The Efficacy of Lumpectomy vs. Mastectomy Surgeries

Two of the most commonly known treatments for breast cancer disease include breast lumpectomy and breast mastectomy. A lumpectomy is defined as the removal of the breast tumor and some of the normal tissue that surrounds it, and is often the treatment of choice when trying to preserve the rest of the breast. In contrast, a mastectomy encompasses removal of the whole breast and comprises five different types of procedures (1). Depending on the individual situation, the benefits of one procedure may outweigh the risks, and prove to be a more suitable choice. However, it seems important to know whether one procedure is more effective at preventing the risk of cancer recurrence. This question was investigated by Fisher *et al.* as the specific aim of their study was to determine whether the outcome for patients treated with lumpectomy, with or without irradiation of the breast, was equivalent to that for those treated with total mastectomy.

This study was initially conducted in 1985 when 1843 women with stage I or II breast cancer were followed for five years after having either a lumpectomy, with or without irradiation, or mastectomy. Their current study summarizes the results of an eight year follow up on this same population of women. The following observations were reported

-Lumpectomy, followed by breast irradiation in all patients and adjuvant chemotherapy in women with positive nodes, is appropriate therapy for stages I and II breast cancer, provided that the margins of the resected specimens are free of tumor

-The initial study reported that 7.7% of all patients treated with lumpectomy and radiation therapy had a recurrent tumor; while this number has decreased to 2.7% tumor recurrence after an additional 3 years.

-The rate of recurrence of tumor in the ipsilateral breast was greater through the initial five-year period among those treated with lumpectomy without radiation (27.9%), and has increased by 11.5% during the 3 additional years.

-When each of the lumpectomy groups is compared with the total mastectomy group, there is no significant difference in the rates of disease-free survival, distant-disease–free survival (survival free of disease at distant sites), or overall survival.

It is important to note that these results are applicable to a population of women in the primary stages of breast cancer. As such, results may be different at more advanced stages of the disease. However, the implications of this study have a very practical application when considering treatment options. They support the idea that women can select the more modest form of surgery, preserving breast tissue, while still taking the most effective precautionary measures. Importantly, Fisher *et al.* also underlined the significance of irradiation therapy post lumpectomy surgery for the most effective method of preventing recurrence (2).

References

1. Breastcancer.org (2012). *What is Mastectomy?* Retrieved from http://www.breastcancer.org/treatment/surgery/lumpectomy

2. Fisher B. *et al.* Eight-Year Results of a Randomized Clinical Trial Comparing Total Mastectomy and Lumpectomy with or without Irradiation in the Treatment of Breast Cancer. *The New England Journal of Medicine* 320:822-828, 1989

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Note: The information provided should not replace medical advice and represents only some of the research conducted on each topic