

**DISCLOSURE/FINANCIAL SUPPORT:** *M Alain Danino is a consultant for Allergan and Johnson and Johnson None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.*

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

**Anita T. Mohan, MRCS, BSc; Soyun M. Hwang, BSc; Lin Zhu, MD; Prakriti Gaba, BS; Elizabeth Brickley, PhD; Jad M. Abdelsattar, MBBS; Ryan Reusche, MD, MPH; Nho V. Tran, MD; Michel Saint-Cyr, MD**

**PURPOSE:** Acellular dermal matrix (ADM) has gained popularity<sup>1</sup> 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<sup>2,3</sup> and cost. Alternatives for implant coverage include local fascial flaps and inferior dermal flaps as autologous options in select patients.<sup>4,5</sup> 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.

### REFERENCES:

1. Gurunluoglu R, Gurunluoglu A, Williams SA, Tebockhorst S. Current trends in breast reconstruction: survey of American Society of Plastic Surgeons 2010. *Ann Plast Surg.* 2013;70(1):103–10.
2. Antony AK, McCarthy CM, Cordeiro PG, et al. Acellular human dermis implantation in 153 immediate two-stage tissue expander breast reconstructions: determining the incidence and significant predictors of complications. *Plast Reconstr Surg.* 2010;125(6):1606–14.
3. Berry T, Brooks S, Sydow N, et al. Complication rates of radiation on tissue expander and autologous tissue breast reconstruction. *Ann Surg Oncol.* 2010;17 Suppl 3:202–10.
4. Saint-Cyr M, Dauwe P, Wong C, Thakar H, Nagarkar P, Rohrich RJ. Use of the serratus anterior fascia flap for expander coverage in breast reconstruction. *Plast Reconstr Surg.* 2010;125(4):1057–64.
5. Kijima Y, Yoshinaka H, Owaki T, Funasako Y, Aikou T. Immediate reconstruction using inframammary adipofascial flap of the anterior rectus sheath after partial mastectomy. *Am J Surg.* 2007;193(6):789–91.

## United States Epidemiology of Breast Implant-Associated Anaplastic Large Cell Lymphoma