

Surgery to prevent breast cancer requires a patient-doctor dialogue about risks, benefits

May 4 2021



Micrograph showing a lymph node invaded by ductal breast carcinoma, with extension of the tumour beyond the lymph node. Credit: Nephron/Wikipedia

Risk-reducing mastectomy saves lives of women who, because of hereditary or other risk factors, may have a very high lifetime risk of developing breast cancer, according to two new journal articles written to guide physicians and patients. All of these women should also discuss with their physicians nonsurgical options such as screening and medications to reach the best, customized treatment strategy, the essays mention.

Both articles, published May 4 in the *Journal of the American Medical Association (JAMA)*, are by Ismail Jatoi, MD, Ph.D., of The University of Texas Health Science Center at San Antonio (also called UT Health San Antonio) and Zoe Kemp, MD, Ph.D., of the Royal Marsden Hospital in London, England.

"Women who have a high-risk genetic mutation or have had previous chest wall radiation are [potential candidates](#) for surgery to prevent [breast cancer](#)," said Dr. Jatoi, professor and chief of the Division of Surgical Oncology and Endocrine Surgery. He performs [cancer surgery](#) at University Hospital and is a member of the tumor board at the Mays Cancer Center, home to UT Health San Antonio MD Anderson Cancer Center.

The *JAMA* Insights article is titled "Risk-Reducing Mastectomy." The *JAMA* Patient Page article is titled "Surgery for Breast Cancer Prevention." The patient essay discusses the topic in lay terms and includes art showing how surgery is performed.

Quality of life

Most women who undergo risk-reducing mastectomy with [breast](#) reconstruction are ultimately relieved that they elected to go through with it. However, doctors and patients should consider all the benefits and risks, including potential quality-of-life issues, prior to any such

surgery, Dr. Jatoi said.

BRCA1 and BRCA2 gene [mutations](#) are the most common variants that put women at increased risk for breast cancer, but there are other high-risk mutations, as well, such as PTEN, TP53, STK11, CDH1 and PALB2. "All of these mutations may give women a very high risk for developing breast cancer, a risk that exceeds 50% lifetime," Dr. Jatoi said. "Oncology teams may want to consider risk-reducing mastectomy for these patients. This surgery does not completely eliminate breast cancer risk, but it reduces it substantially."

The risk isn't zero because surgeons can't remove all the breast cancer tissue, he said.

Other mutations, such as CHEK2 and ATM, put patients at moderate risk for developing breast cancer, and confer a risk that may range anywhere from 25% to 50% lifetime, Dr. Jatoi said. "For those mutations, we don't usually recommend preventive mastectomy, although some women choose to have it done based on family history," he said. "Women with these mutations more often opt for screening or medicines to lower their risk."

Previous radiotherapy

Women who have cancer in one breast may have a very high risk for developing cancer in the opposite breast if they have a particular genetic mutation or have received previous radiotherapy treatments to the front of their chests during their childhood years. "For those women, we do what is called contralateral risk-reducing mastectomy," Dr. Jatoi said. "That operation is generally not necessary unless women have a very high risk of developing cancer in the opposite breast."

Women who had chest wall radiation in the past should be carefully

evaluated, Dr. Jatoi said. "We put them in the same category as women with BRCA1 and BRCA2 mutations," he said. "These [women](#) had radiation for a different type of [cancer](#), such as Hodgkin lymphoma, usually during childhood. They may be candidates for risk-reducing mastectomy."

The bottom line: A woman needs to weigh the benefits and the risks with her doctor, and decide what options are best for her. "It's not a decision the doctor makes alone," Dr. Jatoi said.

More information: Risk-Reducing Mastectomy and Surgery for Breast Cancer Prevention, *Journal of the American Medical Association* (2021).

Provided by University of Texas Health Science Center at San Antonio

Citation: Surgery to prevent breast cancer requires a patient-doctor dialogue about risks, benefits (2021, May 4) retrieved 24 April 2024 from <https://medicalxpress.com/news/2021-05-surgery-breast-cancer-requires-patient-doctor.html>

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