The Use of Human Acellular Dermal Matrix for the Correction of Secondary Deformities after Breast Augmentation: Results and Costs

Tristan L. Hartzell, M.D.
Amir H. Taghinia, M.D.
Jerry Chang, M.D.
Samuel J. Lin, M.D.
Sumner A. Slavin, M.D.

Boston, Mass.

Background: Secondary breast deformities following breast augmentation constitute some of the most challenging and difficult problems to correct. Although the application and efficacy of human acellular dermal matrix in breast reconstruction has been previously reported, there is little information in the literature relating to its indications, results, or cost in aesthetic breast surgery.
Methods: This study retrospectively reviewed a single surgeon's experience in correcting secondary deformities with human acellular dermal matrix after breast augmentation from 2005 to 2009. A total of 23 patients (38 breasts) were included in the study.
Results: There were 28 breasts with surface irregularities and 22 breasts with implant malposition (12 had both). On average, 1.13 sheets of human acellular dermal matrix were used per breast per operation. At the authors' institution, this material equates to a cost to the patient of $3536 to $4856 per breast (depending on sheet size and thickness). Twenty of 23 patients (87 percent) [32 of 38 breasts (84 percent)] had improvement in their breast deformity after breast revision surgery. Three patients (six breasts) needed another cosmetic breast operation before the end of the follow-up period: two because of persistent surface irregularities and one with a request for larger implants. One patient (3 percent) had an infection in one breast, requiring removal of the human acellular dermal matrix.
Conclusions: Human acellular dermal matrix is a useful and safe adjunct for correction of contour deformities after breast augmentation. Its high cost, however, may be a deterrent to widespread use in self-pay patients. (*Plast. Reconstr. Surg.* 126: 1711, 2010.)

The revision of the augmented breast is a challenge for plastic surgeons.[1] These patients are frequently thin, with a scarred breast envelope and a paucity of local tissue.[2] Furthermore, they often have extremely high expectations and are disappointed by the need for a reoperation.[3] One consequence is that some of the largest malpractice losses in plastic surgery are attributable to adverse outcomes from breast implant revisions.[4]

Several of the more common reasons for revision are surface irregularities (i.e., rippling/wrinkling, bulging, capsular contracture), implant malposition, and the hyperdynamic deformity caused by excessive division of the pectoralis major muscle medially.[5] Unfortunately, these are difficult problems to treat.[1,3,6,7] Furthermore, attempting to address one problem often begets another problem. Suture plication of the capsule in a thin breast envelope can lead to skin dimpling and surface irregularities. Capsular excision and coverage of surface irregularities by rearranging local tissue can produce an undesired change in implant location.

The use of acellular dermal matrices to help reposition the implant and mask surface irregularities may be one solution. They are an attractive option because, after implantation, acellular dermal matrices become incorporated into living tis-

From the Divisions of Plastic Surgery of Brigham and Women's Hospital and Beth Israel Deaconess Medical Center, Harvard Medical School.
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