

# Dietary Fat—Breast Cancer Link Questioned

The diet-cancer hypothesis took another blow recently as a group of Harvard researchers reported that they can find no evidence of a link between dietary fat and breast cancer. Moreover, although the Harvard study is the only large prospective one to examine this issue, its results are no aberration, according to principal author Walter Willett of Harvard University. Other studies have failed to show a link between diet and breast cancer, although their results frequently were questioned by those who took issue with the studies' designs.

Even without Willett's study, the links between diet and cancer have been controversial. "There is a whole range of opinions by reasonably well informed and competent people," says Richard Peto, an epidemiologist at Oxford University. And even the most adamant proponents of the diet-cancer hypothesis readily admit that the evidence that diet affects cancer risk is nowhere near as strong as the evidence linking diet and heart disease. Nonetheless, both the National Research Council and the National Cancer Institute have recommended that women reduce their fat consumption so that fat constitutes no more than 30% of their calories in order to reduce their risk for breast cancer. The average American woman consumes 40% of her calories as fat.

In addition, the National Cancer Institute is beginning an intervention study to test the hypothesis that low dietary fat reduces breast cancer incidence. The NCI hopes to enroll 30,000 middle-aged women who are at high risk for breast cancer and to follow them for an average of 8½ years. Forty percent of these women will consume diets in which no more than 20% of their calories are from fat.

Willett's results have, understandably, caused some consternation at the NCI but, says Ritva Butram, who is chief of the NCI's diet and cancer branch, the institute thinks its study is more important than ever now because Willett's study did not address the question of whether diets that are as low in fat as 20% can prevent breast cancer.

The NCI is not just talking about minor dietary changes when it talks of diets that have 20% of their calories as fat. Most vegetarians, for example, eat diets that are about 32% fat, according to Margo Woods of Tufts University, who is associate director of the nutrition coordinating unit for the NCI study. "With a change of mindset, it is easy to get down to 30% fat," says Woods. "But you really have to be committed to get down to 20% fat." A 30% fat diet, for example, is one in which you eat small portions of lean meats and trim them well, forgoing such things as chicken skin. It also means using low-fat salad dressings and choosing low-fat cheeses.

The NCI just completed a successful pilot study in which 180 women went on 20% fat diets for a year. These women found that they had to make most of their own foods and that restaurant and holiday meals presented difficulties. "You have to learn to take just a few mouthfuls of high-fat foods that you really like and miss," says Woods.

So it is not surprising that Willett's study did not address the question of whether 20% fat diets protect against breast cancer—almost no one in our society goes that low. His study, which was published in the 1 January issue of the *New England Journal of Medicine*, involves 89,538 nurses who, in 1980, were 34 to 59 years old and who had no previous history of cancer. Their fat consumption varied from about 32% to about 44% of their total calories. Yet, during 4 years of follow-up, there

was no evidence that fat intake was related to breast cancer incidence, no matter how the data were carved up.

The diet-breast cancer hypothesis is based largely on cross-country comparisons—"the weakest form of epidemiological evidence," Willett says. Women living in countries where fat intake is low tend to have much lower incidences of breast cancer than women living in western countries with much higher fat intakes. For example, the breast cancer incidence in Japan is about one-fifth the U.S. rate and fat constitutes just 10 to 20% of the calories in a typical Japanese diet. In the United States, one out of every 14 women will get breast cancer in her lifetime. When Japanese women move to the United States, their breast cancer incidence rises until it is similar to the American incidence. The same is true for women in underdeveloped countries, including most African and Asian nations, where fat intake is low.

But, Willett points out, fat intake is not the only difference between American and Japanese diets or between American diets and the diets in underdeveloped countries. For example, there are also differences in dietary minerals, in consumption of fish oils and vegetables, and in alcohol consumption. Any of these could conceivably contribute to the differences in cancer incidence.

Women in developed countries also consume more calories, which could itself be linked to their higher breast cancer incidence. Animals that are underfed develop fewer tumors, including breast cancers, and those they do develop tend to be smaller than cancers in animals that eat as much as they want. For example, David Kritchevsky of the Wistar Institute in Philadelphia reports that even when animals are fed high-fat diets, their cancer incidence, including breast cancer incidence, is low if their total calories are low.

Could it be that the cross-country data are really reflecting differences in total calories rather than fat? "There is a good possibility that it was calories, not fat, that made the difference," says Willett. In the animal studies, the animals that had their calories restricted were smaller than those who ate as much as they wanted. "There is a similar correlation between height and risk of breast cancer on an international basis," Willett says. Women in underdeveloped countries and in Japan are shorter than women in developed countries and their children grow taller when they are brought up in Western countries where food is abundant.

Of course, says Willett, "No one study should be considered definitive." However, he adds, "our study is not alone. Ours is unique only in that it is a large prospective study." Saxon Graham, of the State University of New York at Buffalo, who did a case-control study in the United States, found no relationship between fat consumption and cancer and Tomio Hirohata of Kurume University, who did a case-control study in Japan, also found no relationship. Moreover, Willett says, "it is notable that among Seventh-Day Adventists, whose meat and fat consumption is low, there is only a very slight, nonstatistically significant lowering of the breast cancer incidence."

Peto concludes that perhaps it is too soon to give any advice on diet and cancer. "We'd like to have definitive evidence, but we don't have it. There is nothing in the league with smoking, which is a big and definite risk factor." For that reason, he concludes, "we should stick with the big things rather than a collection of small and indefinite factors." ■ GINA KOLATA