

# Vitamin D supplements improve markers of bone turnover in CKD

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(HealthDay)—For patients with chronic kidney disease (CKD),

cholecalciferol supplementation can correct vitamin D deficiency and improve markers of bone turnover, according to a study published online Oct. 17 in the *Journal of Bone and Mineral Research*.

Ashok Kumar Yadav, Ph.D., from the Postgraduate Institute of Medical Education and Research in India, and colleagues examined bone turnover among subjects who completed a [randomized trial](#) examining the effect of cholecalciferol supplementation on vascular function in patients without diabetes who had CKD stage G3-4 and vitamin D  $\leq 20$ ng/ml. Participants were randomized to receive two oral doses of 300,000 IU cholecalciferol or matching placebo at baseline and eight weeks (58 and 59 patients, respectively, completed the study).

The researchers found that there was a significant increase in serum 25-hydroxyvitamin D (25[OH]D) and 1,25-dihydroxycholecalciferol (1,25[OH]<sub>2</sub>D) levels in the cholecalciferol group at 16 weeks but not in the placebo group. There was a significant decrease in intact parathyroid hormone (iPTH) in the cholecalciferol group. Significant reductions were seen in serum total and bone-specific alkaline phosphatase (SAP, BAP) and serum C-terminal cross-linked collagen type I telopeptides (CTX-1) in the cholecalciferol group. Significant correlations were seen for  $\Delta 25(\text{OH})\text{D}$  with  $\Delta \text{iPTH}$ ,  $\Delta 1,25(\text{OH})_2\text{D}$ ,  $\Delta \text{SAP}$ ,  $\Delta \text{BAP}$ , and  $\Delta \text{CTX-1}$  in correlation analysis.

"Cholecalciferol supplementation corrects vitamin D deficiency and is effective in lowering serum intact parathyroid hormone and [bone turnover markers](#) in early stages of CKD," the authors write.

**More information:** [Abstract](#)  
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