

Post-Operative Antibiotic Prophylaxis for Implant-Based Breast Reconstruction with AlloDerm Tissue Matrix

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Abstract

Background: Tissue expander and implant based breast reconstruction remains one of the most common forms of post-mastectomy breast reconstruction in the United States. AlloDerm (LifeCell Corp., Branchburg, N.J.), an allogenic acellular dermal matrix, has been described for improving inferolateral prosthesis coverage and support and inframammary fold reconstruction.¹

Recommended guidelines for infection prophylaxis in breast reconstruction with AlloDerm tissue is antibiotic administration only prior to surgery. Previous studies demonstrate increased rates of post-operative rates of infection and seroma associated with allogenic acellular dermal matrix use.^{2,3,4} The purpose of this study was to evaluate the impact of post-operative antibiotic prophylaxis on infection rates in post-mastectomy expander based breast reconstruction with AlloDerm.

Methods: A retrospective study reviewed collected data of 96 patients (n=132 breasts) who underwent either immediate or delayed expander based breast reconstruction using AlloDerm. Infection rates were analyzed after patients received post-operative antibiotic prophylaxis for 48 hours, greater than 48 hours, or no post-operative antibiotics (Table 1).

Results: Infection rates for breast reconstructions with post-operative antibiotic course were 8.4% (48 hours) and 3.3% (> 48 hours). Patients with no antibiotic course had an infection rate of 31.6%. Infections were defined and confirmed by fluid culture, and treated with oral or IV antibiotics with possible implant removal. Patient demographics and comorbidities, previous chemotherapy, previous radiation, expander size, intraoperative fill volume, and length of indwelling Jackson-Pratt drains were recorded. Uncontrolled variables were time course between mastectomy and reconstruction, node dissection, prior operations, and whether reconstruction was unilateral or bilateral.

Conclusion: This study demonstrated significant differences in the rate of infection between the groups of patients undergoing breast reconstruction who received post-operative antibiotic prophylaxis and the group that did not. Statistical analysis of recorded parameters will provides further support. Our study strongly suggests optimal duration of post-operative antibiotic prophylaxis is at least 48 hours.

Table 1: Infection Rates in Patients Receiving Post-Operative Antibiotic Prophylaxis		
RESULTS	n (# of breasts)	Infection Rate
GROUP A No PO Abx	19	6 breasts (31.6%)
GROUP B 48 hrs PO Abx	83	7 breasts (8.4%)
GROUP C >48 hrs PO Abx	30	1 breast (3.3%)

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