

## **REINFORCEMENT OF DATA FOR WOMEN WITH BREAST CANCER**

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Recently two articles have been published in the prestigious New England Journal of Medicine outlining improvement in care for women with breast cancer. These articles are important in that they are major research studies and reinforce each other's conclusion.

Women are often told that if a breast is removed the cancer cannot recur locally. This is, of course, is not the case.

Mastectomy, unfortunately, does not protect the woman from recurrence of the cancer in the chest wall - the site of her breast and breast cancer.

In fact, studies show that survival is better for those women who have maintained their breast using lumpectomy and radiation rather than mastectomy alone, if the cancer is indeed to recur locally.

There are, however, patients with pathologic lesions (because of extent of disease in the breast) should not undergo lumpectomy/radiation but rather mastectomy. These are the exceptions. We, when the patient is motivated, work diligently to save every breast.

This decision about breast-conserving therapy, is best made by experts in the field unless the woman is not motivated to preserve her breast.

In a recent study by Joseph Ragaz et al from British Columbia Cancer Agency in Vancouver Canada, 318 pre-menopausal women with breast cancer having undergone mastectomy all of whom lymph nodes were found to contain cancer were evaluated. (It should be noted that lymph node involvement is not a reason to have mastectomy.)

The women had undergone mastectomy between 1979 and 1986 when that extensive surgical procedure was a more common treatment. After the surgery, the patients were randomly allocated to chemotherapy plus radiation or chemotherapy alone.

The chemotherapy/radiation group comprised 164 women and those receiving chemotherapy alone comprised 154. The chemotherapy delivered at that time included cyclophosphamide, methotrexate and fluorouracil (CMF) given every 21 days for 12 months.

It should be realized that the institution of this program was nearly 20 years ago and that while certain other chemotherapies would be considered today, the

important issue was that all patients had the same treatment other than the addition of radiation or not.

The question being asked in a study is whether the addition of radiation after mastectomy will improve outcome, that is to say survival of women with lymph node positive breast cancer.

Can radiation added after mastectomy increase the number of woman alive after breast cancer? Of the 318 women randomly allocated to treatment, follow-up was lengthy being 150 months or more than 12 years in both groups.

The researchers found "an overall reduction of 33% in the rate of recurrence of breast cancer when radiation was added to mastectomy".

Furthermore, they noted "an improvement of 17 percentage points in disease-free survival at the 15 year follow-up". There are other benefits as well in receiving radiation after mastectomy which included "an overall reduction 34% in the rate of systemic recurrence in the group treated with combined therapy".

What are other improvements in the group receiving chemotherapy and radiation after mastectomy? A 17 percentage point improvement in systemic disease-free survival was seen in the group receiving radiation and the local regional rate recurrence was reduced by 56% in the group given chemotherapy plus radiation for "an absolute improvement of 20% in survival free of local disease. Mortality from breast cancer is reduced by 29% in the chemotherapy/radiotherapy group".

A common question is whether the women getting radiation had an increased risk of second cancers and the answer was no. It was noted that "the incidence of second cancers and the associated mortality were distributed evenly between the two groups".

The authors wrote in their discussion that "this study of pre-menopausal women with breast cancer demonstrates that local regional radiotherapy reduces the rates of locoregional and systemic relapse and the chance of dying from breast cancer. There was no excess mortality which could attribute to long-term side effects of the radiotherapy".

The authors have further noted that "these data, based on 15 year follow-up, indicate that radiation can offer substantial protection from systemic relapse to node positive patients. It is possible that we will see additional benefit overall survival because of this writing 19 patients in the chemotherapy group remain alive with systemic recurrence as compared to only nine in the combined treatment group; most of these 28 patients are expected to die of breast cancer".

Furthermore, they postulated that the "in node positive patients, adding locoregional radiotherapy may be essential and prevent secondary dissemination

from residual locoregional metastatic disease, and it could increase the potential for cure".

The research in this direction is important because breast cancer affects so many women and increasing the cure rate will have a tremendous impact in many woman, their families and friends throughout the United States and around the world.