Video Commentary

Commentary on: Bioabsorbable Polydioxanone Mesh for Soft Tissue Reinforcement in Revisional Breast Surgery

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Control over the breast pocket when using breast implants is a key aspect of aesthetic breast surgery and can determine the difference between a poor and an excellent long-term result. Loss of pocket control, whether in the form of malposition, capsular contracture, stretch deformity, etc., generally results in the need for revisional surgery, which can be quite frustrating and costly for the patient and surgeon. Knowing this, it is imperative that plastic surgeons placing breast implants anticipate possible complications in order to avoid them in the first place (Video).

For surgeons like myself who perform a large number of complex breast revisional cases each year, certain recurrent themes become quite obvious. Perhaps the most common problem I see for revision is related to tissues that are too weak to support the implants that were placed. In many cases, the implant size was generally too large for the patient’s anatomy, causing a predictable malposition or stretch deformity and loss of pocket control. In other cases, poor elasticity and tissue damage from events such as weight loss and pregnancy can result in problems even when an appropriately sized implant was selected. In the case of capsular contracture, the initial loss of pocket control is related to the pocket contracting to a smaller size than the implant, thus limiting the implant's movement and distorting its shape. However, once a complete capsulectomy is performed to correct a capsular contracture, the opposite problem can occur, and the pocket can stretch excessively, allowing the implant to drop to a lower or more lateral position than desired.

For any revisional surgery, it is important for the surgeon to understand what dynamics created the problems in the first place, so these dynamics can be altered and addressed during the revisional surgery. Reinforcement materials are an extremely useful tool in the pursuit of pocket control and can be a game changer for patients with inherently weaker tissues. For many years, acellular dermal matrices (ADMs) represented the best option for pocket reinforcement; however, many newer synthetic resorbable meshes are now available to assist surgeons to maintain a stable result. Advantages of these products relative to

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ADMs include lower cost, ease of placement during surgery, the lack of need for a drain, and lower potential for the material to stretch. Each product will have its own set of pros and cons, and it is useful to have experience with a wide array of these products in order to tailor the revisional surgery to the unique needs of each patient.

In this article,1 Durasorb (Surgical Innovation Associates, Chicago, IL)—a polydioxanone-based mesh—is discussed as a viable soft tissue reinforcement material for use in revisional breast augmentation surgery and also in mastopexy surgery without implants. The specific reasons for use vary, but the goal in each case is to stabilize the implants and/or breast tissue, and provide additional soft tissue support in order to maintain a consistent long-term result. The authors show that for their series of patient the product was safe and effective in cases of malposition, capsular contracture, recurrent ptosis, and other unspecified cosmetic issues. The average implant size used was in the 420-cc range, and the average follow-up was approximately 1 year postoperatively. Given the larger implant size, reasonable follow-up time (one would expect most recurrent malposition and stretch issues to present within a year after surgery), and lack of significant complications, it appears that this series of patients had safe and effective surgery using Durasorb.

Most problems with this study are due to the relatively small numbers of patients in the cohort and the lack of histological assessment (or even direct pocket visualization) to see how the mesh impacted the capsule once it was fully resorbed. These concerns were acknowledged by the authors, who understand that more studies are necessary in order to have more definitive conclusions regarding the long-term properties, behaviors, and benefits of Durasorb. Additionally, while the theme of soft tissue support is consistent, there are significant mechanical and technical differences between using support for implants vs autologous tissue, and perhaps these pathways should have been addressed in separate papers focusing on the specific complications and concerns facing patients in these 2 different categories.

Clearly, due to the above limitations, this paper will not provide a definitive final conclusion regarding the safety and efficacy of Durasorb. More studies with larger patient cohorts are needed, and future studies should include histological and gross analysis of the capsule at various points in the postoperative period in order to better understand how Durasorb affects long-term soft tissue strength. That said, this study helps to start this evaluation process, and even with a relatively small number of patients, it is comforting to see that control of the breast was achieved, and minimal complications were seen. These data will likely help encourage surgeons to try this product without fear of significant issues, and as more patients have Durasorb placed and larger studies that address the limitations of this paper are performed, we will likely gain a clearer picture of how well it performs in various anatomical situations and how favorably it compares to other resorbable mesh products.

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**REFERENCE**

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