Research Brief: Breast-conserving Therapy Yielded Better Outcomes Than Mastectomy for Early-stage Patients

Breast-conserving surgery plus radiation therapy, when compared to mastectomy without radiation therapy, resulted in improved overall survival after 10 years for patients with early-stage breast cancer.

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December 15, 2015 — According to a large, population-based study, patients with early-stage breast cancer who received breast-conserving surgery plus radiation therapy (BCT) had improved overall survival after 10 years when compared to those who had a mastectomy.

Sabine Siesling, PhD, a senior researcher at the Netherlands Comprehensive Cancer Center Organization and professor at the University of Twente, reported the findings at the 2015 San Antonio Breast Cancer Symposium, held Dec. 8–12.

The study population included 37,207 women included in the Netherlands Cancer Registry who were diagnosed with early-stage breast cancer between 2000 and 2004. About 58 percent of these women had breast-conserving surgery plus radiation therapy and a 10-year overall survival of 76.8 percent. In contrast, those who received mastectomy without radiation therapy had a 59.7 percent overall survival after 10 years.

To estimate distant metastasis-free survival over ten years, a subset of 7,552 patients diagnosed in 2003 and with similar characteristics were analyzed. Of these women, 62 percent received breast-conserving surgery plus radiation therapy and had a 10-year distant metastasis-free survival of 83.6 percent. The remaining women had mastectomy and a 10-year distant metastasis-free survival of 81.5 percent.

At a median 11.3-year-follow-up, and after statistically adjusting for confounding factors (such as age, tumor characteristics, and use of adjuvant therapies), women with breast-conserving surgery plus radiation therapy were about 21 percent more likely to be alive after 10 years compared to their counterparts who had mastectomy. Analyses of those with small tumors of up to 2 cm and no lymph node involvement (T1N0) who received breast-conserving surgery plus radiation therapy also had improved distant metastasis-free survival over ten years compared to those with mastectomy. In addition, analyses of subset data showed that those with breast-conserving surgery plus radiation therapy developed recurrences less often (both regional and distant) compared to patients who had mastectomy.

Implications

This population-based study supports and expands upon prior findings that report better survival with breast-conserving surgery followed by radiation therapy when compared to mastectomy. The research design minimizes selection bias by analyzing data collected systematically from the Netherlands cancer registry, which compiles information from across

the country's hospitals. Additionally, the examination of 10-year survival outcomes surpasses studies to date that followed women for only up to five years. Notably, 20 to 30 percent of breast cancers recur up to 15 years following the completion of treatment making longer term follow-up crucial.

Despite its strengths, the data from the Netherlands cancer registry do not include comorbidity, or the simultaneous presence of two or more chronic diseases or conditions in a patient. The presence of diabetes, chronic lung disease, cardiovascular disease and other conditions in addition to cancer, for example, are likely to confound treatment outcomes.

In the United States, the 2014 Annual Report to the Nation on the status of cancer, 1975-2010 reported that forty percent of patients aged 66 years or older diagnosed with lung, colorectal, breast, and prostate cancer had at least one comorbidity in the year prior to the cancer diagnosis. Such comorbidity increased mortality for people with cancer. For women aged 66 to 74 diagnosed with early stage breast cancer, those who had low or moderate comorbidity levels had two times the probability of death compared to those with no comorbidity at all. Moreover, the probability of death was three times greater for women with severe comorbidity.

Notwithstanding the omission of comorbidity, the data strongly point to improved survival for early stage breast cancer patients who choose breast-conserving surgery plus radiation therapy instead of mastectomy.

Patient preferences and emotional responses to illness, however, could be a barrier to improved quality of care regardless of the evidence. In a previous BCC research brief we noted that between 1998 and 2008, contralateral prophylactic mastectomy (CPM, a procedure in which a woman with breast cancer in one breast has both the affected breast and the healthy breast removed) increased 15 percent *per year* among breast cancer patients in the United States. Women understood and acknowledged that contralateral prophylactic mastectomy does not improve survival but had the procedure anyway, identifying a desire to *extend life* and *prevent disease recurrence* as the main reasons for doing so. For some patients, mastectomy compared to contralateral prophylactic mastectomy simply appears to be a more comprehensive intervention. The data do not support this conclusion.

Source: van Maaren MC, de Munck L, de Bock GH, et al. Higher 10-year overall survival after breast conserving therapy compared to mastectomy in early stage breast cancer: a population-based study with 37,207 patients. Presented at: San Antonio Breast Cancer Symposium; December 8-12, 2015; San Antonio, TX. Abstract: S3-05. Presentation details provided by OncLive.

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