Obesity, Smoking Increase Risk Of Serious Complications After Immediate Breast Reconstruction With Implants

New research findings published in the December issue of the Journal of the American College of Surgeons confirm that factors such as smoking and obesity increase the odds of early implant loss in women who undergo mastectomy and immediate breast reconstruction with implants. Additionally, the study authors propose a unique risk-scoring tool that allows surgeons to better counsel patients preoperatively about their predicted risk for complications.

“The goal of our study was really to determine which patients are at greatest risk for experiencing significant complications with their implants in the first 30 days after breast reconstruction, with the hope that it will allow practicing surgeons, including reconstructive surgeons, an opportunity to better tailor preoperative risk counseling and improve patient selection,” said lead study author John P. Fischer, MD, a plastic surgery resident at the Perelman School of Medicine at the Hospital of the University of Pennsylvania, Philadelphia.

Breast reconstruction using implants is one of two surgical techniques available to women who want to rebuild the shape of their breasts following mastectomy. (Autologous reconstruction, in which surgeons use a woman’s own tissue that is often taken from the abdomen, is the other main technique.) An implant reconstruction procedure—which requires a less invasive operation — commonly involves placement of an expandable implant that is sequentially filled and then replaced at a second stage with a permanent implant to reconstruct breast tissue that’s removed during a mastectomy.

In an effort to characterize which perioperative risk factors are associated with 30-day implant loss (the unplanned removal of an implant for any reason) after immediate breast reconstruction, researchers analyzed data from the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) database. ACS NSQIP is the leading nationally validated, risk-adjusted, outcomes-based program to measure and improve the quality of surgical care in private sector hospitals.

This analysis included 14,585 women between the ages of 40 and 60 who had undergone immediate breast reconstruction. Consistent with previous studies that indicate factors such as smoking and obesity affect the ability to heal after surgical procedures, the study results showed that smoking makes a woman’s risk of early implant loss three times higher, and obesity confers a two to three times greater risk of early implant loss.

“One of the novel findings in our study is that it is not just obesity, but it is a state of progressive obesity that is associated with poorer outcomes,” Dr. Fischer said.

“The more severe the state of obesity, the higher their risk of this complication.”

Other factors associated with a greater chance of complications during the early postoperative period included age (being over 55 years) and operative risk factors such as bilateral reconstruction (having two implants) and direct-to-implant reconstruction, whereby women undergo a one-stage procedure, in which patients undergo mastectomy and then immediate permanent implant placement.

The researchers took their analysis one step further and created a simple, usable, clinical risk assessment tool that allows surgeons to predict early implant loss. This tool enables surgeons to come up with a composite risk score for each patient based upon her individual risk factors. The more risk factors, the greater chance of having a postoperative implant loss within 30 days. For instance, a woman considering bilateral reconstruction who is overweight and a smoker is going to be in a very high-risk group compared with a woman who is a non-smoker, of normal weight, and considering a unilateral implant.

“Less than one percent of all patients in our study experienced this complication occur, but when we stratified patients into low-, intermediate- and high-risk groups, the risk went from .39% to 1.48% to 3.86%,” Dr. Fischer explained. “It may seem like a small difference, but the difference is clinically significant because what it means is that one in 25 patients in the high-risk group will lose a device within 30 days.”

It is important for women who have been diagnosed with breast cancer and are considering breast reconstruction, to talk with their surgeons about the type of surgical procedure that may be best for them, based upon their preferences and risk factors.

The important message, Dr. Fischer noted, is that this new assessment tool is able to discriminate risk. The strengths are that this is a large, validated database, and the results are generalizable. Furthermore, the clinical risk is simple to implement into practice.

“If a patient learns she has a high risk for complications with breast implants, she may choose to have an autologous tissue based procedure. The risk might not be worth it, or, on the other hand, the patient accepts the risk. Either way, the expectations are better managed and overall satisfaction is likely to be higher,” Dr. Fischer said. “Our main desire is to help improve the outcomes and care for breast reconstruction patients.”

Other study participants include Ari M. Wes, BA; Charles T. Tuggle III, MD; Joseph M. Serletti, MD, FACS; and Liza C. Wu, MD, FACS.

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