

antiepileptic medications, steroids, and subpial resection, have no proven beneficial effects on the autistic regression. Since LKS may improve spontaneously, any claims for therapeutic efficacy must be subject to controls.

## ATTENTION DEFICIT DISORDERS

### **SLEEP DISTURBANCES AND ATTENTION DEFICIT DISORDERS**

The prevalence of parent-reported and self-reported sleep disturbances in 46 unmedicated school-aged children (mean age, 7 +/- 1 1/2 years, 74% male) with attention deficit/hyperactivity disorder (ADHD) was determined at Brown University School of Medicine, Providence, RI. The patients had been screened for marked symptoms of sleep-disordered breathing, and those diagnosed with obstructive sleep apnea were excluded. Results in the ADHD group of children were compared to those in 46 normal controls, matched for age and sex. A Children's Sleep Habits Questionnaire (CSHQ) completed by the parents includes subscales referring to bedtime resistance, sleep-onset delay, sleep duration, sleep anxiety, night wakings, parasomnias (talking in sleep, restlessness, sleepwalking, teeth grinding, nightmares, bed-wetting), sleep-disordered breathing, and daytime sleepiness. A corresponding Sleep Self-report (SSR) assessed similar sleep disturbances from the child's perspective.

Children with ADHD had significantly higher scores (and more sleep disturbances) on all, except for sleep-disordered breathing, subscales of the parent CSHQ compared to controls. The average number of hours of sleep reported by parents on the CSHQ was significantly lower in the children with ADHD than in controls. The child's SSR also showed a greater incidence of sleep disturbance, particularly relating to bedtime struggles and sleep resistance (P, .05-.001). Parent and child sleep reports showed a higher correlation in ADHD children than controls. Children with ADHD and comorbid sleep disorders should receive specific behavioral and pharmacological therapy. (Owens J A, Maxim R, Nobile C, McGuinn M, Msall M. Parental and self-report of sleep in children with attention-deficit/hyperactivity disorder. Arch Pediatr Adolesc Med June 2000;154:549-555). (Respond: Judith A Owens MD MPH, Division of Pediatric Ambulatory Medicine, Rhode Island Hospital, 593 Eddy Street, Providence, RI 02903).

COMMENT. The causes of sleep problems in children with ADHD have previously been addressed (Trommer BL et al. Ann Neurol 1988;24:322), and these include stimulant medications, comorbid anxiety disorder, and environmental behavioral sleep deprivation. A specific ADHD-linked dysregulation in sleep and arousal mechanisms has also been proposed (Corkum P et al. J Am Acad Child Adolesc Psychiatry 1998;37:6). Objective measurements of sleep habits, such as polysomnography (Greenhill L et al. Sleep 1983;6:91-101) and actigraphy, have shown conflicting results, while parental ratings of sleep behavior have revealed an increased prevalence of sleep problems in ADHD children. The authors of the present report have also included observations based on the child's perspective, and these correlate with the parental findings. Sleep disturbances, especially those occurring at bedtime, are frequently reported by parents and the children with ADHD. Their impact on the therapy of ADHD is problematic and requires further investigation.

Children presenting with ADHD should be screened for sleep disorders that may have a causative role or exacerbate the symptoms of inattention and hyperactivity. The use of clonidine should be considered as a substitute for stimulant medication in patients whose sleep problems require a change in

therapy (Millichap JG. Attention Deficit Hyperactivity and Learning Disorders. Chicago, PNB Publishers, 1998).

## ACTIGRAPHY MEASUREMENTS COMPARED IN ADHD SUBTYPES

Subtypes of ADHD, inattentive and combined types, were compared by actigraphy at the Hospital for Sick Children, Toronto, Canada. An actigraph (Ambulatory Monitoring Inc), an acceleration-sensitive, watch-like device, was worn on the nondominant wrist to measure motor activity in 64 children during a full-day clinical diagnostic assessment; 20 patients had ADHD predominantly inattentive type, 22 had ADHD combined type, and 22 were non-ADHD controls. Mean actigraph scores for two 2-hour sessions in the morning and afternoon were calculated. Activity levels in the morning session showed no group differences. In the afternoon, children with ADHD were significantly more active than controls, but there were no subtype differences. (Dane AV, Schachar RJ, Tannock R. Does actigraphy differentiate ADHD subtypes in a clinical research setting? J Am Acad Child Adolesc Psychiatry June 2000;39:752-760). (Reprints: Rosemary Tannock PhD, Brain and Behavior Research Program, The Hospital for Sick Children, 555 University Ave, Toronto, Ontario, Canada M5G 1X8).

COMMENT. Objective measurement of motor activity in children with ADHD was previously described by Schulman and Reisman (Amer J Ment Defic 1959;64:455), and the "actometer," an automatically winding calendar wristwatch, was used by Millichap (Am J Dis Child 1968;116:235) to demonstrate a significant lessening of overactivity in hyperactive children treated with methylphenidate. Teicher MH et al employed an infrared video and motion analysis system in measures of hyperactivity and attentional problems (J Am Acad Child Adolesc Psychiatry 1996;35:334). These objective measures of motor activity have proved of value in research but usually impractical in general management of ADHD.

The actigraph employed in the present study is similar in principle to the actometer devised in 1959 at Children's Memorial Hospital, Chicago. In comparing subtypes of ADHD, using the actigraph, the DSM-IV subjective behavioral criteria for combined and inattentive types of ADHD do not correlate with objective measurements of motor activity. The situational specificity of hyperactive behavior, with differences in morning and afternoon sessions, demonstrates the inconsistencies demonstrated by the actigraph measures.

## DEVELOPMENTAL GERSTMANN'S SYNDROME

Ten children with developmental Gerstmann's syndrome (DGS) are described in a report from the Institute for Communicative and Cognitive Neuro Sciences, Kerala, India. All patients had acalculia, finger anomia, agraphia, and right-left disorientation, characteristic of acquired GS in adults, all had constructional apraxia, 4 alexia, 3 had abnormalities in the EEG, and 3 had MRI/CT abnormalities. Seizures occurred in 4, hyperkinetic behavior in 10 (100%), and the neurologic examination revealed sensory abnormalities, including graphanesthesia in 9, astereognosis in 9, loss of 2-point discrimination in 9, and impaired position sense in 5. Compared to adult GS, DGS is characterized by biparietal dysfunction, absence of structural brain lesions, infrequent language disturbance, and common reading and behavioral problems. Six children demonstrated improvement with intensive speech training. (Suresh PA, Sebastian S. Developmental Gerstmann's syndrome: a distinct clinical entity of learning disabilities. Pediatr Neurol April 2000;22:267-278). (Respond: Dr Suresh, Dept Neurology, Sree Chitra Tirunal Inst for Medical Sci, Ullor, Trivandrum, Kerala 695011, India).