Contralateral prophylactic mastectomy offers limited gains for breast cancer patients

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Contralateral prophylactic mastectomy (CPM), a procedure that removes the unaffected breast in patients with cancer in one breast, provides only a modest increase in life expectancy, according to a new study by researchers from the Perelman School of Medicine at the University of Pennsylvania. In fact, the study shows that the surgery may actually reduce the quality-adjusted life expectancy – a measure of life expectancy that takes into account quality of life – among women whose breast cancer is not hereditary. Since only around 10% of breast cancers are known to be caused by genetic factors, the findings of the study apply to the vast majority of women diagnosed with breast cancer who are treated with mastectomy.

The findings of the study will be reported on Wednesday, Dec. 7 at the 2011 CTRC-AACR San Antonio Breast Cancer Symposium. Using a computer-based decision analysis, researchers examined the impact of CPM on life expectancy and quality-adjusted life expectancy among groups of women with newly diagnosed unilateral breast cancer and no known genetic predisposition to the disease. Studies show that among these patients, there has been a 150 percent increase in this type of surgery in recent years.

The authors hope the findings will assist patients and physicians in making informed decisions about treatment strategies, based on a clear understanding of the actual benefits and risks involved in preventive mastectomies, and the potential for the surgery to have an adverse impact on women's quality of life.

"We suspect that many of the women who elect to undergo CPM are acting on the belief the surgery will substantially reduce their overall risk of dying of breast cancer," said senior author Robert G. Prosnitz, MD, MPH, an assistant professor of Radiation Oncology in the Perelman School of Medicine at the University of Pennsylvania. "However, our study shows that a woman's risk of death from her primary breast cancer far outweighs her risk of death from a potential breast cancer developing in the unaffected breast. Additionally, the modest increase in life expectancy resulting from CPM may ultimately be negated by a reduction in quality of life."

The study showed that CPM produced modest gains in life expectancy in all subjects, regardless of the stage or subtype of the cancer. The greatest life expectancy gain from electing to have the procedure was seen in younger women with early-stage cancers whose type is known to carry a favorable prognosis. Even in these patients, however, the risk of death from their primary breast cancer far exceeded the risk of death from a breast cancer that may later develop on the opposite side. In these types of patients who forego CPM, for example, the study found that the risk of death from the primary breast cancer within 20 years was 10 times higher than the risk of death from a breast cancer that might later arise on the unaffected side.

Additional results of the study showed that CPM may actually reduce the quality-adjusted life expectancy for patients with unilateral breast cancers not linked to genetic factors. Because CPM is associated with both short and long-term effects that may reduce quality of life, the researchers used a model that took into account those issues. If CPM is assumed to cause even a small reduction in quality of life - due to surgical complications, loss of sensation in the breast, etc – the results indicate that not undergoing this procedure is the preferred strategy for all patients, regardless of age, cancer stage or tumor molecular subtype.

Based on the findings, Prosnitz and his colleagues plan to develop and test decision aids that will help patients better assess their treatment options.

"At the outset of the study, we already knew that CPM was not going to help women with locally advanced breast cancers," said Prosnitz. "What surprised us, however, was how small the benefits were for women with even the most favorable breast cancers."

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