

Vitamin D: Not just for bones, says San Francisco VA physician

June 15 2010

It is well-known that vitamin D is essential for strong and healthy bones. However, in an article in the online "In Press" section of "Trends in Endocrinology and Metabolism," a San Francisco VA Medical Center physician reviews recent scientific literature suggesting that the vitamin may also play a role in preventing cancer, fighting infection, and controlling or preventing auto-immune disease.

The researcher, Daniel Bikle, MD, PhD, who also is a professor of medicine and dermatology at the University of California, San Francisco, points to a number of recent epidemiologic studies in which higher blood levels of vitamin D were associated with lower levels of cancer.

The data on fighting infection are less clear-cut, he says, "but there is clear evidence from epidemiologic studies that tuberculosis infection in humans is associated with very low levels of vitamin D."

Bikle notes one laboratory study in which a human [blood sample](#) that was high in vitamin D contained [white blood cells](#) that secreted an antimicrobial peptide that killed tuberculosis, while white blood cells in a sample that was low in vitamin D did not. When vitamin D was added to the second blood sample, the white blood cells in the sample began secreting the [antimicrobial peptide](#).

Bikle says there also is epidemiologic evidence suggesting that vitamin D has a role in the management of auto-immune diseases, including studies

indicating that the incidence of type I diabetes “is much lower in children born to mothers who are vitamin D replete, as opposed to children whose mothers are vitamin D deficient.” Additionally, he says, vitamin D has been shown to be effective in treating animal models of type I diabetes, lupus, and multiple sclerosis.

Bikle cautions that the epidemiologic studies he reviews, while suggestive, simply indicate that vitamin D is associated with these newly discovered health benefits, not that it causes them. “It’s likely that people who take vitamin D regularly are also people who exercise, watch their diets, and do other things to promote health, so we cannot draw any conclusions about causation based on these studies,” he says. He notes the need for more randomized control trials specifically designed to examine the role of vitamin D in preventing and managing disease.

How much vitamin D to take remains unclear, according to Bikle, “but based on the evidence of the amount in the blood that seems to provide a protective effect, I would say that 2,000 units a day would be adequate for most healthy adults.” Much more than that, he cautions, “increases the risk that the body will absorb too much calcium and excrete it into the urine, which in turn will create kidney stones.”

Vitamin D is essential for promoting calcium absorption in the gut and for maintaining adequate calcium and phosphate concentrations in the blood.

Bikle notes that for most people, there is a “simple, natural alternative” to taking a vitamin pill every day: getting some sun. “[Vitamin D](#) is generated in the skin after exposure to sunlight,” he explains. “About 15 to 20 minutes a day in a short-sleeve shirt should do it for people with light skin. Darker-skinned individuals would require more time. If you take care not to burn, it’s a lot more fun than taking a huge pill - and it’s free.”

Provided by University of California, San Francisco

Citation: Vitamin D: Not just for bones, says San Francisco VA physician (2010, June 15)
retrieved 25 April 2024 from

<https://medicalxpress.com/news/2010-06-vitamin-d-bones-san-francisco.html>

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