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Study finds high incidence of vitamin D insufficiency in women diagnosed with breast cancer

In article published in the July, 2008 issue of the *American Journal of Clinical Nutrition*, scientists at the Fred Hutchinson Cancer Research Center in Seattle, the National Cancer Institute, and other research centers report a high incidence of vitamin D insufficiency and deficiency among female breast cancer survivors.

The current study utilized data from 790 participants in the multiethnic Health, Eating, Activity, and Lifestyle (HEAL) study of breast cancer patients, which sought to determine the effect of diet, hormones, and other factors on breast cancer prognosis and survival. Blood samples collected within three years following the participants' breast cancer diagnosis were analyzed for serum 25- hydroxyvitamin D levels, the primary biomarker used to evaluate vitamin D status.

Dietary questionnaires were used to obtain information concerning vitamin D intake levels from food and supplements.

Few women were found to have levels of vitamin D of at least 32 nanograms per milliliter that are sufficient for optimal health. Insufficient or deficient levels of vitamin D were detected in 75.6 percent of the participants, with African-American women experiencing the lowest levels. Women who had been diagnosed with localized or regional breast

cancer had lower vitamin D levels than those with in situ (noninvasive) disease. Only a quarter of the women reported using supplements.

In their discussion, the authors note that some evidence suggests an association between vitamin D status and survival in breast cancer and other cancer patients. Vitamin D regulates cell growth, induces programmed cell death, reduces proliferation and enhances immune response throughout the body. The vitamin is especially important for chemotherapy patients due to the drugs' side effect of lowered immune function. The current study may be of particular significance to African American patients due to their lower levels of the vitamin and poor breast cancer survival rates.

Concerning the lower levels of vitamin D found in participants with local or regional stage breast cancer in comparison with women with in situ disease, the authors remark that vitamin D deficiency before diagnosis could result in the advancement of early, noninvasive lesions due to a reduction in the antiproliferative and antimetastatic properties of vitamin D noted in other studies.

"Vitamin D therapy could be a useful, cost-effective treatment for breast cancer patients," the authors write. "Clinicians may want to consider testing their breast cancer patients for serum 25-hydroxyvitamin D and to offer appropriate recommendations, if necessary, to improve vitamin D status."