Abnormal Plasma Catecholamines in Hyperkinetic Children

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Whether direct measurement of plasma catecholamine levels is of value in the diagnosis of hyperactivity in children, and whether Conner's score correlates with the circulating catecholamine levels, were investigated in 12 hyperkinetic children aged 7 to 15 years. All had attention deficit disorder. Eleven healthy controls aged 6 to 14 years were included in the study. The degree of hyperactivity was assessed according to the abbreviated Conner's rating scale whereby scores above 18 were considered abnormal, and the concentration of plasma catecholamines (venous blood puncture in supine position after a 10-minute bedrest) determined.

Ten of the 12 patients had dopamine levels higher than 30 pg/ml; 8 had epinephrine levels higher than 65 pg/ml; 7 had increased levels of both dopamine and epinephrine, but only 4 had norepinephrine concentrations above 230 pg/ml. The difference from the control group was highly significant for dopamine and significant for epinephrine, which strongly suggests a close relationship between the circulatory levels of these neurotransmitters and the pathogenesis of the hyperkinetic syndrome. There was no significant difference, however, in the norepinephrine levels in the 2 groups, a finding reported previously. A repeated investigation of 2 patients revealed similar values 3 months and 4 months later, respectively. In another case, 2 weeks of oral treatment with sulpiride, a dopamine receptor antagonist, produced no significant changes in the circulating levels, but the behavioral response was slightly improved.

Ten of 11 patients with increased catecholamine levels had elevated Conner's scores, but no direct relationship could be

established between the dopamine and/or epinephrine concentrations and the hyperactivity degree according to the abbreviated rating scale. Only 1 patient had a normal Conner's score, although plasma catecholamine levels were increased. Another child with normal catecholamine levels had a Conner's score of 21. Closer investigation of the home situation, however, revealed a constant mother-child conflict but normal behavior of the child in his social environment. None of the control children had scores above 14 on the Conner's scale or increased plasma catecholamine concentrations. The data indicate that increased circulatory levels of dopamine and/or epinephrine may be a good marker for attention deficit disorder with hyperactivity in children.

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Prevalence of Emotional and Behavior Disorders and Patterns of Service Utilization in Children and Adolescents

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The prevalence of emotional and behavioral disorders in children attending schools of different socioeconomic classes, as well as the rate of service utilization by children with and without disorders, were compared. Based on cutoff scores recommended for use with Australian children, the mean prevalence of disorders in schools of different socioeconomic classes ranged from 2.3 to 13.9 per 100 children, with the highest prevalence in the lower socioeconomic classes schools. Although few children with disorders had been seen in a mental health clinic, advice had been sought for 66% of these children from other services,