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BEHAVIOR AND COGNITIVE DISORDERS

BEHAVIORAL EFFECTS OF EARLY FOCAL BRAIN DAMAGE

Thirty-nine children, 4 - 15 years of age, were evaluated using the Achenbach Child Behavior Checklist parent questionnaire to assess behavioral or emotional problems resulting from pre- or perinatal unilateral brain damage, in a study at UCSD School of Medicine, La Jolla, CA. Two-thirds had left hemisphere lesions (LH) and one-third had right hemisphere (RH) lesions. The cause was cerebral infarction or intraparenchymal hemorrhage. Age and IQ were assessed as covariates. Age was not a factor, whereas IQ was a consistent covariate. The mean Full-Scale IQ was 93.4 +/- 22 for the focal lesion group and 116.2 +/- 13 for the 54 controls ($P < .0001$). When differences in IQ between brain damaged and control children were excluded from the analysis, results showed no evidence of clinically significant differences on 9 Behavior Problem scales, even when frontal lobes were involved or seizures had occurred, or when RH and LH lesions were analyzed separately. If the lower IQ of brain damaged children was not ruled out, significant differences in behavior between focal lesion and control groups were observed. Abnormal scores mainly involved Social, Thought and Attention Problem scales, with over-representation of LH lesions in those affected. Qualitatively, more children in the focal lesion group than in controls had T-scores within the clinically significant abnormal range, on both Total Problem score and on one or more Behavior Problem scales. (Tauner DA, Nass R, Ballantyne A. Behavioural profiles of children and adolescents after pre- or perinatal unilateral brain damage. *Brain* May 2001;124:995-1002). (Respond: Doris A Tauner MD, Department of Neurosciences, UCSD, School of Medicine, 9500 Gilman Drive, La Jolla, CA 92093).

COMMENT. The social behavior and attention of children and adolescents who have suffered pre- or perinatal focal brain damage can be impaired, but the observed clinical behavioral abnormalities may be related to a significant reduction in IQ. The patient's age, the specific side and localization of the unilateral damage, frontal lobe involvement, and the occurrence of seizures are not significant specific factors in the development of behavior problems. The

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effects on IQ, and genetic and environmental factors must be considered among possible causes of behavioral problems associated with early unilateral brain damage. Children with diffuse brain damage are at higher risk of behavioral and cognitive dysfunction than those with focal lesions.

STIMULANT AND SSRI MEDICATION TRENDS IN ADHD

Prescription trends for stimulants, selective serotonin reuptake inhibitors (SSRI), and combination therapies for ADHD, comorbid and emotional disorders were evaluated by a retrospective population-based analysis of North Carolina Medicaid prescription claim files for the years 1992-1998. In the 7 year study period, prescription prevalence in school-aged children 6 to 14 years increased from 4.4% to 9.5% for stimulants, and from 0.2% to 1.5% for SSRIs. In preschool children, stimulant prescription prevalence increased from 0.6% in 1992 to 1.3% in 1998, and SSRI prevalence from <0.01% to 0.1%. Preschool children (aged 1-5 years) accounted for only 7.1% of all stimulant prescriptions and 2.2% of SSRI prescription claims for children aged 1-19 years. Combination therapy also increased in prevalence. In 1998, stimulant usage was highest in white male children (18.3%), compared to 3.4% in black female children. The respective prevalences for SSRIs were 2.8% in white males and 0.6% in black females. Increases were found in number of prescriptions filled, number of patients treated, and in percentage of children prescribed these medications annually. Stimulant usage of almost 10% in 1998 was greater than the reported ADHD prevalence. (Rushton JL, Whitmire JT. Pediatric stimulant and selective serotonin reuptake inhibitor prescription trends 1992 to 1998. Arch Pediatr Adolesc Med May 2001;155:560-565). (Respond: Jerry L Rushton MD MPH, Department of Pediatrics, University of Michigan, 300 North Ingalls Bldg, Room 6DO5, Ann Arbor, MI 48109).

COMMENT. Annual prescription prevalence of stimulants, SSRIs, and combination therapies in North Carolina school-aged children increased significantly from 1992 through 1998, reaching almost 10% for stimulants and 1.5% for SSRIs. Stimulant usage in white children is twice that in black children, and males are medicated at least twice as often as females. Whereas the higher prevalence of stimulant prescriptions in males may be explained by sex differences in susceptibility to ADHD, the race differences in treatment prevalence are not readily apparent. A greater aversion to stimulant usage among parents of black compared to white children is one possible factor.

IRON DEFICIENCY AND COGNITIVE UNDERACHIEVEMENT

The relationship between iron deficiency and cognitive test scores among 5398 children, 6 to 16 years old, was studied at the University of Rochester School of Medicine, NY, by analysis of data obtained from the National Health and Nutrition Examination Survey III 1988-1994. Iron deficiency was based on measures of serum ferritin, transferrin saturation, and free erythrocyte protoporphyrin. Standardized test scores were compared for children with normal iron values, iron deficiency without anemia, and iron deficiency with anemia. Among this nationally representative sample of school-aged children and adolescents, 3% were iron-deficient. Among adolescent girls, the prevalence of iron deficiency was 8.7% (only 1.5% with anemia). Average math scores for iron-deficient children with and without anemia were 86.4 and 87.4, respectively, compared to 93.7 for children with normal iron status ($P<.05$). The block design test score was also significantly lower in iron-deficient children with anemia (8.0 vs 9.5; $P<.05$), and other tests showed a trend toward lower scores. The risk of