drug.