



Healthy for Life Newsletter
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Soy Food Intake and Breast Cancer Survival

There has been a great deal of confusion and conflicting findings in breast cancer patients and their use of soy protein. Soy foods are rich in phytoestrogens, mainly in the form of isoflavones, which are natural estrogen receptor modulators. These phytoestrogens in soy possess the ability to bind to estrogen receptor site and exert both estrogen-like effects and anti-estrogen effects. Soy constituent have also been shown to have other anticancer effects, like slowing cell division and decreasing blood vessel development, which both slow cancer growth. Soy protein may also boost the immune system and have some antioxidant effect.

Soy consumption has been shown to decrease the risk of developing breast cancer in many epidemiological studies. However, there was major concern when studies in vitro (not in humans but essentially in the lab) that showed enhanced proliferation of breast cancer cells, especially if they are estrogen-sensitive cancer cells when exposed to soy isoflavones. This has led some researchers to raise a concern about the intake of any soy protein and especially high intake of isoflavones in breast

cancer patients who have estrogen sensitive cancers.

Another issue is the concern that some researchers believe that soy isoflavones may interact with tamoxifen, although both good and bad effects have been reported. Tamoxifen is a common medication patients with estrogen sensitive breast cancers receive to decrease their body's estrogen levels. Tamoxifen has been shown to prolong survival and decrease recurrence in breast cancer patients.

A large study done in Shanghai, China was just reported in the December 9, 2009 issue of the Journal of the American Medical Association (JAMA) that looked at soy food intake and breast cancer survival. This issue of the Healthy for Life Newsletter will focus on the findings of this study. The main reason I want to detail this study is because I feel that it is going to clear up the concern many women have about the overall use of soy protein, soy protein drinks, and soy containing nutritional bars when it comes to breast cancer development and progression.

Methods

These researchers from Shanghai, China followed over 5,000 breast cancer patients from 2002 to 2006. They interviewed these patients via health care professionals and obtained detailed food intake histories including the intake of total soy protein and soy isoflavones. They also assessed the patient's clinical course as to recurrence of

their tumor and/or death. These evaluations were carried out at baseline, 6 months, 12 months, 18 months, and 36 months.

Results

Soy food consumption after cancer diagnosis was inversely related to mortality or recurrence. In other words, the higher the intake of soy foods and soy isoflavones the lower the risk of developing recurrence or dying from their disease. The associations of soy protein/isoflavone intake with mortality and recurrence seemed to follow a linear dose-response until the soy protein intake reached 11 grams/ day. After this point, it seemed that the benefit appeared to level off. Mortality in the group with the lowest intake of soy food/isoflavone at 4 years was 10.3%, as compared to the highest soy protein intake group, which was 7.4%. Recurrence rates were 11.2% in the lowest intake group and 8.0% in the highest intake group.

Those breast cancer patients who also took the drug tamoxifen also have a reduced risk of recurrence and death. The researchers also looked at the combined effect of taking tamoxifen with soy foods. The interesting thing they reported was the fact that the women who had the highest intake of soy/isoflavone had the lowest risk of recurrence and death no matter whether they were taking Tamoxifen or not. The health benefit of tamoxifen was only seen among the women with low to moderate intake of soy/isoflavone. Among the women whose soy food intake was in the highest group, tamoxifen use did not appear to confer any additional benefit.

Comment

In my clinical practice, I have always wanted to err on the side of caution. When there are conflicting studies in the medical

literature, my advice was to always recommend avoiding the situation. In this case, I have always told my patients who had estrogen positive breast cancers to avoid the intake of soy containing foods and phytoestrogens. However, this study has convinced me that it is now safe to recommend that my patients with breast cancer actually be encouraged to consume soy foods that contain isoflavones. I would actually recommend that women with breast cancer consume at least 11 grams of soy protein daily. I would certainly recommend the intake of non-GMO (genetically altered) soy protein. Now the study did not differentiate between women who had estrogen sensitive breast cancers or non-estrogen sensitive cancers. Women with either kind of breast cancer had prolonged survival and decreased recurrence when they consumed high levels of soy protein. Therefore, I feel that all women who have been diagnosed with breast cancer should consume 11 grams or more of soy protein daily.

Soy food consumption in China is much higher than in the United States, although it has been steadily increasing in the US. Soy foods have been shown to have anticancer properties in both men and women. There are now very good studies that have also shown that soy protein intake does not affect your thyroid gland or thyroid function. This has been a concern of many of my patients; however, the medical literature supports this conclusion.

I realize that many of my patients with breast cancer are now going to be asking me if they can increase their intake of soy protein and go off their tamoxifen. I consult a lot of breast cancer patients who would just as soon not take this drug. However, I know that the medical community is not going to jump on the bandwagon and begin taking

their patients off of tamoxifen based on this one study. It is going to take several studies that show the same thing before they will even begin considering it. I feel the exciting aspect of this study is the fact that my patients with breast cancer not only can begin consuming soy, but need to be encouraged to do such. Whether or not you start tamoxifen or decide to discontinue it should be decided between you and your own personal physician.

Another question that is now going to come is whether or not the breast cancer patients can take other phytoestrogens. This is also going to be a difficult question to answer. Clinicians are still going to be hesitant to recommend soy foods to their estrogen-positive breast cancer patients in spite of this study. They are also going to be even more hesitant to recommend the intake of other phytoestrogens because this study only looked at soy and soy isoflavones. Most phytoestrogen products on the marketplace today contain several different phytoestrogens. I don't believe we can conclude from this one study that all phytoestrogens are safe. My best advice is to simply begin consuming over 11 grams of soy protein daily. This is a large enough study that we can at least make that recommendation. In fact, when you consider the overall health benefit of soy protein for the general population, I feel everyone should be consuming some soy protein on a regular basis.