Serum levels of 25-hydroxyvitamin D in children with attention deficit hyperactivity disorder

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Abstract

OBJECTIVE:
To examine serum 25-hydroxyvitamin D levels in children with attention deficit hyperactivity disorder (ADHD) and to explore the relationship between vitamin D level and ADHD.

METHODS:
Ninety-seven children with ADHD who were diagnosed according to DSM-V were selected as the ADHD group, including 46 cases of ADHD-I, 10 cases of ADHD-HI, and 41 cases of ADHD-C. Ninety-seven healthy children served as the control group. Serum levels of 25-hydroxyvitamin D were measured using electrochemiluminescence immunoassay.

RESULTS:
Mean serum levels of 25-hydroxyvitamin D in the ADHD group (17±7 ng/mL) were significantly lower than in the control group (23±8 ng/mL; P<0.01). The serum levels of 25-hydroxyvitamin D in the three subtypes groups of ADHD (ADHD-I, ADHD-HI, and ADHD-C) were all lower than in the control group (P<0.05). The rates of vitamin D insufficiency, deficiency or normal in the ADHD group were different from the control group (P<0.01). The distributions of vitamin D levels in the three subtypes groups of ADHD were all different from the control group (P<0.05).

CONCLUSIONS:
Serum levels of 25-hydroxyvitamin D in children with ADHD are lower than in healthy children, suggesting vitamin D level might be related to ADHD.