CORRECTING BREAST IMPLANT COMPLICATIONS

ABSTRACT

Objective
Breast implants are associated with many potential complications. Some of these complications, such as asymmetry or unnatural movement, require operative intervention for correction. In this article, the authors report on the use of a new long-term synthetic resorbable mesh to correct a representative breast implant complication.

Patient/Method
A retrospective look at a case was performed of a 46-year-old patient who presented with asymmetry, synmastia, and unnatural implant movement with muscle contraction, after having undergone bilateral sub-muscular implant-based breast augmentation and eight additional corrective breast surgeries, including vertical mastopexy, by another surgeon. The patient subsequently underwent bilateral breast augmentation revision incorporating the use of a new long-term resorbable synthetic mesh (TIGR® Matrix) to correct her problem.

Results
The patient experienced no intra/postoperative complications. She enjoyed good aesthetic improvements in both breasts and was pleased with the results. The authors’ view of the result of the operative revision was in line with the patient’s.

Conclusion
This new long-term synthetic resorbable mesh appears to be a very useful tool in the correction of complications resulting from implant-based breast surgery.

When breast implants are placed in a sub-pectoral position, this can often lead to unnatural movement of the implant with muscle contraction, loss of ideal position of the implant, and exaggerated upper pole fullness.

Keywords
reconstructive breast surgery, breast reconstruction, cosmetic breast surgery, long-term synthetic mesh, TIGR® Matrix mesh, acellular dermal matrix, revision breast surgery, breast implant complications
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lead to unnatural movement of the implant with muscle contraction, loss of ideal position of the implant, and exaggerated upper pole fullness.

In this article, the authors present the case of one patient who had an implant-based breast complication that was treated operatively and included the use of TIGR® Matrix, a new synthetic long-term resorbable mesh. The patient had previously undergone bilateral sub-muscular breast implant augmentation many years previously. The patient developed capsular contracture and underwent eight subsequent surgeries, including vertical mastopexy. She unfortunately developed unacceptable breast asymmetry, synmastia, and abnormal movement that worsened with muscle contraction.

**Patient and method**

A retrospective review was performed on a patient who presented to a private practice after having undergone bilateral sub-muscular breast implant augmentation and subsequent vertical mastopexy by another surgeon. The patient presented complaining of breast asymmetry that worsened with muscle contraction. After verbal and written consent were given, this patient underwent a bilateral breast augmentation revision. Previous incisions were used to gain access to the capsule. A capsulotomy was performed and the previously placed intact implants were removed. Aggressive capsular scoring was performed to facilitate vascularisation of the mesh. The retracted pectoral muscle was replaced in its original position. The implants were replaced with 325 cc moderate plus profile smooth gel implants. These were placed in the sub-fascial position, where the fascia was present and the TIGR® mesh scaffold was placed above the implant where the fascia was absent.

**Results**

The female patient was 46 years of age. She was seen in consultation 22 years after her initial breast augmentation. Her initial breast augmentation was complicated by postoperative capsular contracture, leading to eight additional surgeries, including bilateral vertical mastopexy. The authors’ preoperative examination showed the patient to have breast asymmetry, synmastia, and excessive movement that was worsened with muscle contraction (Figure 1). Intraoperatively, it was discovered that the patient’s pectoral muscles had retracted superiorly (Figure 2). The type of implants that the patient had in place were 425 cc high profile gel implants placed in the sub-muscular position. The skin flaps were also noted to be very thin. Postoperatively, the patient experienced no complications. She had good aesthetic improvements in both breasts with improved symmetry and alleviation...
of abnormal movement of the implants with muscle contraction. She was quite pleased with the results. Postoperative photographs were taken 3 weeks after treatment (Figure 4). The authors’ opinion of the result of the operative revision was in line with the patient’s.

**Discussion**

Hundreds of thousands of implant-based breast surgeries are performed worldwide each year. Breast implant devices are numerous, ranging from gel to saline, smooth to textured, round to anatomic, and adjustable to non-adjustable. Just as many techniques exist as there are implant devices. No matter the type of implant or the technique used, complications may well occur. These complications often require another operation to correct the problem.

A recent 5-year follow-up of a line of breast implants showed a risk of reoperation of 23.8%.

The use of acellular dermal matrices has become very popular in implant-based revision surgery. A study by Spear et al showed that these matrices could be incorporated in the treatment of capsular contracture, rippling, implant malposition, and soft tissue thinning. The use of these matrices in revision breast surgery allow additional support to the lower pole of the breast and implant, extend the pectoralis muscle, and can smooth surface abnormalities.

In this article, the authors have reported on a case in which a patient had previously undergone a bilateral breast augmentation with implants and multiple revisions, including bilateral mastopexy by another surgeon. She was unhappy with the results and was seen in consultation for symmastia and breast asymmetry that worsened with muscle contraction. She was then electively taken to the operating room and had an augmentation revision performed using the new synthetic long-term absorbable mesh, TIGR® Matrix, as an alternative to acellular dermal matrices.

TIGR® Matrix is the first synthetic long-term resorbable surgical mesh. It is a copolymer of glycolide, lactide, and trimethylene carbonate. Pre-clinical trials of this mesh show that it is vascularised very rapidly.
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> and is replaced by well-organised host tissue. The mesh became fully absorbed at 36 months post-implantation. This gives it the ability to aid in tissue support for a long period of time. These qualities make it an ideal reinforcement in revisionary surgery after breast implant complications.

TIGR® Matrix was shown to be efficacious in the patient featured in this article who presented with a breast implant complication. Excellent functional and aesthetic improvements were made with the revision. To date, the authors have used this surgical mesh in over 40 breast revision cases with very good results and patient satisfaction. The authors continue to find new ways to use it in breast surgery, such as primary reconstruction, reconstruction revision, augmentation/mastopexy revision, and breast implant revision and are consistently happy with the results.

Conclusions

Based on the case presented in this article and other cases like it, the authors believe the long-term synthetic resorbable mesh, TIGR® Matrix, is a very useful tool in the correction of certain complications resulting from implant-based breast surgery. However, for patients who have undergone radiation treatment, the result can be slower healing and incorporation of the mesh implant. Further studies on the uses of the TIGR Matrix are ongoing.

Key points

- TIGR® Matrix is the first synthetic long-term resorbable surgical mesh
- Pre-clinical trials of this mesh show that it is vascularised very rapidly and is replaced by well-organised host tissue
- Synthetic absorbable mesh offers a viable alternative to acellular dermal matrices in breast surgery procedures

"TIGR® Matrix is the first synthetic long-term resorbable surgical mesh. It is a copolymer of glycolide, lactide, and trimethylene carbonate."

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