

No association found between vitamin D concentration in blood and risk of prostate cancer

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High vitamin D concentration in the blood is not associated with a reduced risk of prostate cancer, researchers report in an article published online May 27 in the *Journal of the National Cancer Institute*.

Laboratory studies suggested that high doses of vitamin D may reduce the risk of prostate cancer, but epidemiological studies that have examined the relationship have reported inconsistent results.

In a nested case-control study, Jiyoung Ahn, Ph.D., and Richard Hayes D.D.S., Ph.D., of the National Cancer Institute in Bethesda, Md., and colleagues compared the vitamin D concentrations in the blood of 749 men diagnosed with prostate cancer with that of 781 men without prostate cancer. All of the men were participants in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial and were included in the regular screening arm. Vitamin D concentration was measured in a blood sample taken when the men enrolled in the study, and all prostate cancer cases included in the current analysis were diagnosed 1 to 8 years after the blood samples were taken.

The researchers found that there was no statistically significant difference in the risk of prostate cancer with increasing vitamin D concentration. The researchers did see some evidence of an increased risk of aggressive disease associated with higher concentration of vitamin D, but the trend was not statistically significant and the

association did not show a linear dose-dependence.

“Results from this large prospective study of men who underwent standardized prostate cancer screening in the context of a screening trial do not support the hypothesis that higher serum vitamin D status is associated with decreased risk of prostate cancer,” the authors write. “The study showed no association of vitamin D with nonaggressive disease; however, it raises the possibility that higher vitamin D level may be associated with increased risks for aggressive disease, although a clear monotonic dose–response relationship was lacking.”

In an accompanying editorial, Lorelei Mucci, Sc.D., and Donna Spiegelman, Sc.D., of the Harvard School of Public Health in Boston reviewed previous studies that have looked for a possible association between vitamin D and prostate cancer risk. The evidence to date does not strongly support an association between vitamin D status in adulthood and prostate cancer risk. They note that because prostate cancer is often diagnosed at an early stage and as low-grade disease, Ahn and colleagues’ effort to study the vitamin’s association with aggressive prostate cancer, which is the most important clinically, is valuable. The editorialists comment, however, that other groups have not seen a similar association, and Ahn’s data should be viewed in that context.

Source: Journal of the National Cancer Institute

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