Study Finds Mixed Results From Low-Value Breast Cancer Surgical Deimplementation

“Deimplementation can take a long time, sometimes because people don’t trust the initial data, especially if it challenges what they’ve done for years or challenges their normal thinking about how things should be done.” –Stephen Edge, MD, FACS, FASCO

According to a recent systematic review, efforts to deimplement 4 low-value surgical procedures for patients with early-stage breast cancer have been applied inconsistently, bringing mixed results. Indeed, although investigators found significant risks for medical complications, higher health care costs, and work absences without increased survival rates for the surgeries, 2 of the procedures still were performed frequently.

The study appears in JAMA Surgery (published online June 3, 2020. doi:10.1001/jamasurg.2020.0322). Investigators from the University of Michigan examined 57 studies that focused on 4 procedures identified by the American College of Surgeons, the Society of Surgical Oncology, and the American Society of Breast Surgeons as having minimal value. The groups recommended deimplementing the surgeries as part of the Choosing Wisely initiative of the American Board of Internal Medicine, which aims to help patients avoid unnecessary medical tests, treatments, and procedures. Nevertheless, according to the study, reduction efforts were successful for only approximately one-half of the procedures.

Having practiced clinically in this space, senior author Lesly Dossett, MD, MPH, an assistant professor of surgery in the surgical oncology division at the University of Michigan and an oncologist and health services researcher at the school’s Institute for Healthcare Policy and Innovation, says she noticed that surgeons had largely stopped performing 2 of the procedures with very little formal deimplementation effort, whereas the remaining 2 procedures still are performed at a “really high rate.”

“We wanted to understand why that is,” she says. “And so one of our first steps was to conduct a systematic review on what impact these recommendations have had, but then also try to gauge the level of variation at the cancer patient, provider, and facility levels.”

The 2 low-value procedures that researchers found to have decreased significantly were:

- Routine axillary lymph node dissection in patients undergoing a lumpectomy when cancer cells are found to be present in only 1 or 2 lymph nodes; and
- Re-excision for patients who have undergone a lumpectomy and had pathology reports indicating cancer close to, but not at, the surgical margins.

KEY POINTS

- After designation of 4 low-value breast procedures by the Choosing Wisely initiative, rates of lumpectomy margin re-excision have decreased by nearly 40%, and rates of axillary lymph node dissection for patients with limited lymph node disease have decreased by approximately 50%.
- However, rates of contralateral prophylactic mastectomy continue to rise each year, accounting for up to 30% of all mastectomies performed for breast cancer.

The 2 low-value procedures that still are performed frequently were:

- Routinely performing a contralateral prophylactic mastectomy although cancer has been diagnosed in only one breast; and
- Sentinel lymph node biopsies in women aged 70 years and older diagnosed with hormone receptor-positive cancer.

Study Results

The researchers found that national rates of axillary lymph node dissection for patients with limited lymph node disease have decreased by nearly one-half, from 44% in 2011 and 30% to 34% in 2012 to 25% to 28% in 2013. They attribute this decline to the widespread recognition
of lymphedema as a frequent adverse effect of the procedure.

National rates of lumpectomy margin re-excision have decreased by nearly 40%, dropping from 16% to 34% before publication to 14% to 18% after publication of this recommendation as part of a consensus statement from the Society of Surgical Oncology and the American Society for Radiation Oncology. The researchers report that in addition to the inherent risk of tissue removal surgery, the procedure can alarm patients and lead them to choose to undergo a mastectomy.

The researchers found that deimplementation of both of these procedures resulted in decreased costs and improved patient-centered outcomes.

Conversely, national rates of contralateral prophylactic mastectomy continue to rise, accounting for 28% to 30% of all mastectomies performed for breast cancer during 2010 to 2012. Between 1995 and 1998, fewer than 2% of patients underwent this procedure.

Unfortunately, says Dr. Dossett, the number of contralateral prophylactic mastectomies performed has been increasing, especially among women who learn of well-known people making this choice. “A lot of times in this situation, we do a pretty poor job of discussing the risks of that surgery in terms of financial toxicity and long-term pain and disability,” she says. “We hardly ever talk about those things. There is a lot of data that says both providers and patients tend to overestimate the benefit and underestimate the risk of the procedure. Getting that more in balance, I think, is important.”

According to Stephen Edge, MD, FACS, FASCO, a professor of oncology and the vice president of healthcare outcomes and policy at Roswell Park Comprehensive Cancer Center in Buffalo, New York, it is important to point out that the choice to undergo the procedure is driven by both the physician and patient. “When patients come in and say, ‘I want a bilateral mastectomy,’ because they read about Angelina Jolie and Christina Applegate having the procedure, what do you do?” he says. “We say we should provide them with decision support tools to help them make informed decisions. So let’s say we do agree to shared decision making, and they decide on bilateral mastectomy even if they don’t really need it. This is a bigger issue than just a pure doctor deimplementation issue. This is where decision support tools come into play.”

Rates of the fourth low-value procedure, sentinel lymph node biopsy in women aged 70 years and older diagnosed with low-risk breast cancer, were disappointingly high, with a range of 80% to 88%. However, researchers found limited data regarding factors associated with high rates of sentinel lymph node biopsy in women in this age group. Although the procedure does not present much risk, it is of limited value, if any at all, Dr. Dossett says. “We’ve done a lot of focused work in this area, and we found that patients have a hard time understanding the reason why they don’t need to undergo these treatments is because their prognosis is excellent,” she says. Even when cancer cells are found, she adds, in most cases, women of this age would not be good candidates for additional treatment with chemotherapy.

Overall, Dr. Dossett says, the study found that there are not certain practices and facilities that uniformly do a good job in deimplementing these 4 procedures. “There’s definitely a variation,” she says. “For example, some academic centers do really well in some areas and poorly in others. Overall, there certainly is room for improvement.”

What is more, Dr. Edge says the continuation of certain procedures often occurs because old habits are hard to break. “Deimplementation can take a long time, sometimes because people don’t trust the initial data, especially if it challenges what they’ve done for years or challenges their normal thinking about how things should be done,” he says. “It may even threaten their practices and livelihood.”

Granted, he adds, sometimes deimplementation is easy, and sometimes it is difficult. “Contralateral prophylactic mastectomy is a really thorny one,” he says.

Dr. Dossett says that she and her colleagues are investigating different techniques to improve deimplementation success. “For example, we’re starting to trial behavioral interventions using provider scripts,” she says. “There’s some data that suggests if providers use scripts to talk to patients about why they don’t need imaging for cancer follow-up, for example, and reframe the discussion, we can help avoid the treatments that can cause significant harm without demonstrated benefit.”

Dr. Edge says deimplementation is going to become a bigger issue because of improved methods for identifying individuals who will benefit from therapy and, conversely, those who will not. “We will be narrowing down indications with targeted therapies allowing us to separate patients with the best prognosis rather than using the ‘everyone in the same bucket’ approach,” he says.

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