

The Use of Synthetic Mesh in Reconstructive, Revision, and Cosmetic Breast Surgery

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Abstract

Background Recent evidence suggests that the use of acellular dermal matrices in prosthetic breast reconstruction, revision, or augmentation may be associated with an increased risk of complications. In this article we report our results of a potential alternative, using a new long-term resorbable synthetic matrix in these cases.

Methods A retrospective study was performed evaluating 11 primary breast reconstructions (19 breasts), 43 secondary reconstructions (77 breasts), 3 augmentation/augmentation mastopexys (6 breasts), and 5 mastopexys (10 breasts) in 62 patients using TIGR[®] Matrix Surgical Mesh.

Results Follow-up ranged from 9.4 to 26.1 months with an average follow-up of 16.5 months. Average age was 54 years. The number of patients who had prior radiation was 9 (14.5 %). Four patients (6.5 %) were smokers. Postoperative breast complications included necrosis of two flaps (1.8 %), two seromas requiring drainage (1.8 %), four infection/extrusions (3.6 %), two relapses of inframammary fold/malposition (1.8 %), and two with rippling (1.8 %). Other complications included six cases of asymmetry that required a corrective procedure. In a variety of breast surgery cases very good aesthetic results were achieved.

Conclusion The long-term absorbable synthetic matrix, TIGR[®] Matrix Surgical Mesh, shows potential when used as temporary reinforcement in patients undergoing breast reconstruction or breast surgery revisions and in primary aesthetic procedures, and it appears to be a viable alternative to the use of acellular dermal matrices.

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Keywords Absorbable synthetic surgical mesh · TIGR[®] Matrix Surgical Mesh · Long-term resorbable surgical mesh · Acellular dermal matrix · Reconstructive breast surgery · Tissue expander implant breast surgery

Introduction

The use of tissue expanders has become the most common technique of performing breast reconstruction as evidenced by the 2011 ASPS Plastic Surgery Statistics Report [2]. Chedomir Radovan, MD, a great innovator of the 1970 s, is credited with the development of the Radovan breast expander [31, 32]. He initially described placing tissue expanders in the subcutaneous position. This technique evolved over time leading to the placement of the expander in a submuscular position. This approach to expander-based breast reconstruction is used to maintain total muscle coverage in order to protect the expander from the incision and potential exposure [3]. This technique includes elevating the pectoralis major muscle, serratus anterior muscle, and the anterior fascia of the rectus abdominus muscle [4, 7]. The rigidity of the fascia inferiorly restricts inferior pole expansion and often results in

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