Low Vitamin D Linked to Psychosis in Teens

VITALS

Major Finding: Among adolescents presenting for inpatient or partial hospital treatment of acute mental illness, those with vitamin D deficiency (blood levels below 20 ng/mL) had a fourfold higher prevalence of psychotic symptoms, compared with adolescents with normal vitamin D levels (greater than 30 ng/mL).

Data Source: Review of 77 adolescents seen at a U.S. referral hospital during October 2008–June 2009.

Disclosures: Dr. Gracious said he had no financial disclosures.

BY MITCHEL L. ZOLER

FROM THE ANNUAL MEETING OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY

NEW YORK – Vitamin D deficiency was associated with an increased prevalence of psychotic symptoms in adolescents who were hospitalized for psychiatric reasons, in a single-center study of 77 patients.

"The association of vitamin D deficiency with psychotic features warrants further investigation as a risk factor for both physical and mental health outcomes" in adolescents with serious mental illness, Dr. Barbara L. Gracious and her associates reported in a poster at the meeting.

"The importance of vitamin D for brain development and function in both healthy and psychiatric populations is less well appreciated and understood, compared with its known role in bone health and emerging role in metabolic health," said Dr. Gracious, a psychiatrist at Nationwide Children's Hospital in Columbus, Ohio, and her coinvestigators.

Prior study findings have documented links between vitamin D levels and seasonal affective disorder, depression, and schizophrenia, observations that highlighted the potential for vitamin D levels to modulate vulnerability to mental disorders.

To explore a possible link between vitamin D and psychosis, Dr. Gracious and her associates studied 77 adolescents who presented at the University of Rochester (N.Y.) for inpatient or partial hospital mental health treatment during October 2008–June 2009.

Average age of the patients was 15 years. The patients underwent a psychiatric assessment at the time of their hospitalization by an emergency-department psychiatrist and by the attending child psychiatrist.

Psychosis was defined as hallucinations, paranoia, or delusions. The researchers measured blood levels of 25-hydroxy vitamin D with an immunoassay.

The assays showed that 31 of the referred adolescents (40%) had vitamin D deficiency, defined as a blood level less than 20 ng/mL; 26 of the subjects (34%) had vitamin D insufficiency, defined as a blood level of 20-30 ng/mL; and 20 of the subjects (26%) had a normal vitamin D level, defined as greater than 30 ng/mL.

Overall, the researchers identified psychotic symptoms in 19 of the 77 patients (25%). The psychotic prevalence rate among vitamin D–deficient adolescents was 13 out of 31 (42%). Among 26 adolescents with vitamin D insufficiency, 3 (12%) had psychotic symptoms. In 20 adolescents with a normal vitamin D level, 3 patients (15%) showed psychotic symptoms.

In an unadjusted, odds ratio analysis, vitamin D–deficient adolescents had a significant, fourfold increased risk of psychosis, compared with patients with normal vitamin D levels.

On the basis of these findings, physicians should now consider clinical screening of vitamin D levels in severely mentally ill adolescents who are at high risk for chronic mental and metabolic illness, and supplementing those who are deficient or insufficient, Dr. Gracious and her associates concluded.

Further research should explore the levels of vitamin D intake and sun exposure needed by these patients, and also explore the role that vitamin D plays in the severity of mental illness in patients of other ages, they said. ■