

Information gathered from four large breast cancer survival studies in the United States and China show that vitamin and antioxidant use after diagnosis is safe and may even improve survival.

## Vitamin and antioxidant use after breast cancer diagnosis may improve survival

Vitamin supplement use after diagnosis of breast cancer is common, but less is known about potential long-term effects on recurrence and survival. A new article published in *Breast Cancer Research and Treatment* reports that vitamin and antioxidant supplementation after treatment for breast cancer is safe and may even improve survival.

Researchers from Harvard University analyzed data from over 12,000 breast cancer survivors in the After Breast Cancer Pooling Project, a collection of 4 cohort studies of breast cancer survivors from the United States and China. The analysis examined the post diagnosis use of supplements (vitamins A, B, C, D, E and multivitamins) for 1-5 years. Sixty percent of the women reported using supplements during the 5 years after diagnosis. Breast cancer accounted for 65% of the total of 1,298 deaths that occurred during the follow-up period.

After adjusting for interactions with smoking, treatment and hormonal status, the use of any antioxidant supplement, categorized in this study as vitamins C, E or a multivitamin, was associated with a 16% lower risk of dying from any cause over follow-up, and for those who used all three supplements, the risk was 21% lower. Vitamin C supplementation was associated with a 19% lower risk of death and a 10% reduction in the risk of breast cancer occurrence, and vitamin E use reduced all-cause mortality by 15% and the recurrence of breast cancer by 12%. Vitamin D supplementation was associated with a 36% reduction in recurrence among women with estrogen receptor-positive tumors (ER+), but not in women with estrogen receptor-negative (ER-) tumors.

In this large group of breast cancer survivors, use of vitamin or antioxidant supplements was not associated with an increased risk of recurrence or death, but instead was associated with improved survival. Consideration of ER status and the use of antioxidants may be clinically relevant when evaluating associations with cancer and mortality risk.

Poole EM et al. Postdiagnosis supplement use and breast cancer prognosis in the After Breast Cancer Pooling Project. *Breast Cancer Res Treat.* 2013 May 10.