Revisiting an Old Place: Single Surgeon Experience on Post-Mastectomy Subcutaneous Implant Based Breast Reconstruction

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BACKGROUND:
During the past decade, prosthetic-based breast reconstruction has been revolutionized with technological advancements. Reconstructive surgeons now have the needed technology to reconstruct natural-appearing breasts using anatomic silicone breast implants, tissue expanders, tools for intraoperative perfusion analysis (ICG) angiography, implantable bioprosthetic materials (ADM), and techniques for autologous refinements (fat grafting) . These tools when used in a reconstructive synergistic approach, open new possibilities of reconstruction for the plastic surgeon and improve results to the patient. The safety and efficacy of subcutaneous space implant-based breast reconstruction is reevaluated.

METHODS:
We performed a retrospective review of all skin sparing and nipple sparing mastectomy at our institution between April 2012 and September 2014. We included all consecutive patients with implant-based reconstruction in the subcutaneous space who did not require radiation therapy. All mastectomy flaps were evaluated clinically and with indocyanine green angiography. All devices were completely covered with ADM and placed in the subcutaneous space. We included both two-stage, tissue expander-to-implant and single stage direct-to-implant reconstructions. All patient photos were reviewed and compared with the pre op-photo. Aesthetics were evaluated using a visual scale of 1-4. Comparison and standard statistical analysis were performed.

RESULTS:
A total of 79 patients or 135 breasts were reconstructed in single or two staged procedures. At the time of abstract submission, 75 patients (94.9%) had completed implant based reconstruction and 4 patients (5.1%) received or have planned autologous reconstruction. Of the patients who completed reconstruction 82.3% had a course free of any unexpected event or complication. Three patients (3.8%) were treated for post-operative infection and were all explanted. Three patients (3.8%) had post-op bleeding and 2 (2.6%) of those required operative evacuation. Three patients (3.8%) were treated for seroma. There were no patients with implant extrusion or skin necrosis requiring operative intervention. Aesthetic evaluation showed that the majority of patients showed an improvement in their overall outcome.

CONCLUSION:
Subcutaneous post mastectomy breast reconstruction is safe and effective with comparable complication rates to standard techniques. The early aesthetic evaluation shows excellent promise in results. Long term studies are needed to evaluate the maintenance of early excellent shape of reconstructions over time.

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FIGURE LEGEND:
Figure 1. Tissue expander completely wrapped with Alloderm ® and filled with air prior to insertion into subcutaneous breast pocket.

Figure 2. Outcomes of current patient group of non radiated breasts post mastectomy with subcutaneous reconstruction.