Higher Vitamin D Levels Associated With Better Breast Cancer Outcomes

A lower body mass index, white race and using vitamin D supplements were linked to higher vitamin D levels.

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Having a higher vitamin D level at the time of a breast cancer diagnosis was linked to better outcomes, according to findings presented at the virtual 2021 American Society of Clinical Oncology (ASCO) Annual Meeting.

In the prospective Pathways Study, conducted at Kaiser Permanente Northern California since 2006 and involving 3,995 women, Song Yao, PhD, of the Roswell Park Comprehensive Cancer Center in Buffalo, and colleagues sought to establish whether there was a link between serum levels of vitamin D and breast cancer outcomes.

“Having clinically sufficient vitamin D levels at the time of breast cancer diagnosis is associated with better outcomes,” said Yao in a press release. “While these results are consistent with our earlier analysis based on a subset of the study population, it’s significant that we saw the same trends in this much larger, longer-term data set—suggesting an ongoing benefit for patients who maintain sufficient levels through and beyond breast cancer treatment.”

The team assessed the levels of 25-hydroxyvitamin D in blood samples taken when the participants were diagnosed with breast cancer. Vitamin D levels were categorized as deficient, insufficient or sufficient. The researchers then connected these levels to breast cancer outcomes, including overall survival, breast cancer–specific survival, recurrence-free survival and invasive disease-free survival. The median follow-up time was 9.6 years.

Participants who fell into the “sufficient” category for vitamin D levels when diagnosed had a better prognosis. The team found that a lower body mass index, use of vitamin D supplements and white race were strongly associated with higher levels of 25-hydroxyvitamin D, with genetic variations playing only a small role. These links were also seen when taking into consideration participants’ tumor estrogen receptor status, with stronger associations evident in cases where participants had a lower body mass index or were diagnosed later in their disease. Black women were found to have the lowest levels of vitamin D, possibly contributing to their comparatively worse breast cancer outcomes.

“In the context of supportive data from recent randomized trials and meta-analyses, our findings support the use of daily vitamin D supplementation to maintain sufficient vitamin D levels after breast cancer diagnosis, particularly among Black women and patients diagnosed with later-stage disease,” Christine Ambrosone, PhD, of the Roswell Park Comprehensive Cancer Center, said in the press release.

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