Adipofascial Flap Versus ADM: An Intraoperative Selection Algorithm for Implant Coverage in Immediate Breast Reconstruction

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Abstract Text:

Purpose:Acellular dermal matrix (ADM) has gained popularity[1] to enhance lower pole coverage in immediate implant or expander reconstruction. Advantages of ADM include improved rapid reconstruction, postoperative expander filling and lower capsular contracture. Potential trade-offs include higher seroma, infection[2,3] and cost. Alternatives for implant coverage include local fascial flaps and inferior dermal flaps as autologous options in select patients.[4,5] Given the controversy about the use of ADM, this study provides an intraoperative algorithm for its selective use and review of clinical outcomes in two-stage immediate breast reconstruction.

Methods:A 2 year retrospective chart review of women who underwent the first-stage of two-stage immediate tissue expander reconstruction following skin-sparing mastectomy by two senior surgeons (. Patients who had an inferior dermal flap were excluded. Patients were divided into two groups: Group 1 was reconstructed with ADM as an adjunct, and group 2 had a local adipofascial flap. Primary outcomes measures included intraoperative and first visit expander-fill volume, time to reach final fill volume, expansion ratios and clinic visits. Secondary outcome measures included the size of expander, pain during inpatient stay, and complications.

Results:84 patients (148 expanders) were included: group 1 (ADM) had 41 patients (72 breasts) and group 2 (No ADM) had 43 patients (76 breasts). There were no statistical differences in patient demographics, mastectomy weight (P=0.10), and expander placement plane. There were no significant differences between the two groups of tissue expanders for intraoperative expansion volume (P=0.15), total expansion volume (P=0.28), and number of inflations required (P=0.18). Multivariate models adjusted for expander placement and postoperative radiation demonstrated that ADM patients had 0.13 higher expansion ratio intra-operatively (P=0.02) and at the first postoperative fill (P=0.001), but this did not differ significantly for final expansion volumes (P=0.58). There were 10 complications, 6 in the ADM and 4 in the no ADM groups. Complications were treated conservatively except two patients who had previous radiotherapy and requiring explantation for infection (ADM, N=1) and mastectomy skin flap necrosis (No ADM, N=1).

Conclusion:We provide an anatomical and simple surgical approach to successfully assess and perform adipofascial flaps for implant coverage. Autologous adipofascial tissue, if present, can provide reliable comparable coverage to the inferior pole of the

implant with no increased morbidity, complications, and comparable outcomes and can have a beneficial cost reduction.

Reference Citations:
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