Response to "The Benefit of Acellular Dermal Matrix Placement in Primary Breast Surgery May Outweigh the Cost in Patients at High Risk of Capsular Contracture"

Shayda Mirhaidari, MD; and Douglas S. Wagner, MD

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We appreciate Dr Kornstein's[1] interest in our study[2] evaluating capsulectomy, implant exchange, and placement of acellular dermal matrix (ADM) as an effective treatment of capsular contracture in primary breast augmentation patients. We agree that the cause of capsular contracture has not yet been thoroughly elucidated and that identifying those patients at risk could prove beneficial in offering them prophylactic treatment.

The cause of capsular contracture is felt to be multifactorial and to be influenced by implant position, surface texture, filler material, radiation, incision site, and postoperative hematoma. The underlying belief, however, is that an inflammatory response occurs at the cellular level, leading to a pathologic contracture of the capsule.[3,4]

Kornstein proposes that inadequate soft tissue support may ultimately lead to capsular contracture. He correlates the poor parenchymal support found in massive weight loss and post pregnancy patients to the process of dermal tension or stretching that is associated with increased scar tissue formation. By utilizing ADM prophylactically in these patients, he has been able to avoid capsular contracture at 18 months follow-up.[5]

We subscribe to the biofilm theory of capsular contracture in which bacterial colonization develops and causes a chronic inflammatory state. Microorganisms become adherent to the silicone elastomer shell, and therefore it is logical that a total capsulectomy and implant exchange are necessary to remove the biofilm and establish a clean pocket. Although Dr Kornstein has had many years of experience utilizing Seri Scaffold and ADM in breast and body contouring surgery, we have no relevant experience with synthetic scaffolds. It would seem that placement of a synthetic scaffold in the plane between capsule and vascularized tissue, without removing the already contracted and colonized capsule, would not be effective in treating established capsular contracture.

The ability of ADM to decrease the rate of capsular contracture may be related to its ability to inhibit the foreign body inflammatory response.[6] We believe that the altered nature of the capsule at the ADM implant interface resists the contractile forces of the activated myofibroblasts. It is not known whether the purported biologic/antiinflammatory property of the matrix or the mechanical prevention of circumferential contraction is more important.

The biggest risk factor for capsular contracture is a history of previous capsular contracture, making

From Northeast Ohio Medical University, Akron, OH.

Corresponding Author:
Dr Douglas S. Wagner, Crystal Plastic Surgeons, 3925 Embassy Parkway, Suite 300, Akron, OH 44333, USA.
E-mail: dwagner@crystalclinic.com

this one of the most challenging patient populations. Prophylactic utilization of ADM at the primary breast operation can be considered a patient's insurance policy against capsular contracture. Although the cost of ADM at the initial operation may be prohibitive for some patients, it would surely be worth it in the patients at highest risk of capsular contracture. A comparison of our patients who have elected to have ADM placed at their initial operation and those who have elected for a traditional augmentation would allow for a follow-up cost analysis study.

We agree ADM can be utilized to support the implant and the deficient soft tissue to ameliorate malposition and bottoming out in patients with unsatisfactory primary operations. We also agree that the primary utilization of ADM or prosthetic mesh in weight loss patients and others with poor-quality soft tissues is likely beneficial for maintaining proper shape and implant position. As yet, there is no evidence that the utilization of prosthetic mesh can reduce the incidence of primary or recurrent capsular contracture.

Disclosures

Dr Wagner is a member of the LifeCell Speaker's Bureau. LifeCell (Branchburg, NJ) manufactured Strattice Pliable, has been acquired by Allergan (Irvine, CA), and now manufactures Strattice. Dr Mirhaidari declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

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