will not differ significantly between AlloDerm and FlexHD when practice and surgeon variables are properly controlled.

METHODS: IRB approved retrospective review was conducted to identify consecutive implant-based reconstruction procedures performed at a tertiary academic medical institution by a single plastic surgeon over 15 years. Clinical endpoints of infection, seroma, hematoma, delayed wound healing, and explantation were recorded. Univariate analysis was conducted to compare patient characteristics across both ADM groups (AlloDerm/AlloDerm RTU vs. FlexHD Perforated). Potential confounding factors were accounted for in binomial regression.

RESULTS: Of the 233 patients that underwent matrix-based breast reconstruction, eleven (4.7%) developed infection that required IV antibiotic treatment or surgical exploration. Rate of infection was not statistically different between patients who received FlexHD (n=5, 5.0%) vs. AlloDerm (n=6, 4.6%), in both univariate (p=0.89) and binomial regression analysis (p=0.56). Breast-specific data also indicated that the infection rates between AlloDerm and FlexHD did not significantly differ (3.1% v. 2.9%, p=0.92). Likewise, there were no statistical differences in the rates of seroma, hematoma, explantation, and delayed wound healing. Of the patients who developed surgical site infection, a total of 5 (45%) had a history of either pre-operative (n=2) or postoperative (n=3) radiation.

CONCLUSION: Our study indicated no significant differences in infection rate between AlloDerm and FlexHD. Clinical endpoints of infection, delayed wound healing, seroma, explantation, and hematoma were all equivalent between ADM types. History of smoking was confirmed to be a predictor of infection. Nearly half of those who developed infection had a history of either pre-operative or postoperative radiation therapy. This is the only study comparing ADM types where the surgeon factor is adequately controlled.

Is There a Preferable Acellular Dermal Matrix - Breast Implants Match: A Comparative Electron Microscopy Scanning of Two Different Implant-Matrix Interfaces

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INTRODUCTION: Our goal is to characterize the ultrastructure at the interface of two textured expanders (Allergan BIOCELL® and Mentor SILTEX®) and an Acellular Dermal Matrix AlloDerm®, through a prospective randomized study, using scanning electron microscopy.

METHODS: We prospectively included who had a two stages breast reconstruction with an acellular dermal matrix AlloDerm®. Five patients had a Mentor Siltex® expander and 5 had an Allergan Biocell® expander.

Two cm² periprosthetic capsule specimens were sampled en bloc with the implant during expander to permanent implant exchange. One at the junction between AlloDerm® and the pectoralis major muscle and one at the site of AlloDerm®. All samples were analyzed under SEM using High Vacuum (HiVac) modes and Energy dispersive X-ray (EDX) studies. Observations were charted in order to tally and objectivise three parameters: texture/cellularity /presence of biofilm and bacteria.

These measurements were performed using Adobe Photoshop software (Adobe® Photoshop® CS6 Extended). This software allows for measurements of distance between two points on an image with a 2% margin of error.

RESULTS: In Group 1: Biocell®/AlloDerm®, We found no macro texture ingrowth of the capsule on the pores of the textured implants (Velcro-effect) at the implant-matrix interface. And a strong bacterial colonization of the implant porous surface, with presence of biofilm in 3 cases.

In group 2 Siltex® / AlloDerm®, we found a smooth capsule surface but significantly less bacterial and no biofilm development.

CONCLUSION: The lack of Velcro effect on the Biocell® implant in front of AlloDerm®, facilitate bacterial seeding, propagation and the formation of a biofilm in 3 of the specimens.

The findings can help guide clinical decision making with regards to selecting the most optimal implant surface when employing an acellular dermal matrix, in order to minimize long-term complications.
Adipofascial Flap Versus ADM: An Intraoperative Selection Algorithm for Implant Coverage in Immediate Breast Reconstruction

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PURPOSE: Acellular dermal matrix (ADM) has gained popularity 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 and cost. Alternatives for implant coverage include local fascial flaps and inferior dermal flaps as autologous options in select patients. 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 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.

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