

adolescence while that in female twins decreases. Pre- and perinatal insults were not the explanation for an increased incidence of ADHD among twins.

COGNITIVE FUNCTION AND VALPROATE MONOTHERAPY

A test battery to assess neuropsychological and behavioral changes associated with anticonvulsant, particularly valproate, therapy in children is proposed from the Departments of Pediatrics (Neurology), and Clinical Health and Psychology, University of Florida, Gainesville, FL. This includes 1) intellectual functioning (WISC-III, WPPSI-R), 2) verbal memory, sentence recall, story recall, and verbal learning (Wide Range Assessment of Memory and Learning-WRAML, 3) nonverbal memory, picture memory and visual learning-WRAML, 4) attention, digit span, continuous performance task-Paced Auditory Serial Addition Task-PASAT, 5) motor speed-finger tapping test, verbal fluency-Controlled Oral Word Association, and 6) problem behaviors-Child Behavior Check List. These tests were found to be sensitive to AED-induced cognitive changes, and some tests are repeatable to allow for frequent monitoring. (Legarda SB et al. Altered cognitive functioning in children with idiopathic epilepsy receiving valproate monotherapy. J Child Neurol July 1996;11:321-330). (Respond: Dr Stella B Legarda, Division of Neurology, Department of Pediatrics, University of Florida College of Medicine, PO Box 100296, JHM Health Center, Gainesville, FL 32610).

COMMENT. The authors comment that the cognitive effects of valproate reported in normal adult volunteers and adults with epilepsy cannot reliably be applied to children. There is a relative paucity of well-controlled studies assessing memory and attentional differences in pediatric epilepsy patients treated with valproate monotherapy. Reports that cognitively impaired children on valproate therapy improve with L-acetylcarnitine supplements requires further study.

In one study involving children with epilepsy previously untreated, significant positive correlations were found between serum levels of valproate and the sum of 5 memory tests at 1 month and at 6 months after starting valproate monotherapy. Phenytoin had no adverse effects, whereas carbamazepine serum levels showed a negative correlation with memory and reading scores. (Forsythe I et al. Dev Med Child Neurol 1991;33:524). For reviews of Cognitive Effects of Antiepileptic Drugs, see Progress in Pediatric Neurology II, Chicago, PNB Publ, 1994.

TOURETTE'S SYNDROME AND ADHD

CORPUS CALLOSUM SIZE IN TOURETTE'S SYNDROME

The size of the corpus callosum (CC) in Tourette's syndrome (TS) and ADHD was determined by analysis of MRI data in 77 children and adolescents, aged 6 to 16 years, including 27 controls, at the Kennedy Krieger Institute, Johns Hopkins University School of Medicine, Baltimore, MD. TS patients had significant increases in 4 of 5 subregions (splenium, isthmus/posterior body, mid-body, and rostral body), the total area, and the perimeter of the CC. ADHD was associated with a significant decrease in the rostral body size. Inspection of subgroup means demonstrated a statistical independence of the effects of ADHD versus effects of TS on CC size. The larger CC in TS was independent of age, handedness, intracranial area, and the association of ADHD. (Baumgardner TL, Singer HS, Denckla MB et al. Corpus callosum morphology in

children with Tourette syndrome and attention deficit hyperactivity disorder. Neurology Aug 1996;47:477-482). (Reprints: Dr Thomas L Baumgardner, Behavioral Neurogenetics and Neuroimaging Research Center, Kennedy Krieger Institute, 707 N Broadway, Suite 509, Baltimore, MD 21205 or Dr HS Singer, Department of Neurology, Harvey 811, Johns Hopkins Hospital, 600 N Wolfe St, Baltimore, MD 21287).

COMMENT. The authors comment that TS and ADHD may result from distinct neurodevelopmental processes, and the three syndrome groups, comprising TS only, ADHD, and TS + ADHD, may represent different degrees of expression of the same gene. In addition to genetic transmission, environmental influences include prenatal factors, anabolic steroids, and antineural antibodies induced by streptococcal infection. (Singer HS, in Progress in Pediatric Neurology II, 1994, pp 227-231).

LEARNING DISABILITIES AND TOURETTE'S SYNDROME

A retrospective study of 138 children with Tourette's syndrome examined the contribution of neurobehavioral concomitant symptoms to academic difficulties in the Department of Neurology, and Division of Biostatistics, University of Rochester Medical Center, Rochester, NY. A diagnosis of specific learning disorder (LD) was made in 30 (22%). Among 108 without a diagnosis of LD, 36 (33%) had school problems that included grade retention in 16 (15%) and/or special education placement in 41 (38%). The association of ADHD with TS was a significant predictor of school problems. (Abwender DA et al. School problems in Tourette's syndrome. Arch Neurol June 1996;53:509-511). (Respond: Dr Como, Department of Neurology, Box 673, University of Rochester Medical Center, 601 Elmwood Ave, Rochester, NY 14642).

COMMENT. Even when children with specific learning disabilities are excluded, TS is associated with academic problems in one third. Tics themselves were not the reason for the school problems, but rather the associated comorbid ADHD. These findings confirm those of the Johns Hopkins group of investigators, who found that children with TS + ADHD were at higher risk for a specific learning disability than those with TS alone (32% v 0%). (Schuerholz LJ et al. Neurology 1996;46:958-965).

For those readers interested in history, Lajonchere C et al, from Washington University, St Louis, MO, have published an English-language translation of an 1884 article by Gilles de la Tourette that led to his description of the Tourette syndrome published in 1885. (Arch Neurol June 1996;53:567-574).

ENDOCRINE DISORDERS AND COGNITION

ATTENTION DEFICITS AND THYROID FUNCTION

The relation between attention and thyroid function was examined in 85, 7-year-old, children with congenital hypothyroidism (CH) at the Hospital for Sick Children, Toronto, Canada. Children were assigned to subgroups on the basis of concurrent T4 and TSH levels. Almost 10% of children with CH had abnormally high levels of T4 and TSH. Those with this abnormal thyroid profile did not differ from other CH children in intelligence but they did perform more poorly on a measure of cognitive attention, while rating more favorably on parent behavior scales of hyperactivity and distractibility. The level of T4 was the strongest predictor of poorer cognitive attention, while TSH