Double mastectomy may offer no survival benefit to women with breast cancer

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Women who are diagnosed with breast cancer in one breast, even in the early stages, sometimes opt for a double mastectomy, due to the fear that the cancer will migrate to the other breast.

But that decision may not offer any real benefit in terms of survival, an exhaustive new study of more than 600,000 patients tracked for two decades has found.

Canadian researchers report that while having an unaffected breast removed did lower the odds of cancer appearing in that area, that did not translate to any change in the patient's odds of death from breast cancer.

"Prevention of contralateral [other breast] cancer through preemptive surgery did not appear to reduce the risk of death in the 20-year period," concluded a team led by Dr. Steven Narod, of Women's College Hospital in Toronto. He's also a professor of obstetrics and gynecology at the University of Toronto.

His team published its findings July 25 in the journal JAMA Oncology.

As the researchers noted, rates of bilateral (both breasts) mastectomy have been increasing among women with cancers detected in just one breast for years.

"This despite consensus guidelines discouraging the procedure in women of average risk," they added.

Could a woman's decision to have her second, unaffected breast removed be warranted in terms of survival?

To find out, Narod's team looked at U.S. cancer data for over 661,000 women who were all diagnosed with cancer confined to one breast between 2000 and 2019. The cancers ranged from breast cancer's very earliest stage, called ductal carcinoma in situ (DCIS), up to stage 3 invasive cancers.

Outcomes were followed for three groups of about 36,000 women each,

separated by treatment type. One group got the least radical type of breast cancer surgery, called a lumpectomy; the second group opted to have only the affected breast removed (unilateral surgery); and the third group decided on double mastectomy.

During the two decades of follow-up, far fewer women developed cancer in the second breast if they'd undergone a double mastectomy: Just 97 such cases out of about 36,000, compared to 766 cases among women who underwent lumpectomy and 728 among women who had gotten one breast removed.

Overall, the risk of a woman with breast cancer developing a cancer later in the second breast was small, just under 7%. That translated to about 69 out of every 1,000 women with a unilateral cancer developing cancer in the other breast over 20 years.

But surprisingly, the reduction in second breast cancers among women who'd opted for double mastectomy offered no benefit in terms of breast cancer survival.

Over the 20 years of the study, deaths from breast cancer were similar across all groups: 3,077 (8.5%) of women in the lumpectomy group, 3,269 (9%) in the unilateral mastectomy group, and 3,062 (8.5%) in the double mastectomy group, the researchers found.

If double mastectomy is reducing recurrence in the other breast, why wouldn't this raise survival?

The answer to that may lie in why women with breast cancer die in the first place, the Toronto team said. Typically, death arises from the cancer spreading to other parts of the body.

The new findings suggest that cancers arising years later in a second

breast are both rare and may often be new cancers, unrelated to the prior tumor. And in many of these cases, they are easily treated before they spread, Narod's team reasoned.

They note that when cancers arose in a second breast, they "were on average smaller" and less likely to be an aggressive form of breast tumor.

Speaking with the New York Times, Narod surmised that what most often kills women with breast cancer is not a second breast cancer, but the first tumor spreading to other parts of the body.

Overall, the findings "call into question the metastatic potential" of new cancers arising in a second breast after initial breast cancer treatment, the study authors said.

Dr. Seema Asha Khan and Masha Kocherginsky are experts in breast cancer care at Northwestern University in Chicago, and co-authors of a journal commentary on the new study.

They called the issue of contralateral breast cancers a "complex biological conundrum."

They noted that the Toronto study did find that the minority of women who went on to develop a cancer in the second breast experienced a four-fold higher odds of dying from the disease, compared to women whose second breast remained healthy.

Given that finding, why didn't double mastectomies translate to better survival?

Khan and Kocherginsky agreed that it's a puzzle, and certain aspects of the methodology used in the new study (and prior ones) might help explain the contradiction.

They also noted that many patients opt for double mastectomies for reasons other than a fear of cancer's return.

"There are certainly those who, with a good understanding of the risks and quality-of-life problems associated with bilateral mastectomy with or without reconstruction, would prefer to avoid both the imaging [mammography] experience of breast surveillance and the burden of undergoing treatment for a second breast cancer [even if highly likely to be cured]," they wrote.

More information: Vasily Giannakeas et al, Bilateral Mastectomy and Breast Cancer Mortality, *JAMA Oncology* (2024). DOI: 10.1001/jamaoncol.2024.2212

The American Cancer Society has details on treatment options for women diagnosed with breast cancer.