**Comparison of Human ADM to Porcine ADM in Immediate Breast Reconstruction**

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**Abstract**

**Background.** ADMs in immediate breast reconstruction with breast implants has been well documented and accepted for use. (1) The purpose of this study is to compare the use of porcine ADM with human ADM, made by the same company, in immediate breast reconstruction using breast implants and tissue expanders. Glassberg (2) and Salzberg (3) have reported results that are comparable for use of both products. Glassberg has shown a lower seroma rate with porcine ADM.

**Method.** We conducted a consecutive case review over a 4 year period. This involved one hospital, 4 general surgeons and 2 plastic surgeons. All cases of immediate breast reconstruction for mastectomy using tissue expanders or breast implants with ADMs were included for calendar years 2010 to 2013. In 2010 and 2011 we were using human ADM and in 2012 and 2013 porcine ADM.

**Results.** Study includes 153 patients with 234 reconstructed breasts. We divide the results in two groups, reconstructed breasts with human ADM 98 and porcine ADM 136. Proportion of large, medium, and small ADMs used was similar. The age and BMI were consistent throughout the study. Summary of complications see Figure 1.

| | Mastectomy Weight | Initial fill volume | Implant loss | Infection | Skin loss | Seroma |
|---|---|---|---|---|---|---|
| Human ADM: | 793 grams | 279 ml | 7 (7%) | 6 (6%) | 4 (4%) | 5 (5%) |
| Porcine ADM: | 622 grams | 343 ml | 5 (4%) | 7 (5%) | 13 (10%) | 24 (18%) |

Figure 1. Summary of complications.

In the last year of the study, nipple sparing mastectomy (NSM) has been used in our group. In 2013: 21/73 mastectomies were NSM. 6/21 breasts had skin/nipple loss.
If these cases are excluded, the skin loss rate for porcine ADM becomes 5%, which is similar to human ADM, the rest of complication rates remain unchanged.
The seroma rate for porcine ADM is much higher, but with aspiration or open drainage, successful reconstruction was achieved with infection and implant loss rates similar to human ADM. Complications were associated with radiation therapy, smoking, diabetes and high BMI, but not predictive. Expansion process and aesthetic outcomes appear equivalent.

**Conclusion.** The use of porcine ADM and human ADM in immediate breast reconstruction are comparable, with greater seroma rates in porcine ADM. Our overall outcomes are similar to other reports(4).

**References**

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