Soy isoflavones not a risk for breast cancer survivors

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Soy food consumption did not increase the risk of cancer recurrence or death among survivors of breast cancer, according to the results of a study presented at the AACR 102nd Annual Meeting 2011, held April 2-6.

Researchers investigated the association between soy food intake and breast cancer outcomes among survivors, using data from a multi-institution collaborative study, the After Breast Cancer Pooling Project.

"There has been widespread concern about the safety of soy food for women with breast cancer," said lead researcher Xiao Ou Shu, M.D., Ph.D., professor of medicine at Vanderbilt Epidemiology Center, Vanderbilt University Medical Center. "Soy foods contain large amounts of isoflavones that are known to bind to estrogen receptors and have both estrogen-like and anti-estrogenic effects. There are concerns that isoflavones may increase the risk of cancer recurrence among breast cancer patients because they have low estrogen levels due to cancer treatment. We're particularly concerned that isoflavones may compromise the effect of tamoxifen on breast cancer treatment because both tamoxifen and isoflavones bind to estrogen receptors."

This research was funded by the American Recovery and Reinvestment Act of 2009, which combines the resources of four National Cancer Institute-funded studies: the Shanghai Breast Cancer Survival Study; the Life After Cancer Epidemiology Study; the Women's Healthy Eating and Living Study; and the Nurses' Health Study. Together these cohorts included 18,312 women between the ages of 20 and 83 years who had invasive primary breast cancer.

Soy isoflavones intake was assessed for 16,048 of these women on average of 13 months after breast cancer diagnosis using food frequency questionnaires for a group of soy isoflavones in three cohorts and on tofu and soy milk consumption in one cohort. Breast cancer outcomes were assessed, on average, nine years after cancer diagnosis.

Outcomes among the survivors who consumed the highest amounts of soy isoflavones (more than 23 mg per day) were compared with the outcomes of those whose intake was lowest (0.48 mg per day or lower). The average daily soy isoflavone intake among U.S. women was 3.2 mg; however, in the Shanghai group the amount was significantly higher at 45.9 mg.

Women in the highest intake category of more than 23 mg per day had a 9 percent reduced risk of mortality and a 15 percent reduced risk for recurrence, compared to those who had the lowest intake level. However, these results did not reach what the scientists call statistical significance, suggesting the finding could be chance.

"Our results indicate it may be beneficial for women to include soy food as part of a healthy diet, even if they have had breast cancer," said Shu. "This can't be directly generalized to soy supplements, however, as supplements may differ from soy foods in both the type and amount of isoflavones."

Further analysis of the data from this study, elucidating the interaction of soy isoflavones and tamoxifen, will be presented at the AACR Annual Meeting.

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