Nipple-Sparing Mastectomy

Reducing Risk, Preserving Identity

By Scott P. Edwards

Drs. Cash and Parikh say the breast and plastic surgery teams work closely, mapping out the surgical plan and talking with the patient about her concerns and expectations prior to the procedure, and using a teamwork approach in the operating room.

Surgeons at Baystate's Comprehensive Breast Center now offer a new option for women considering mastectomy as a prophylactic measure or treatment for breast cancer.

Mary's test results came back: She was positive for BRCA1, a gene whose mutated form raised her risk of breast cancer to more than 80 percent over her lifetime. She now faced a choice–undergo more testing or opt for prophylactic mastectomy, which would greatly reduce her risk of ever getting the disease.

After hours of soul-searching and discussion with her family, friends, and physicians at Baystate Medical Center, Mary chose prophylactic nipple-sparing mastectomy to reduce her risk of disease, while also preserving an important part of her identity as a woman.

An Evolution

For most of the 20th century, surgical treatment for breast cancer and breast cancer prevention consisted of radical mastectomy, the removal of the entire breast along with the pectoralis major muscle and surrounding lymph nodes. The modified radical mastectomy–similar to a radical mastectomy, but without the removal of the pectoralis major–came about in the 1960s and became the standard of care for more than 30 years.

Surgeons began performing skin-sparing mastectomies in the late 1970s, removing the entire breast and nipple-areola complex, but sparing the breast skin. By the 1980s, surgeons were removing diseased or at-risk breast tissue, but spared the nipple-areola complex through subcutaneous mastectomies. The surgery was typically performed by a plastic surgeon and focused more on cosmetic appearance and less on removing a maximum amount of breast tissue. Some breast tissue was often intentionally left behind to improve the

cosmetic result. The procedure fell into disfavor following reports of cancer recurrence in residual tissue.

The procedure made a comeback in the mid-2000s, however, as nipple-sparing mastectomy (NSM), performed by a breast surgeon or surgical oncologist in conjunction with a plastic surgeon. Working together, the surgeons can remove the necessary amount of tissue from a cancer prevention perspective, while maintaining the best possible cosmetic result as well.

The Procedure

"Initially, nipple-sparing mastectomy was only a choice for non-cancer patients or for women who were at high risk of developing breast cancer. Now, nipple-sparing mastectomy can be used as a prophylactic measure and to treat breast cancer," says breast surgeon Susan Cash, MD, from Baystate Surgical Associates and Baystate's Comprehensive Breast Center.

During the procedure, the breast surgeon makes an incision on the outer edge of the breast, toward the armpit, and takes out the breast tissue under the skin and nipple. A plastic surgeon then creates a pocket under the pectoralis muscle and uses a tissue expander to create a space the desired size and shape of the breast. Once the space is created, the woman returns for another surgical procedure in which the plastic surgeon removes the expander and places the final implant under the muscle.

Candidates for NSM include women with a strong family history of breast cancer, particularly women who test positive for the BRCA1 or BRCA2 gene mutation, or women who have other reasons for being classified as high risk for breast cancer development. Women who have had cancer in one breast and are at high risk to develop the disease in their healthy breast are candidates for NSM. Finally, NSM in a breast that is affected with cancer may be an option for selected women, although there are restrictions on tumor size and distance of the tumor from the nipple.

"We're performing mastectomies on women who do not have advanced disease or any disease at all," says Pranay Parikh, MD, from Baystate Plastic Surgery, "and we're trying to preserve an important aesthetic component of the breast. The end product looks and feels like a breast, and that's important psychologically."

A breast cancer diagnosis alone can lead to anxiety, depression, and uncertainty. Feelings of loss, isolation, and helplessness can also surface when a women faces potentially disfiguring surgery such as mastectomy. Many women who lose one or both breasts report feeling as if they've lost their identities as women.

Drs. Cash and Parikh say the psychological aspects of breast surgery are hard to quantify, but that procedures like NSM, which preserve the breast in a more natural form, help to ease some of the mental and emotional anguish that many women face.

Outcomes

Positive outcomes are largely dependent on teamwork between the breast surgeon and plastic surgeon. Both Drs. Cash and Parikh say the breast and plastic surgery teams at Baystate work closely to ensure that patients receive the best care possible, mapping out the surgical plan and talking with the patient about her concerns and expectations prior to the procedure, and using a teamwork approach in the operating room.

While outcomes are generally positive, there can be complications. In addition to risks associated with any surgery, such as bleeding and infection, blood supply issues are a factor in breast surgery. If the blood supply is compromised, which can occur with the larger-sized breast, some of the skin or nipple could be lost to necrosis. Dr. Parikh says there is also a "minute theoretical potential" for recurrence of disease, but that it is slim and infrequent. Much more common is a loss of sensation in the nipple. Some women do still retain some nipple sensation following NSM, says Dr. Cash, but it is minimal at best.

"At the end of the day," says Dr. Parikh, "this is still a cancer-prevention operation. We're trying to access the breast in a thoughtful way to help keep tissue alive. Open communication between the breast surgeon and plastic surgeon is essential. Without one or the other, this wouldn't work."

Refer a Patient

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