ROLE OF ADJUVANT THERAPY IN BREAST CANCER

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A new article recently evaluated the role of radiation for women with breast cancer. Entitled "Cause - Specific Mortality in Long Term Survivors of Breast Cancer Who Participated in Trials of Radiotherapy", the article re-evaluated data in an attempt to improve success for women with breast carcinoma. It was written by Cuzick et al and appeared in The Journal of Clinical Oncology.

The review was based on randomized studies using radiation therapy that commenced prior to 1975. Because of its early date, patients at that time incorporated in the study, did not receive chemotherapy.

That would be likely very different today as most women with node-positive breast cancer receive adjuvant therapy - hormonal or chemotherapy - and many women without lymph node involvement similarly receive additional systemic therapy. Researchers evaluated the cause of death for "all patients who died more than ten years after entry into the trial." Cause of death included breast cancer, other cancer, cardiac as well as other categories. The cause of death was determined from hospital reports and autopsies.

Seven thousand nine hundred forty one women participated in these studies with all having mastectomy. Three thousand three hundred sixty two had radical mastectomy and 4,579 had simple mastectomy. Radical mastectomy included not only removal of the breast but as well the underlying pectoralis muscle. This operation was abandoned in most cases in the 1970's.

There were 4,309 women who survived more than ten years. Subsequently 1,346 of these women died. Equal number of survivors were present in the radical mastectomy group as in the simple mastectomy group.

In the simple mastectomy group, the survival curves were similar after ten years for those who received radiation as compared to no radiation. In the radical mastectomy group, a benefit was seen in the group not receiving radiation after 15 years.

The authors noted, "The radiotherapy arm did worse in the early trials that used radical mastectomy, but this now has been almost balanced by more recent trials using simple mastectomy or modified radical operation in which irradiated patients have done better."

Newer trials evaluated by the authors "showed a significant trend for the radiotherapy arm of later trials to do comparatively better." The authors noted, "Only cardiac related causes of death were increased in the radiotherapy arm compared with the control arm." The authors noted, "the excess of deaths due to heart disease after ten years is almost balanced by a reduction in deaths due to breast cancer."

The data is interesting as it is noted "there is a significant trend for the radiotherapy arms to do comparatively better in the more recent trials. In particular the Stockholm and NSABP trials have recorded a net mortality benefit for radiotherapy both overall and beyond ten years of follow up." Furthermore, the authors noted that "the excess mortality appears to be confined to heart disease and for this cause the risk appears to be related to dose and the fields used." The authors noted specifically that "the excess was confined to a subset of patients treated with tangential Cobalt 60 fields for left-sided tumors where the dose to the myocardium was the greatest." Also they noted, "In the Osolo II Trial, the internal mammary nodes were treated with an anterior Cobalt 60 field and large fraction sizes were used."

These are both techniques that are not used here because of the known potential risk of cardiac complications. The authors of the article note "techniques and fields used have changed markedly over the course of these trials." They conclude "the reduction in breast cancer deaths especially in the more recent trials, is noteworthy and suggests that radiotherapy may have value beyond the clearly established improvements obtainable for local control.