

Editorial

Vitamin D and its Effects on Crohn's Disease - A Study

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Editor

Vitamin D deficiency has been linked to a host of illnesses and conditions from heart disease and diabetes to certain types of cancer.

Vitamin D supplements may help those with Crohn's disease overcome the fatigue and decreased muscle strength associated with the inflammatory bowel disease, according to new research.

Extra vitamin D "was associated with significantly less physical, emotional and general fatigue, greater quality of life and the ability to perform activities of daily living," said Tara Raftery, a research dietitian and doctoral candidate at Trinity College Dublin. She is scheduled to present the findings Saturday at the Digestive Disease Week meeting in Orlando, Fla. Raftery and her colleagues evaluated 27 patients who had Crohn's in remission. (Even in remission, fatigue and quality of life can be problematic.) The patients were assigned to take either 2,000 IUs (international units) of vitamin D a day or a dummy vitamin for three months.

Before and after the study, the researchers measured hand-grip strength, fatigue, quality of life and blood levels of vitamin D. "Hand-grip strength is a proxy measure of muscle function," Raftery said. "Muscle function has been known to be reduced in Crohn's disease." Besides boosting bone growth and remodeling, vitamin D is thought to improve neuromuscular and immune function, reduce inflammation and help with other bodily tasks. Children and adults aged 1 year to 70 are advised to get 600 IUs a day; older adults, 800, according to the U.S. National Institutes of Health (NIH). Vitamin D is found in fatty fish such as salmon, in smaller amounts in cheese, egg yolks and beef liver, and in fortified foods such as milk. Sometimes called the sunshine vitamin, vitamin D is also produced when the sun's rays strike the skin.

Crohn's can affect any part of the gastrointestinal tract, but most commonly affects the end of the small bowel and the beginning of the colon. Symptoms vary, but may include persistent diarrhea, rectal bleeding, abdominal cramps, and pain and constipation. About 700,000 Americans are affected, according to the Crohn's & Colitis Foundation of America. Its cause is not well understood, but Crohn's is thought to involve heredity and environmental factors. Experts believe that

in those with Crohn's, the immune system attacks harmless intestinal bacteria, triggering chronic inflammation and, eventually, the disease symptoms.

The daily vitamin D supplement benefitted participants in many ways, Raftery found. "When levels of vitamin D peaked at 30 ng/mL (75 nmol/L) or more [a level considered healthy], muscle function in both the dominant and non-dominant hands were significantly higher than in those who had levels less than 30 ng/mL," she said. Quality of life improved more for the D-supplement group, too. Using a standard measure to evaluate quality of life, the researchers found those who achieved a healthy blood level of the vitamin scored 24 points higher than those not on supplements. A 20-point difference is considered meaningful from a "real-world" perspective, Raftery said.

Raftery now is testing vitamin D in a larger, year-long study of 130 Crohn's patients. The study results echo those of other researchers, including John White, professor of physiology at McGill University, Montreal. He said the research findings "show collectively that vitamin D acts in the intestine to stimulate the innate immune system to defend against pathogenic bacteria, and to enhance the barrier function of the intestinal epithelium [the lining of the intestine]."

Other researchers, including Raftery, have also shown vitamin D can help improve muscle strength, he said. Vitamin D is getting a lot of attention in inflammatory bowel disease treatments, said Dr. Neera Gupta, co-chair of the Crohn's & Colitis Foundation of America's pediatric affairs committee. More study is needed to determine the benefits of maintaining vitamin D levels higher than currently recommended, she said. Gupta cautioned those with Crohn's not to self-dose with vitamin D. "Discuss your vitamin D status with your primary gastroenterologist to determine whether or not vitamin D supplementation is indicated in your particular situation," she said. White said supplements are inexpensive and safer than too much sun exposure. A daily intake of 2,000 IUs is considered safe, he said. The safe upper limit for adults is 4,000 IUs, according to the NIH. The data and conclusions of research presented at medical meetings should be viewed as preliminary until published in a peer-reviewed journal.