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 stongest predictor of poorer cognitive attention, while TSH levels correlated directly with hyperactivity. (Rovet J, Alvarez M. Thyroid hormone and attention in school-age children with congenital hypothyroidism. J Child Psychol Psychiat July 1996;37:579-585). Reprints: Dr Joanne Rovet, Psychology Department, The Hospital for Sick Children, 555 University Ave, Toronto, Ontario, Canada M5G 1X8).

COMMENT. Higher levels of T4 and TSH, consistent with a resistance to thyroid hormone, are associated with poorer attention and less hyperactive behavior in children with congenital hypothyroidism. Children with CH should be closely monitored to maintain levels of T4 and TSH within the normal range and to avoid elevations of hormone that could impede attention. Thyroxine and thyrotropin have unique effects on specific aspects of attention and behavior.

The incidence of ADHD is 10 times higher in children with thyroid hormone resistance than in those with normal thyroid function. (Hauser P et al. N Engl J Med 1993;328:997). See Progress in Pediatric Neurology II, 1994, pp 177-8. Studies of thyroid function should be included more frequently in the clinical evaluation of children with ADHD.

THYROXINE-INDUCED ABSENCES IN JME

A patient with juvenile myoclonic epilepsy (JME), manifested as absences at age 10 and myoclonic jerking and generalized tonic clonic seizures at age 15, was treated successfully with primidone at the King Fahad National Guard Hospital, Riyadh, Saudi Arabia. Absence seizures were provoked by thyroxine 50 mcg daily prescribed at age 35 for a simple goitre associated with normal thyroid function tests. Loss of concentration lasting a few seconds was associated with frequent discharges of sharp, spike, multispike, and slow wave complexes on the EEG. The thyroid levels were slightly elevated compared to initial tests. Absences stopped and the EEG returned to normal after thyroxine was discontinued. (Obeid T et al. Thyroxine exacerbates absence seizures in juvenile myoclonic epilepsy. Neurology Aug 1996;47:605-606). (Respond: Dr Tahir Obeid, Division of Neurology, King Fahad National Guard Hospital, PO Box 22490, Riyadh 11426 Saudi Arabia).

COMMENT. When thyroid hormone is administered in patients with epilepsy, the dose should be monitored carefully and an EEG obtained to examine for subclinical absence seizures requiring additional antiepileptic medication.

HYPOTHYROIDISM AND CHROMOSOME 21 DELETION

A 12-year-old mentally retarded girl with a large deletion of the long arm of chromosome 21 and congenital hypothyroidism is reported from the Department of Clinical Genetics and Pediatrics, University Hospital, Uppsala, Sweden. Despite the large chromosome deletion, the degree of mental retardation was mild and severe manifestations of Down syndrome were absent. The proximal part of the long arm of chromosome 21 does not include the genes responsible for severe clinical effects seen in Down syndrome. Congenital hypothyroidism in this patient might indicate the importance of genes on chromosome 21 for thyroid function. (Ahlbom BE, Sidenvall R, Anneren G. Deletion of chromosome 21 in a girl with congenital hypothyroidism and mild mental retardation. Am J Med Genet Aug 1996;64:501-505). (Reprints: Dr G Anneren, Department of Clinical Genetics and Pediatrics, University Hospital, S-751 85 Uppsala, Sweden).