COMPARISON OF TWO DIFFERENT ACELLULAR DERMAL MATRICES SLING(ALLODERM, DERMACELL) FOR IMPLANT-BASED IMMEDIATE BREAST RECONSTRUCTION

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Running title
Implant-Based Breast Reconstruction

Background: Acellular dermal matrix (ADM) is frequently used in implant-based breast reconstruction to cover the inferior aspect of the breast pocket. AlloDerm, a decellularized human dermal matrix, is aseptically processed and freeze-dried. DermACELL, a recently developed human ADM produced by an anionic detergent and endonuclease-based decellularization process. The purpose of this study is to compare outcomes of 2 different acellular dermal matrices (AlloDerm, DermACELL) for immediate breast reconstruction.

Materials and methods: Between April 2013 and January 2015, breast cancer patients who underwent implant-based immediate breast reconstruction at a single academic medical center were included. All patients were reconstructed with ADM.

Results: A total of 137 patients underwent 157 immediate implant-based breast reconstructions [with AlloDerm, n =100 (63.7 percent); with DermACELL, n = 57 (36.3 percent)]. Patient characteristics, including age at time of reconstruction, body mass index, mastectomy weight, implant size, size of acellular dermal matrix, cancer stage, neoadjuvant chemotherapy, adjuvant chemotherapy, radiation therapy, hormone therapy, target therapy were similar between groups (p > 0.05). The comorbidities of patients were similar between groups (p>0.05). But history of smoking was higher in AlloDerm group (8.0 % versus 1.8 %; p = 0.031), implant size was bigger in AlloDerm group (mean, 234 versus 180 cc; p = 0.004). Overall 26 complications (16.5 %) occurred. The incidences of seroma/hematoma (p = 0.354), infection (p = 0.535), and wound complications (p = 0.531) did not differ between groups. There was no difference in implant removal due to complication (p = 0.401) between groups.

Conclusion: Outcomes of two different acellular dermal matrices (AlloDerm, DermACELL) for implant-based immediate breast reconstruction were not different. DermACELL is convenient to use than AlloDerm because being provided at room temperature and ready to use directly.

Key words: Acellular dermis, Breast reconstruction, Breast cancer