Delayed versus Delayed-Immediate Autologous Breast Reconstruction: A Blinded Evaluation of Aesthetic Outcomes

Jesse R. Smith, BA, MS; Frank P. Albino, MD; Ketan M. Patel, MD; Maurice Y. Nahabedian, MD

Abstract

**Background:** In the setting of planned post-mastectomy radiation therapy (PMRT), immediate breast reconstruction using autologous tissue or prosthetic devices has been criticized for compromising delivery of PMRT and facilitating flap-related adverse events such as skin contracture, parenchymal induration, fat necrosis, and hyperpigmentation. (1-3) The aesthetic benefits of delayed-immediate reconstruction compared to delayed reconstruction have been postulated but remain unproven. (4-5) The purpose of this study was to compare aesthetic outcomes in patients following delayed and delayed-immediate autologous breast reconstruction.

**Methods:** A retrospective analysis was performed of all patients who underwent delayed or delayed-immediate autologous breast reconstruction by the senior author from 2005-2011. Post-operative photographs were used to evaluate aesthetic outcomes: skin quality, scar formation, superior pole contour, inferior pole contour, and overall aesthetic outcome. Ten non-biased reviewers assessed outcomes using a 5-point Likert scale. Fisher's Exact and Wilcoxon-Mann-Whitney tests were used for comparative analysis.

**Results:** Patient age and BMI were similar between delayed (n=20) and delayed-immediate (n=20) cohorts (p>0.05). Skin and scar quality was rated significantly higher in the delayed-immediate cohort (3.74 v. 3.05; p<0.001 and 3.41 v. 2.79; p<0.001, respectively). Superior and inferior pole contours were significantly superior in the delayed-immediate cohort (3.67 v. 2.96; p<0.001 and 3.84 v. 3.06; p<0.001, respectively). Delayed-immediate breast reconstruction had a significantly higher overall score compared to delayed breast reconstructions (3.84 v. 2.94; p<0.001) (Table 1). Smoking and reconstruction within 90 days from radiation were found to negatively affect aesthetic outcomes (p<0.05).

**Conclusions:** Preservation of native mastectomy skin allows for improved skin and scar quality, breast contour, and overall aesthetic outcomes following a delayed-immediate reconstructive algorithm as compared to delayed breast reconstruction.

**References**


**Disclosure/Financial Support**

No funding was utilized for the preparation of this manuscript. Dr. Nahabedian is a member of the Speakers Bureau for LifeCell Corporation (Branchburg, New Jersey). No other authors have relevant conflicts of interest or financial disclosures.