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Red Meat Increases Risk of Breast Cancer -- or Does It?

By Ruth Kava, Ph.D., R.D.

Should women stop eating red meat to avoid or lessen the risk that they'll develop breast cancer? Taken at face value, a new study suggests that might be a good idea -- but a more careful consideration does not support this interpretation.

A report in the November 14 issue of the *Archives of Internal Medicine* indicates that premenopausal women who regularly consume large amounts of red meat have a 97% increased risk of hormone-positive breast cancer. Although this sounds like a frightening increase, a couple of caveats are in order. First, this increase in relative risk is borderline for the level of risk epidemiologists consider real. Anything under a doubled risk (i.e., a 100% increase) would be termed moderate or weak, although if the population at risk is very large, moderate risks could theoretically affect a large number of people.

A second reservation is the nature of the data on which these statistics are based. The women in the study didn't actually measure the amount of food they ate. While this may not be very important for foods and beverages that are purchased in discrete quantities (e.g., a bottle of soft drink, or a fast food hamburger), red meat can be purchased and consumed in a wide variety of forms and sizes. Thus the accuracy of the data depends on how well participants can estimate the quantities of the various foods they consumed, as well as how accurate they are when they recall how often they ate or drank particular items.

The researchers from the Brigham and Women's Hospital and Harvard Medical School followed 90,659 women who were part of the Nurses' Health Study from 1989-2003. Study subjects were, on average, thirty-six years old at the beginning of this study and thus premenopausal. Several times during the study, they completed dietary questionnaires in which they noted how often they ate 130 different foods and beverages. Every two years, the women reported whether or not they had developed breast cancer. Whether or not the tumors were hormone-sensitive was also noted (hormone-sensitive breast cancer tumors are the more common kind).

The women in the study reported 1,021 cases of breast cancer. Of these, 512 were tumors that were sensitive to both estrogen and progesterone hormones.

When the researchers examined the relationship between the occurrence of breast cancer and various dietary factors, they found a significant trend towards an increasing occurrence of the disease as the intake or red meat consumption increased -- but only for the hormone-sensitive type of tumor. That is, the women who reported eating over 1.5 servings of red meat per day had a 97% increased risk of developing hormone-sensitive breast cancer than women who reported eating less than three servings per week.

So, although consumption of at least 1.5 servings of red meat per day was associated with increased risk of hormone-sensitive breast cancer in these women, these data do not prove that high red meat consumption actually caused the disease. Indeed, although the researchers statistically controlled for possibly confounding

factors such as smoking, number of children, age at menarche, etc., it is still possible that other lifestyle factors also played a role.

In sum, as the authors noted, "these findings have potential public health implications...and should be evaluated further." But until other independent research validates these results, it would be premature to recommend more drastic action than to advise moderation in consumption of red meat -- as for all other dietary components. It is important for women to recognize that detection and treatment of breast cancer has advanced markedly over the past decade. Women should not be excessively concerned that one dietary factor or another significantly impacts their risk of developing the disease.

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