2 Stage Approach to Autologous Breast Reconstruction Is Cost Effective and Improves Aesthetic Outcomes

Rachel M. Akintayo, MD; Naikhoba C. Munabi, MD; Olushola B. Olorunnipa, MD; Julia L. Jin, BS; David M. Otterburn, MD.

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INTRODUCTION: The nipple-sparing mastectomy (NSM) improves aesthetic results after breast reconstruction through preservation of the entire skin envelope, obviating the need for reconstruction of the nipple areola complex (NAC). NSM, however, is associated with a higher risk for occult pathology and skin necrosis, which can require resection and compromise the reconstructive outcome.[1] In DIEP flap reconstruction; we utilize a 2-staged approach, which preserves "banked" skin during the initial reconstruction. After skin demarcation or final pathology of the NAC is revealed, a second minor procedure occurs to remove the banked skin or reconstruct the NAC if needed. This study was designed to identify how frequently the banked skin was utilized and the associated operative costs to determine if a staged approach to reconstruction is beneficial.

METHODS: A retrospective chart review of staged DIEP reconstructions by a single surgeon over 3 years was conducted. Both NSM and immediate DIEP reconstruction were identified as inclusion criteria. Demographic data, operative details, presence of skin necrosis, final pathology of the NAC, use of banked skin and second stage operative costs were computed.

RESULTS: 118 DIEP flap breast reconstructions were performed of which 58% were after a NSM. Of the NSM cohort, 40% experienced superficial skin necrosis, 15% developed full thickness skin necrosis and 2.9% were diagnosed with positive nipple margins. In total, 18% of cases required use of banked skin. No significant association was present when BMI, breast volume excised and final breast size was compared with the frequency of skin necrosis. With the exception of diabetes, no significant association was noted between use of banked skin and other demographical variables. A single stage reconstruction complicated by skin necrosis requiring serial wound debridement, washout, STSG and VAC therapy incurred a hospital charge of up to $67,301.45. In comparison, staged procedure which can be completed on an outpatient basis or office procedure, had a charge range between 0 to $12113.69. No significant difference between surgery length, anesthesia recovery time or OR costs was noted between patients who did or did not required use of banked skin.

CONCLUSIONS: Preemptive skin banking provides flexibility in reconstructive options and improves overall aesthetic outcomes at a reasonable low cost. These are important findings that may potentially prove to be practice changing.

REFERENCES:

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