

Three Years Experience with Absorbable Mesh in Single-Stage Breast Reconstruction: A Cost-Effective Alternative

Heather R. Faulkner, MD, MPH; Robert Neumann, MD; Oren Tessler, MD, MBA; Daniel Maman, MD; Barbara L. Smith, MD, PhD; William G. Austen Jr., MD

Purpose

The current state of healthcare in the United States mandates elimination of unnecessary costs while increasing efficiency in patient care. Traditional implant-based breast reconstruction encompasses multiple stages, and the use of acellular dermal matrix (ADM), both of which significantly increase the cost of care. Immediate single-stage direct-to-implant (DTI) breast reconstruction is an efficient reconstructive method. The senior author (WGA) has used absorbable knitted mesh (Vicryl™ - polyglactin 910) as an inferior pole sling in DTI breast reconstruction since 2011. We report 3 years of outcomes and cost savings data using this material.

Methods

All patients who underwent DTI since we started using mesh in 2011 were entered retrospectively into our database. Patients included in the analysis are from 2011 through December 2014. Information captured includes demographics, intra-operative details, post-operative data (including complications), cancer-related therapies, and comorbidities. Stata/IC 13.1 was used for statistical analysis.

Results

DTI was performed on 155 patients (56 unilateral, 99 bilateral; 254 breasts). A representative patient is shown in Figure 1 (pre-op) and Figure 2 (post-op). Mean age was 51.9 years (range 24-79.8 years). Mean post-op time was 25.2 months. Prophylactic mastectomy rate was 39.4%. Percentage of irradiated breasts (pre- or post-operative) was 28.4%. Infection rate was 1.6% (n = 4 breasts). Five implants (2%) were exposed (3 were salvaged). Seven implants (2.8%) were removed. Ten breasts (3.9%) had capsular contracture (5 had additional surgery: 2 flaps, 3 capsulotomy/capsulectomy with implant exchange). Capsular contracture was significantly greater in irradiated breasts (11.1% vs 1.1%, $p = 0.0002$). Material cost savings using mesh over ADM was greater than \$585,000.

Conclusion

We have 3 years of experience using absorbable knitted mesh for DTI. We continue to maintain a low complication rate and a high level of patient and surgeon satisfaction with aesthetic outcomes. In addition, we have achieved substantial efficiency and cost reduction in comparison to the use of ADM.

Legends

Figure 1: Pre-operative

Figure 2: Post-operative – 31 months after bilateral DTI with implants and absorbable mesh

Figure 1



Figure 2

