Can Phytoestrogens Reduce Breast Cancer Risk and Treat Menopause?

Atlanta 2007/09/12 -A new review says phytoestrogens may have both a protective role and a stimulatory role in breast cancer cell growth depending on several factors, including at what age they're consumed and whether they're consumed as food or as supplement. The report appears in the September/October 2007 issue of CA: A Cancer Journal for Clinicians, a peer-reviewed journal of the American Cancer Society.

Interest in phytoestrogens gained momentum from epidemiologic studies suggesting that women from countries with high consumption of soy, which has significant levels of phytoestrogens, have less risk of breast cancer. In addition to their potential role in reducing the risk of breast cancer, phytoestrogens have also begun to be used by many women with a history of breast cancer in the belief that they are a safer way to treat menopausal symptoms, which are more common among breast cancer survivors.

In their review, Christine Duffy, M.D. and Kimberly Perez, M.D. of Brown University and Ann Partridge of Harvard University say interpreting research studies of phytoestrogen intake and breast cancer risk has been hampered by differences in dietary measurement, lack of standardization of supplemental sources, differences in metabolism among individuals, and the retrospective nature of most of the research in this area. The authors say data regarding the role of phytoestrogens in breast cancer prevention is conflicting, but that it suggests early exposure in childhood or early adolescence may have a protective effect. They add that there is very little human data on the role of phytoestrogens in preventing breast cancer recurrence, but the few studies conducted do not support a protective role. In fact, some animal data suggests the phytoestrogen genistein could interfere with the inhibitive effects of tamoxifen on breast cancer cell growth.

Animal studies and lab studies of breast cancer cells suggest the timing of exposure to phytoestrogens may be a key component in determining its effects, with animal data consistent with a protective effect of soy when consumed before puberty. This is consistent with epidemiologic studies in Asian countries where women have exposure early in life. Still, the authors say caution is warranted in interpreting those results, most of which were conducted in Asian countries. Genetic differences in phytoestrogen metabolism and estrogen exposure make extrapolation to non-Asian populations questionable.

Meanwhile, the authors say there is no compelling evidence that phytoestrogens help menopausal symptoms, and given potential concerns for stimulating breast cancer cell growth, it should not be recommended for use to treat these symptoms in post-menopausal women. In particular, they say, women taking tamoxifen should be cautioned against the use of soy supplements and purified products.

The authors say while data are insufficient to conclude that supplements are less beneficial (or more harmful) than dietary intake of phytoestrogens, research does suggest that processed products may have detrimental effects compared with soy flour and tofu, the sources most commonly consumed in Asian countries with low incidence of breast cancer. They say the consumption of high-dose isoflavone supplements by women at high risk or by breast cancer survivors cannot be recommended.

The authors say several federally funded trials are currently being conducted to try to address some of the unanswered questions regarding phytoestrogens and breast cancer. Until then, consuming naturally occurring soy products such as tofu or soy flour as part of a balanced diet low in saturated fats and high in fruits and vegetables is likely safe and perhaps even beneficial. Women should also be aware of emerging evidence that suggests avoiding weight gain after a breast cancer diagnosis may help prevent recurrence.

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