

Plant Estrogens and Breast Cancer

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Plant estrogen-like substances (phytoestrogens) are present in many grains, cereals and especially soy products. Women who have a high intake of soy products are known to have less menopausal hot flushes because of the estrogenic activity of these substances. Most of these phytoestrogens are very weak and it takes a moderate amount of dietary intake to notice an estrogen effect. A major question that occurs is whether the phytoestrogens have an estrogenic effect on breast cells.

In a recent study, Ingram D, Sanders K, Kolybaba M, Lopez D. *Case-control study of phytoestrogens and breast cancer. Lancet 1997;350(9083):990-994*, looked at 144 women who had recently diagnosed breast cancer and compared them with an equal number of women matched for age and area of residence. They measured the amount of phytoestrogens excreted in the urine in all women. They found that the non-cancer women had higher levels of phytoestrogens in their urine than the women with cancer. This implies that diets high in plant estrogens may be protective against the development of breast cancer. In the 25% of non-cancer women who had the highest levels of excretion of plant estrogens, their risk for breast cancer was only about 25%.

It is always hazardous to postulate cause and effect from epidemiologic studies. While Ingram et al. **concluded that phytoestrogens may protect against breast cancer**, it may be merely that diets rich in plant estrogens replace other dietary substances that promote cancer. In fact, Welshons in Welshons WV, Murphy CS, Koch R, Calaf G, Jordan VC. *Stimulation of breast cancer cells in vitro by the environmental estrogen enterolactone and the phytoestrogen equol. Breast Cancer Res Treat 1987;10(2):169-175*, demonstrated that the same two phytoestrogens, equol and enterolactone, that "seemed to be protective" in the Ingram study, stimulated the growth of estrogen-dependent breast cancer cell lines. They suggested that these environmental agents can promote the growth of breast cancer, particularly hormone-dependent metastases that may be located near the gut or in the mesenteries or liver, where the concentration of these intestinally produced compounds would be highest.

How do we resolve these conflicts? The truth is that we don't, at least with respect to cause and effect. It is likely that something dietary IS associated with breast cancer. By increasing vegetable products at the expense of animal fats, women may be able to decrease their susceptibility to cancer. But would this apply to taking soy or alfalfa concentrate supplements from the local health