



Immediate Implant-Based Prepectoral Breast Reconstruction With Alloderm Is Associated With Improved Clinical Outcomes: A Retrospective Comparison

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Background:

The most common breast reconstruction performed post-mastectomy is implant based reconstruction; currently, the majority of plastic surgeons place the implant partially below the pectoralis muscle with biologic mesh sling (subpectoral approach). More recently, surgeons have begun to place the expander or implant in front of the pectoralis muscle with total anterior coverage using biologic mesh (so called prepectoral approach).

Methods:

Patient data was extracted manually via electronic medical records in a retrospective record review of 54 consecutive immediate implant-based breast reconstruction patients from November 2015 through May 2017. The single senior author performed all the procedures. Patient's demographics, comorbidities, acellular dermal matrix use, mastectomy size, implant size and initial fill of expander, days for drain removal, surgical site occurrences and cost of surgery performed were recorded and further analyzed.

Results:

Comparing subpectoral to prepectoral implant breast reconstruction, prepectoral had better surgical outcomes in every category except minor necrosis, and no significant difference in number of days until last drain was removed ($P > .05$). Prepectoral breast reconstruction with Alloderm coverage was associated with lower infection, lower dehiscence, less major necrosis requiring intervention, less capsular contractures and less implant/expander removal. The Alloderm pieces for prepectoral reconstruction are 320cm² versus 170cm² for subpectoral sling; therefore, prepectoral breast reconstruction initial upfront cost is significantly more expensive ($P = .0143$) per case. However, the improved clinical outcomes of the prepectoral approach most likely justifies this cost difference; the technique enables surgeons to offer quality immediate implant breast reconstruction following mastectomy with a low complication rate. The study is limited due to its small sample size, retrospective nature, single surgeon experience, and inability to capture downstream economic financial data, inability to assess pain scores or narcotic consumption, and inability to assess quality of life metrics.

Conclusions:

Immediate prepectoral breast reconstruction with Alloderm coverage appears to yield major clinical benefits that may justify an increase in upfront costs related to the use of a slightly larger piece of biologic mesh. Further studies are required with better-matched groups, a larger sample size, prospective designs, and quality of life assessments.

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