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Phytochemicals Fight Breast Cancer

Many of the phytochemicals found in edible plants that you've been hearing so much about lately have weak estrogenic activity. These "phytoestrogens" are able to occupy the estrogen receptors on the surface of breast cells to block normal estrogen activity, thereby lowering the risk of breast cancer.

Isoflavones are a large class (over 4,000) of compounds found in plants, many of which are weak estrogens. Some of the most potent of these isoflavones are found in soybeans and soybean products such as Tofu. The isoflavone that appears to have the most powerful anti-cancer effects is genistein, which can only be found in high concentrations in soybeans. In addition to its estrogen-blocking effects, genistein can convert malignant cancer cells back into normal cells.

There have been many studies suggesting that eating soy products can help to lower the risk of breast cancer. It's been shown for example that Oriental women, who have a lower-than-normal incidence of breast cancer, consume much larger amounts of soy products than most American women. When Asian women move to the United States, however, their intake of soy products goes down and their incidence of breast cancer goes up.

When Stephen Barnes of the University of Alabama at Birmingham gave female rats large amounts of four soy products including soy protein, soy molasses, soy flour and alcohol-extracted soy protein concentrate, they found a major reduction in mammary tumor estrogen receptors, leading to a reduction in the incidence of malignant mammary tumors.

In another study at the University of Alabama, supplementation with Miso (Japanese soybean paste) reduced the incidence of DMBA-induced mammary tumors in female Sprague-Dawley rats. The scientists speculated that other agents in this paste may have contributed towards its anti-cancer effect, including the antioxidants (and free radical fighters) butylated hydroxytoluene (BHT) and butylated hydroxyanisole (BHA), which are known to inhibit DMBA-induced rat mammary tumors.



PHYTOCHEMICALS IN CRUCIFEROUS VEGETABLES



Cruciferous vegetables such as broccoli, cabbage, cauliflower, and brussels sprouts contain several compounds that produce estrogen-like activity and protect against breast cancer.

In a study at the *Institute For Hormone Research* in New York, 12 healthy volunteers (seven men and five women) were given daily doses of 350-500 mg of one of these compounds, indole-3-carbinol (I3C), which is equivalent to 10-to-12 ounces of raw cabbage or brussels sprouts. After a week, they found that the indole-3-carbinol had converted estrogen into a metabolite other than the active form linked to cancer. The researchers later duplicated the same effect on estrogen of this cruciferous vegetable extract in a larger group of women.

Another of these compounds -sulforaphane- found in broccoli---was found by scientists at the Johns Hopkins School Of Medicine in Baltimore to increase the synthesis of enzymes such as quinone reductase and glutathione transferase, which detoxify cancer causing chemicals within the body.

High Intake Of Phytochemicals

The evidence is clear that one way of helping to prevent breast cancer is to consume daily servings of fresh or steamed cruciferous vegetables, which have Potent anti-breast cancer effects.

It would also be advisable to consume daily servings of other fresh vegetables such as tomatoes, lettuce, green peppers, and carrots, as well as fresh citrus Fruits, apples, melons, and other fruits--the intake of which have been shown to be associated with reduced cancer risk.



An easy way of getting substantial extra intake of vegetable extracts is to take a tablespoon of Phytofood powder every day to obtain the broccoli and cabbage concentrates that contain the most potent breast-cancer-fighting phytochemicals.

OTHER LIFESTYLE FACTORS

There also is evidence that the B-complex vitamins may protect against some of the toxic effects of estradiol and estrone in the body. Estrogen may produce some of its toxicity by causing vitamin B-6 deficiency. There is evidence that flax seed oil, borage oil, and fish oils may lower the production of these potentially dangerous estrogens by blocking some of their tumor initiating effects.

It would also be wise to consume a low-fat diet, no more than moderate alcohol intake, and avoid environmental toxins. Studies have shown that the dangerous forms of estrogen mutants, highly toxic forms of estradiol and estrone, can be caused by a high-fat diet, excessive alcohol intake, obesity, low thyroid function, and exposure to Pesticide residues.

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