Limited Lymph Node Removal Effective In Early Stage Breast Cancer

Women with early-stage breast cancer and one or two positive sentinel lymph nodes who undergo a procedure called sentinel lymph node dissection (SLND) fare just as well as those who have a more aggressive procedure called axillary lymph node dissection (ALND). In addition, the majority of women with small tumors could avoid ALND altogether if they elect to undergo breast-conserving therapy (lumpectomy and radiotherapy) rather than mastectomy, surgeons suggest in a new study published in the January issue of the *Journal of the American College of Surgeons*.

In the past when it came to staging and removing invasive breast cancer, surgeons relied on ALND, which removes about 10 or more lymph nodes in the under arm area. In recent years, however, SLND has grown in use as a standard of care for assessing the status of the lymph nodes. SLND removes only one to two lymph nodes - the ones that receive lymphatic drainage first from the primary tumor - and is preferred by many women who seek to avoid ALND and have a less invasive operation. SLND reduces the risk of surgical complications such as arm swelling, numbness, and range-of-motion problems.

“I think it’s really evident now that many patients we are seeing are very early stage, that the sentinel node procedure is picking up very small volumes of disease when the tumor has spread to the lymph nodes,” explained study coauthor Kelly K. Hunt, MD, FACS, Hamill Foundation Distinguished Professor of Surgery, The University of Texas MD Anderson Cancer Center in Houston. “Sentinel lymph node surgery is less invasive, provides accurate staging, and improves the quality of life for patients.”

Several years ago, the American College of Surgeons Oncology Group conducted a groundbreaking study referred to as the Z0011 trial in which the researchers concluded that the standard practice of ALND after lumpectomy and positive sentinel node analysis was not mandatory for all women with small tumors. In reporting their results in February 2011, the researchers found that women with Stage I or II breast cancer who had just one or two cancerous lymph nodes (sentinel) removed were as likely to be alive and free of cancer after five years as were women who had ALND, possibly because adjuvant therapies (chemotherapy and radiation) may kill cancer cells in the axillary lymph nodes.[*]

But a question remained: Could this change in practice -eliminating ALND– really impact a substantial portion of the breast cancer patient population? For the current study, the aim was to better understand applicability of the Z0011 trial results to the patient population at The University of Texas MD Anderson Cancer Center and to determine what percentage of the breast cancer population might ultimately benefit from it. This study involved 861 women treated at The University of Texas

MD Anderson Cancer Center between 1994 and 2009 who met the Z0011 trial criteria - Stages I or II breast cancer and one or two positive sentinel nodes. Researchers compared overall survival and disease-free survival rates for ALND versus SLND alone in women undergoing breast-conservation therapy (BCT) or total mastectomy (TM).

Of the 861 patients, 21.88 percent underwent SLND alone. Of the 56.7 percent who underwent BCT, 25.6 percent had SLND alone. Of 412 patients who underwent TM, 16.3 percent had SLND alone. After adjusting for tumor stage, the research team found no significant differences in survival between women undergoing SLND alone or ALND in both populations. Further, after examining their breast cancer patient population with Z0011 criteria, they estimated that up to 75 percent of their patients could avoid ALND if they undergo BCT.

“Now armed with the data from the Z0011 trial, we can say if the sentinel lymph node is positive and the disease is limited to one or two sentinel nodes, you can have breast-conservation therapy and avoid ALND, because we know that your survival will not be impacted by leaving the rest of the nodes intact,” Dr. Hunt explained. “With our current study, we are not saying that ALND should be eliminated, but we should use it more wisely so that all these other women, a huge percentage of patients we are treating, do not have to suffer the long-term debilitating consequences of that aggressive procedure.”

Many women are given the choice of whether to have a lumpectomy and radiotherapy or mastectomy. Sometimes women think mastectomy is the safer option, but that belief is not necessarily true. Now surgeons and patients have research that sheds some light on this issue. “In general, we prefer breast conservation for early stage breast cancer because it’s a smaller surgery, and it doesn’t usually require reconstruction and patients can get back to their regular activities more quickly. Yet women will choose mastectomy, for many different reasons, but a lot of what I hear is peace of mind,” she said. “But that’s really not going to translate into improved long-term outcomes.”

While breast cancer is the second most common type of cancer in women, breast cancer mortality rates have been steadily falling due to earlier detection and better treatment. “In terms of mastectomy versus breast conservation we can’t necessarily say that one procedure improves quality of life over another, but we now know that survival is not different between the two procedures,” Dr. Hunt said.

Other study participants include Min Yi, MD, PhD; Henry M. Kuerer, MD, PhD, FACS; Elizabeth A. Mittendorf, MD, FACS; Rosa F. Hwang, MD, FACS; Abigail S. Caudle, MD, FACS; Isabelle Bedrosian, MD, FACS; Funda Meric-Bernstam, MD, FACS; and Jamie L. Wagner, DO.

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