Title:
Lower Your Risk For Breast Cancer & Heart Disease

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Summary:
Many postmenopausal women are looking for alternatives to hormone therapy, especially in light of the recent Women's Health Initiative research findings concerning the risks of combined estrogen and progestin therapy. Of particular interest are phytoestrogens, which have been gaining popularity due to their "natural" status, alleged health claims, and availability in a wide range of foods and supplements.

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Article Body:
Many postmenopausal women are looking for alternatives to hormone therapy, especially in light of the recent Women's Health Initiative research findings concerning the risks of combined estrogen and progestin therapy. Of particular interest are phytoestrogens, which have been gaining popularity due to their "natural" status, alleged health claims, and availability in a wide range of foods and supplements.

What are Phytoestrogens?

Phytoestrogens are naturally occurring plant compounds that have some similarities to estradiol, the most potent naturally occurring estrogen. However, phytoestrogens tend to have weaker effects than most estrogens, are not stored in the body, and can be easily broken down and eliminated.

Observational studies have found a lower prevalence of breast cancer, heart disease and hip fracture rates among people living in places like Southeast Asia, where diets are typically high in phytoestrogens. In North America, knowledge of these reported health effects has stimulated great interest in the health benefits of phytoestrogens. According to the Food and Drug Administration, the sale of soy foods, a major source of phytoestrogens, has increased dramatically in the past decade.

Dietary Sources of Phytoestrogens

Phytoestrogens consist of more than 20 compounds and can be found in more than 300 plants, such as herbs, grains and fruits. The three main classes of dietary phytoestrogens are isoflavones, lignans and coumestans:

1. Isoflavones (genistein, daidzein, glycitein and equol) are primarily found in soy beans and soy products, chickpeas and other legumes.

2. Lignans (enterolactone and enterodiol) are found in seeds (primarily flaxseed), cereal bran, legumes, and alcohol (beer and bourbon).

3. Coumestans (coumestrol) can be found in alfalfa and clover. Most food sources containing these compounds typically include more than one class of phytoestrogens.

The Skeletal Effects of Phytoestrogens

Much of the evidence concerning the potential role of phytoestrogens in bone health is based on animal studies. In fact, soybean protein, soy isoflavones, genistein, daidzein and coumestrol have all been shown to have a protective effect on bone in animals who had their ovaries surgically removed.

In humans, however, the evidence is conflicting. Compared to Caucasian populations, documented hip fracture rates are lower in countries such as Hong Kong, China and Japan where dietary phytoestrogen intakes are high. Yet reports suggest that Japanese women have a greater risk of sustaining a vertebral fracture than Caucasian women.

Several studies have explored the effects of soy isoflavones on bone health, but results have been mixed, ranging from a modest impact to no effect. Most of these studies have serious limitations, including their short duration and small sample size, making it difficult to fully evaluate the impact of these compounds on bone health.

Ipriflavone Supplements

Ipriflavone, a synthetic isoflavone, has shown some promise in its ability to conserve bone in postmenopausal women. Ipriflavone has also been shown to have a protective effect on bone density in pre-menopausal women taking gonadotropin-releasing hormone (GnRH), a treatment for endometriosis that triggers bone loss.

However, a definitive three-year study of more than 400 postmenopausal women concluded that ipriflavone did not prevent bone loss. Additionally, the compound

was linked to lymphocytopenia (a reduction in lymphocytes) in a significant number of study participants. Lymphocytes are a type of white blood cell that helps the body fight infection.

Risks and Benefits Are Unclear

Some studies suggest that, unlike estrogen, phytoestrogens do not appear to target breast or uterine tissue. This suggests that they may act more like SERMS (selective estrogen receptor modulators such as raloxifene and tamoxifen) than actual estrogens. However, in other studies high isoflavone levels have been linked to an increased risk of breast cancer.

Clearly, additional research is needed to further evaluate the effects of phytoestrogens before judgments regarding their safety and usefulness can be made.

Key Points

Based on information available at this time, it is reasonable to make the following conclusions concerning phytoestrogens and bone health in postmenopausal women:

1. Moderate amounts of foods containing phytoestrogens can be safely included in the diet but do not expect it to help build bone. Keep to the basic rule - eat the least processed forms.

2. Due to a lack of evidence and concerns about safety, supplementation with synthetic isoflavones (ipriflavone) is in question.

3. Postmenopausal women are encouraged to view evidence concerning phytoestrogens and bone health as conflicting and incomplete. For women who are estrogen dominant increasing their phytoestrogen intake may not improve their bone position.