

Tea May Fight Ovarian, Breast Cancers **Broccoli, Kale Also Potent Sources of Cancer-Fighting Flavonoids**

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April 5, 2006 (Washington) -- Potent chemicals found in tea can help fight ovarian and breast cancers, new research suggests.

Broccoli and kale are also rich sources of cancer-fighting flavonoids, says Margaret Gates, a doctoral candidate at the Harvard School of Public Health who has been studying their link to ovarian cancer. Flavonoids are believed to have antioxidant and anti-inflammatory activity. Her research suggests that women who increase their consumption of kaempferol, a type of flavonoid, can lower their risk of ovarian cancer by nearly 40%.

A second study shows that women who consume a diet rich in other types of flavonoids - specifically, flavones, flavan-3-ols, and lignans -- can reduce their chance of developing breast cancer by 26% to 39%.

If you can't keep all those scientific names straight, no worries: It basically comes down to the same thing, the researchers tell WebMD.

For lowering ovarian cancer risk, "tea in particular may be important," Gates says.

For breast cancer protection, "tea again is the predominant contributor," Brian Fink, MPH, a doctoral candidate at the University of North Carolina at Chapel Hill.

Both new studies were presented at the annual meeting of the American Association for Cancer Research.

Kaempferol Fights Ovarian Cancer

Gates analyzed data on 66,384 participants of the Nurses' Health Study, none of whom had ovarian cancer at the start of the study. Every few years, beginning in 1984, the women filled out detailed questionnaires that asked about their consumption of more than 120 foods.

Using the data, the researchers calculated each participant's intake of five different flavonoids -- myricetin, kaempferol, quercetin, luteolin, apigenin -- and of total flavonoids. Between 1984 and 2002, 344 of the women were diagnosed with ovarian cancer.

Gates says there was no link between total flavonoid consumption and ovarian cancer. Nor did myricetin, quercetin, luteolin, or apigenin significantly affect risk.

But the greater the consumption of kaempferol -- which the nurses got mostly from tea, broccoli, and kale -- the lower their chance of developing ovarian cancer.

So just how much kaempferol is enough? Gates says 10 milligrams to 12 milligrams a day, the amount found in four cups of tea or two cups of broccoli daily, appears to be protective. Both green tea and black tea will do the trick, she adds.

Gates says she'd like to see further research in this area. "If confirmed, flavonoid consumption would provide an important target for ovarian cancer protection," she says.

To look at the flavonoid-breast cancer link, Fink studied data from a large study of breast cancer rates and risk factors conducted among women living on Long Island, N.Y., in the mid-1990s. In

1996 and 1997, nearly 3,000 participants were interviewed at home about their lifestyle habits and given questionnaires that asked what they ate and how much they ate.

Kaempferol Fights Ovarian Cancer continued...

The study showed that postmenopausal women who consumed the most flavonoids were 46% less likely to develop breast cancer, compared with those who consumed the least. But the potent chemicals had no effect on risk in premenopausal women.

When the researchers looked at specific flavonoids in the postmenopausal women, they found that flavones reduce breast cancer risk by 39%, flavan-3-ols by 26%, and lignans by 31%.

In addition to tea, green salad, tomatoes, and apples are good sources of the breast cancer-fighting flavonoids, Fink says.

Other flavonoids, such as flavanones, isoflavones, and anthocyanidins, showed no relationship to cancer risk.

"Tiny differences in chemical structure could determine why one flavonoid is protective and one is not," he says. "More study is needed."

Promising Area of Research

Cedric Garland, DrPH, a preventive medicine specialist at the University of California, San Diego, says flavonoids are a promising area of research for cancer prevention. He notes that flavonoids are available in supplement form.

The problem: "The research is only beginning to be done so we don't yet know how much to recommend," he tells WebMD.

In the meantime, your best bet may be a plate of broccoli washed down with a cup of tea.

SOURCES: American Association of Cancer Research annual meeting, Washington, April 1-6, 2006. Margaret Gates, Harvard School of Public Health. Brian Fink, MPH, University of North Carolina at Chapel Hill. Cedric Garland, DrPH, University of California, San Diego.