

# PEDIATRIC NEUROLOGY BRIEFS

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J. GORDON MILLICHAP, M.D., F.R.C.P., EDITOR

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### ATTENTION DEFICIT AND LEARNING DISORDERS

#### GENETIC INFLUENCES IN ADHD

The genetic influences in pediatric behavior and attention disorders, attention deficit hyperactivity disorder and autism, are reviewed from the Department of Psychiatry, UCLA School of Medicine, Los Angeles, CA. ADHD is a familial disorder, with frequency 5 to 6-fold greater among first-degree relatives than in the general population. An autosomal gene may be involved. In twin studies using interview assessment of ADHD, concordance of 79% was found in 37 monozygotic twins compared to 32% in 37 same-sex dizygotic twins. Relatives of ADHD probands have increased rates of comorbid conditions, especially oppositional and conduct disorders, anxiety, mood disorders, and learning disabilities. Family studies suggest that comorbid disorders can be independently transmitted or may reflect specific subtypes of ADHD. Shared environmental factors may contribute to the comorbidity. Adoption studies support both a genetic basis for ADHD and environmental factors. The possible genetic influence in the association of ADHD and tic disorders is not resolved. Ongoing investigations of ADHD etiologies involve candidate-gene studies of dopamine-related genes, and prenatal environmental factors affecting the developing brain. (Smalley SL. Behavioral genetics '97. Genetic influences in childhood-onset psychiatric disorders: autism and attention deficit/hyperactivity disorder. *Am J Hum Genet* June 1997;60:1276-1282). (Reprints: Dr Susan L Smalley, Department of Psychiatry, 47-438 NPI, UCLA School of Medicine, 760 Westwood Plaza, Los Angeles, CA 90024).

COMMENT. Both genetic and environmental factors affecting brain development appear to be important in the pathophysiology of ADHD.

#### ADHD AND FRONTAL-MOTOR CORTEX DISCONNECTION

The neurological concept involving the frontal lobe in the mechanism of attention deficit hyperactivity disorder is reemphasized by neurologists and geneticists at the Johns Hopkins University School of Medicine, Baltimore, MD. A frontal-motor cortex disconnection syndrome, or "lazy" frontal lobe, in

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