Cancer Epidemiology, Biomarkers & Prevention

Letter to the Editor

Circulating Vitamin D and Risk of Prostate Cancer—Letter

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In a large case–control study nested within a cohort in Finland, Albanes and colleagues reported an association between higher serum levels of 25-hydroxyvitamin D (25-OHD) and an increased risk of prostate cancer (1). As the authors acknowledge, this finding is contrary to an extensive literature that shows that vitamin D metabolites exert prodifferentiating, antiproliferative, and antimetastatic effects on prostate cancer cells. The purpose of this letter is to note that the association between 25-OHD and prostate cancer observed by Albanes and colleagues is dependent upon calcium intake.

Calcium intake is an established risk factor for prostate cancer (2). The authors present the association between quintiles of serum 25-OHD and risk of prostate cancer stratified by "high" and "low" calcium intake in Table 4 (p. 1855). For the stratum of "high" calcium intake (calcium $\geq$1,338 mg/d), the ORs for quintiles 2 to 5 are 1.40, 1.65, 1.60, and 1.82 and are statistically significant for quintiles 3 to 5. For the stratum of "low" calcium intake (calcium < 1,338 mg/d), the corresponding ORs are 1.09, 0.99, 0.93, and 1.15. None of the ORs for the stratum of "low" calcium intake appears elevated and none are statistically significant.

Because the association between serum 25-OHD and risk of prostate cancer was observed only among men with a calcium intake $\geq$1,338 mg/d [an intake that substantially exceeds the recommended calcium intake for 51- to 70-year-old men in Finland (800 mg/d) and the United States (1,000 mg/d); refs. 3, 4], the authors' conclusion that "men with higher vitamin D blood levels are at increased risk of developing prostate cancer" is misleading. Rather, the data suggest either that there is an interaction between calcium intake and 25-OHD levels and/or that the association is due to residual confounding by calcium intake (5).

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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