

Studies identify complications in women undergoing mastectomy and immediate breast reconstruction

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About half of women who require radiation therapy after they have had a mastectomy and immediate breast reconstruction develop complications that necessitate a return to the operating room, but pre- or post-mastectomy chemotherapy does not appear to be associated with the need for additional procedures, according to two reports in the September issue of *Archives of Surgery*.

An increasing number of women are undergoing mastectomy as a treatment for breast cancer or as a means to prevent cancer if they have a genetic predisposition, according to background information in the articles. Previously, most women underwent mastectomy and then radiation or [chemotherapy](#), followed by a second procedure for [breast reconstruction](#) after completing therapy. However, many treatment facilities now offer the option of having breast reconstruction at the same time as mastectomy. Studies suggest immediate reconstruction is safe and has potential psychological and aesthetic benefits.

Rates of radiation therapy after mastectomy are also increasing. In one article, Dara Christante, M.D., and colleagues at Oregon Health & Science University Knight Cancer Institute, Portland, studied 302 mastectomy patients with stage I to III [breast cancer](#) treated between 2000 and 2008, identified via an institutional cancer registry. Of the 302 women, 152 had breast reconstructions, including 131 that were immediate; 183 (60 percent) underwent biopsies to detect malignancy in

their lymph nodes, of whom 108 (59 percent) had a negative finding; and 100 underwent postmastectomy irradiation to the chest wall.

"Postmastectomy irradiation and immediate breast reconstruction were each indentified as strong independent predictors of complications," the authors write. "Postmastectomy irradiation tripled the risk for an unplanned return to the [operating room](#) and immediate breast reconstruction increased that risk eight-fold. The combination of immediate breast reconstruction and postmastectomy irradiation resulted in nearly one of two patients returning to the operating room with complications compared with 7 percent of patients who received postmastectomy irradiation but did not undergo reconstruction."

Patients are typically counseled to avoid immediate breast reconstruction if they may be at risk of needing [radiation therapy](#), the authors note. However, among patients in the current study, seven of 39 (20 percent) who were considered low-risk enough to have immediate reconstruction required irradiation after final pathology reports were available.

"Therefore, predicting postmastectomy irradiation more accurately would permit avoidance of immediate breast reconstruction and its postmastectomy irradiation-associated complications, potentially decreasing the rate of unplanned operations," the authors write.

"Conversely, some women are unnecessarily directed away from immediate breast reconstruction because of an overestimation of their risk for postmastectomy irradiation. In this series, 12 of 22 patients (55 percent) who underwent delayed reconstruction did not undergo postmastectomy irradiation."

Knowledge of lymph node status significantly contributed to the ability to predict postmastectomy irradiation, the authors note. Therefore, women considering immediate breast reconstruction might wish to have a sentinel lymph node biopsy performed prior to mastectomy. "Patients

with a negative sentinel lymph node would be reassured that their risk with immediate breast reconstruction is low," the authors conclude.

"Patients with a positive sentinel lymph node would be identified as having a higher, quantifiable risk of meeting postmastectomy irradiation indications."

In another article, Anne Warren Peled, M.D., and colleagues at Helen Diller Family Comprehensive Cancer Center, University of California, San Francisco, studied 163 women who underwent mastectomy and immediate breast reconstruction between 2005 and 2007. Of these, 57 received chemotherapy before their surgery and 41 received chemotherapy post-operatively; all were followed for an average of 19.2 months to monitor postoperative complications.

Overall, 31 percent of patients had a complication requiring a return to the operating room. This rate did not differ based on whether women received chemotherapy before surgery, after or not at all. Postoperative infections developed in 18 patients (44 percent) who received chemotherapy after surgery, compared with 13 patients (23 percent) who received chemotherapy before surgery and 16 patients (25 percent) who did not receive any chemotherapy.

"Although systemic chemotherapy has been thought to increase wound-related complications, our study demonstrates that risk of non-infectious postoperative complications is not increased after mastectomy and immediate breast reconstruction among women who receive chemotherapy," the authors conclude. "Additionally, the timing of chemotherapy in relation to mastectomy did not have a significant impact on surgical outcomes. However, the wound infection rate was significantly higher in patients who had received adjuvant [postoperative] chemotherapy and in some cases resulted in delay of chemotherapy."

"These results suggest a possible benefit for pre-operative administration of chemotherapy in those patients who require chemotherapy, even in women who will undergo [mastectomy](#), and they support the use of immediate reconstruction in this patient population."

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