

Vitamin D Reduces COPD Exacerbations

Beth Skwarecki | December 04, 2014

Vitamin D supplementation prevented moderate to severe exacerbations of chronic obstructive pulmonary disease (COPD) in patients with vitamin D deficiency in a multicenter, double-blind, randomized controlled trial. The results were published online December 2 in the *Lancet*.

"Contrary to expectation, we did not find evidence that vitamin D₃ prevented upper respiratory infections, either in the study population as a whole or in the subgroup of participants with lower baseline vitamin D status," write Adrian Martineau, PhD, from the Barts and London School of Medicine and Dentistry at Queen Mary University of London, United Kingdom. The supplements also did not affect the primary endpoint, which was time to first upper respiratory infection or moderate or severe exacerbation.

The vitamin was given in bolus doses of 3 mg (120,000 IU) six times over the course of a year. The study included 122 patients in the treatment group, all of whom received at least one dose of vitamin D, and 94 completed the study protocol. The control group included 118 patients, 85 of whom completed the study protocol. Patient characteristics were similar between groups, including the fact that 87%, in total, had a vitamin D deficiency, defined as serum 25-hydroxyvitamin D levels less than 75 nmol/L, at baseline.

Treatment did not affect the median time to first moderate or severe COPD exacerbation (adjusted hazard ratio [AHR] 0.86; 95% confidence interval [CI], 0.60 - 1.24; $P = .42$) or time to first upper respiratory infection (AHR, 0.95; 95% CI, 0.69 - 1.31; $P = .75$). The researchers defined exacerbations as moderate if they were treated with systemic steroids or antibiotics but did not result in a visit to the emergency room; those that did were classified as severe.

The investigators considered whether baseline vitamin D deficiency affected the time to exacerbation or infection and found that patients with baseline levels of less than 50 nmol/L had a reduced risk for moderate or severe exacerbation (AHR, 0.57; 95% CI, 0.35 - 0.92; $P = .021$) with vitamin D administration.

The authors had conducted a previous trial on patients with less severe COPD, in which they found that supplementation was helpful for patients with deficiency at baseline but had the opposite effect in those with higher levels. They write, "Taken together, findings from these two trials suggest that vitamin D supplementation should be offered to COPD patients with lower vitamin D status to reduce the risk of moderate or severe exacerbation."

The authors have disclosed no relevant financial relationships.

Lancet. Published online December 2, 2014. Abstract

Medscape Medical News © 2014 WebMD, LLC

Send comments and news tips to news@medscape.net.

Cite this article: Vitamin D Reduces COPD Exacerbations. *Medscape*. Dec 04, 2014.