Many Diabetic, Endocrine Patients Lack Vitamin D

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ORLANDO — A deficiency of vitamin D is extremely common among patients with diabetes and other endocrine conditions, according to findings from two recent studies.

In one study, Dr. Kanakasabai Narasimhan and Dr. Ali A. Rizvi of the University of South Carolina, Columbia, looked at 97 patients who were seen at their institution's diabetes unit. The group comprised 39 men and 58 women, with an average age of 55 years. Two-thirds of the patients were white and one-third were black. The researchers presented their findings in a poster at the annual meeting of the American Association of Clinical Endocrinologists.

The mean serum calcium for the study group was 9.46 mg/dL (reference range, 8.6-10.2), mean serum creatinine was 1.06 mg/dL (range, 0.5-1.3), average hemoglobin A_{1c} (HbA_{1c}) was 7.52%, and most of the patients had estimated glomerular filtration rate values greater than 60 mL/min per 1.73 m^2.

The average serum 25-hydroxyvitamin D (25[OH]D) level for the group was 23.3 ng/mL (range, 7-68 ng/mL). "Deficient" or "extremely low" 25(OH)D values less than or equal to 20 ng/mL were found in 49 patients (50.5%), whereas 23 patients (23.7%) had "relatively insufficient" levels in the 21- to 29-ng/mL range. Only 25 patients (25.8%) had 25(OH)D levels of 30 ng/mL or greater, which is considered "sufficient" or normal, Dr. Narasimhan and Dr. Rizvi reported.

The mean 25(OH)D values were slightly lower in women (22.6 ng/mL) than in men (24.4 ng/mL). Younger patients tended to have lower mean 25(OH)D values, with 22.9 ng/mL among those younger than 50 years, 25.8 ng/ml in those aged 50-59 years, and 23.5 ng/mL among those aged 60 years and older. The mean 25(OH)D value was also slightly lower among those with poorer diabetes control (22.54 ng/mL for the patients with HbA_{1c} levels above 7%, compared with 24.3 ng/mL for those who had HbA_{1c} levels of 7% or lower).

Although none of these correlations was statistically significant, the findings may still be clinically important in a selected population such as this one. Alternatively, "the lack of a clear-cut association with any single parameter may be due to the general risk that the presence of diabetes imparts, or may simply reflect the high prevalence of vitamin D deficiency in the general population," Dr. Narasimhan and Dr. Rizvi said.

Regardless, until the data are confirmed, "consideration may be given to recommendations for screening for vitamin D deficiency in the diabetic population," they concluded.

In the other study, which was also presented in a poster at the meeting, Dr. Syeda Zaidi and Dr. Thomas A. Hughes of the University of Tennessee, Memphis, reviewed the charts of 262 patients seen over a 6-year period at a private endocrinology-lipid clinic. The "relatively healthy, affluent" group had a mean age of 59.9 years (range, 21-88 years); 89% were white, 7% were black, and 46% were male. Their mean serum calcium level was 9.6 mg/dL (range, 7.8-11.0 mg/dL) and serum creatinine was 1.0 mg/dL (range, 0.5-2.0 mg/dL). One-fourth had known osteopenia or osteoporosis. Other diagnoses included hyperlipidemia (92%), type 2 diabetes (60%), and thyroid disease (28%).

Severe 25(OH)D deficiency (below 10 ng/mL) was present in 6% of the patients, moderate deficiency (10-20 ng/mL) in 32%, and mild deficiency (20-32 ng/mL) in 35%. Only 11% had levels considered satisfactory (above 40 ng/mL). These patients were typically younger and/or on low-dose vitamin D supplements. However, 23% of the patients with 25(OH)D levels below 32 ng/mL were taking low-dose vitamin D supplements, and 58% were taking multivitamin supplements.

Moreover, only one of the 18 black patients in the group had 25(OH)D levels above 32 ng/mL, noted Dr. Zaidi and Dr. Hughes. They also pointed out that their institution is located in the Sunbelt, where one might expect to see higher 25(OH)D levels than elsewhere in the country.

"Vitamin D deficiency and secondary hyperparathyroidism are associated with metabolic bone disease, myopathy, cardiomyopathy, vasculopathy, and carcinogenesis. Therefore, this high incidence of deficit could have widespread clinical consequences," they commented. ■

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