

Flaxseed, Vitamin D May Help Prevent Breast Cancer

Sometimes, a natural substance turns out to be the best way to prevent disease – including cancer. For example, early studies reveal that flaxseed and vitamin D may help reduce the risk of breast cancer.

Judy Garber, MD, MPH, a breast oncologist and director of the Center for Cancer Genetics and Prevention at the Susan F. Smith Center for Women's Cancers at Dana-Farber, is the local principal investigator for two studies exploring the effectiveness of these substances. "The science is very sound," she says.

In the flaxseed study, conducted in collaboration with the University of Kansas, premenopausal women are given either 50 mg of the flaxseed extract secoisolariciresinol, or a placebo, every day for one year. Flaxseed contains a high level of lignans, chemical compounds that share some structural similarities with estrogens, which are associated with a higher risk of breast cancer. But lignans might be able to bind to estrogen receptors – blocking stronger forms of estrogens from doing so, and thus preventing the growth of cancer cells.

Animal and epidemiological studies have suggested premenopausal women with higher lignan intake might have a reduced risk of breast cancer. In an attempt to strengthen evidence of a link between flaxseed and breast cancer risk, researchers will analyze biomarkers from blood and tissue samples of participants to look for changes and patterns.

The vitamin D study, conducted in collaboration with the University of Vermont, is similar. Healthy premenopausal women were given either a 2,000 IU-vitamin D supplement, or placebo, every day for one year. Vitamin D has anti-cancer properties; it regulates the process of abnormal cells committing "suicide" (apoptosis), and influences the ability of cells to acquire specialized functions (differentiation).



Researchers will then evaluate biomarkers of study participants to determine if there is a correlation between higher levels of vitamin D and reduced breast cancer risk, as has been suggested by numerous epidemiological studies.

"This is what people are asking for – natural compounds and dietary components that, if taken in higher-than-ordinary doses, might lower breast cancer risk," says Dr. Garber. "Through these studies and others, we are trying to develop safe and simple strategies that can have a positive impact for many people."

Learn More

The vitamin D study is closed, but the flaxseed study is still enrolling participants. Contact Carleen Gentry, MA, CCRP, at 617-632-5399 or carleen_gentry@dfci.harvard.edu.