Immediate reconstruction, infection, and hematoma associated with increased odds of refusing breast reconstruction procedures

E. Hope Weissler, BA;[1] Julie Schnur, PhD;[2] Marisa Cornejo, BA; [1] Elan Horesh, MD, MPH; [1] Peter J. Taub, MD[1]
1. Division of Plastic and Reconstructive Surgery, Department of Surgery, Icahn School of Medicine at Mount Sinai
2. Dubin Breast Center, Icahn School of Medicine at Mount Sinai

Purpose: Breast reconstruction may be a prolonged process.[1] Patients may grow fatigued and refuse some procedures suggested by their plastic surgeons. The authors aimed to analyze factors associated with this phenomenon.

Methods: Patients undergoing breast reconstruction since 2003 with follow up in our institution's medical record system were reviewed. Chi-squared and independent t-tests were used to identify variables associated with refusal of procedures; significantly associated variables ($p<0.05$) were used to build a logistic regression.

Results:
433 patients were included. Women underwent an average of 3.01±1.96 procedures (range 1-12) with reconstructive courses averaging 588±656 days. Seventy-eight patients (18.0%) refused at least one procedure suggested by their plastic surgeon, of whom 58 never underwent the proposed procedure. Sixty-seven of the procedures were suggested as cosmetic revisions and twelve were suggested as salvage reconstructions or procedures to manage complications; there was no difference between procedures types regarding whether patients eventually underwent the procedure or not. Cancer stage, adjuvant therapies, axillary dissection, number of comorbidities, demographic factors (age, children, marriage, ethnicity), surgeon, and number of complications were not associated with refusing procedures in univariate analysis. Immediate reconstruction (4.62, 1.09-19.6), implant exposure (2.64, 1.00-6.94), hematoma (2.24, 1.15-4.38), and infection (1.98, 1.14-3.45) were associated with refusing procedures on univariate analysis. A logistic regression predicting refusal of procedures controlling for hematomas, infections, and immediate reconstruction was constructed. All three variables were associated with refusal of procedures, with immediate reconstruction associated with 162% increased odds ($p=0.030$), a history of any hematoma 80% increased odds ($p=0.022$), and a history of any infection associated with 70% increased odds ($p=0.016$.)

Conclusions:
Nearly one fifth of women refused breast reconstruction procedures. The fact that women with certain complications were more likely to refuse breast reconstruction procedures suggests that women may become fatigued due to the time- and energy-intensive management of breast reconstruction complications. The hypothesis that women have a finite amount of time and energy to devote to breast cancer care is supported by the fact that immediate reconstruction was also associated with procedure refusal. The time and energy required to undergo cancer treatment at the same time as breast reconstruction may divert motivation and resources that might otherwise be devoted to continuing reconstruction. This hypothesis must be further evaluated with the aid of prospectively-collected qualitative data.

---

[1] Losken A, Carlson GW, Schoemann MB, Jones GE, Culbertson JH, Hester TR. Factors that influence the completion of breast reconstruction. *Ann Plast Surg.* 2004; 52: 258-62. doi: 10.1097/01.sap.0000110560.03010.7c