

Abstract

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Vitamin D insufficiency in a multiethnic cohort of breast cancer survivors.

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BACKGROUND: Little is known about vitamin D status in breast cancer survivors. This issue is important because vitamin D influences pathways related to carcinogenesis.

OBJECTIVE: The objective of this report was to describe and understand vitamin D status in a breast cancer survivor cohort.

DESIGN: Data are from the Health, Eating, Activity, and Lifestyle study. With the use of a cross-sectional design, we examined serum concentrations of 25-hydroxyvitamin D [25(OH)D] in 790 breast cancer survivors from western Washington state, New Mexico, and Los Angeles County. Cancer treatment data were obtained from Surveillance, Epidemiology, and End Results registries and medical records. Fasting blood, anthropometry, and lifestyle habits were collected after diagnosis and treatment. We examined distributions of 25(OH)D by race-ethnicity, season, geography, and clinical characteristics. Multivariate regression tested associations between 25(OH)D and stage of disease.

RESULTS: Five hundred ninety-seven (75.6%) of the women had low serum 25(OH)D, suggesting vitamin D insufficiency or frank deficiency. The overall mean (\pm SD) was 24.8 \pm 10.4 ng/mL, but it was lower for African Americans (18.1 \pm 8.7 ng/mL) and Hispanics (22.1 \pm 9.2 ng/mL). Women with localized ($n = 424$) or regional ($n = 182$) breast cancer had lower serum 25(OH)D than did women with in situ disease ($n = 184$) ($P = 0.05$ and $P = 0.03$, respectively). Multivariate regression models controlled for age, body mass index (in kg/m^2), race-ethnicity, geography, season, physical activity, diet, and cancer treatments showed that stage of disease independently predicted serum 25(OH)D ($P = 0.02$).

CONCLUSIONS: In these breast cancer survivors, the prevalence of vitamin D insufficiency was high. Clinicians might consider monitoring vitamin D status in breast cancer patients, together with appropriate treatments, if necessary.

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