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LETTER TO THE EDITOR

Does Acellular Dermal Matrix Really Reduce the Risk of Recurrent Ptosis after Mastopexy?

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Sir:

Abdelkader et al[1] evaluated the use of acellular dermal matrix (ADM) in a contralateral mastopexy after unilateral breast reconstruction. The authors measured suprasternal notch-to-nipple distances before surgery and at intervals after surgery, from 1 week to 3 years. They concluded that, from 6 months onward, women treated with ADM were less prone to recurrent ptosis than controls. The authors report a significant difference ($P < 0.05$), although they also state in their discussion that they were unable to detect a significant difference, possibly because of their small sample size (n = 24).[1] Fortunately, they report their raw data, so that an independent analysis is possible (Table 1).

Although the authors suggest in the text that the comparison starts at 6 months, the percentages in their tables reflect changes between 1 week after surgery and 36 months. The mean increase in suprasternal notch-to-nipple measurements in the ADM group was 7.55%, compared with 8.73% in the control group. A *t* test performed by this author[2] reveals a *P* value of 0.3871. Other comparisons are also nonsignificant, regardless of whether 1-week or 6-month measurements are used as a baseline (Table 1).

There is likely to be substantial reading error depending on how the measuring tape is held and by whom. More sophisticated methods are available to evaluate ptosis.[3] Moreover, nipple level does not correlate with the level of the lower pole of the breast and does not measure glandular ptosis.[3]

Previous authors have attempted to demonstrate a benefit using an absorbable synthetic mesh overlapping the lower pole breast parenchyma.[4–6] However, these claims do not hold up when subjected to measurements.[7–9] A recent systematic review found that implanted mesh does not prevent ptosis and bottoming out after mastopexy.[9] ADM has been advocated as a method to prevent capsular contracture[10–14]; its efficacy and safety have been challenged.[15–17]

ADM is a euphemism for processed cadaveric skin or xenografts.[16] There is an associated increase in the risk of infection, seromas, and the puzzling red breast syndrome.[18] Drains are needed. Indeed, the authors encountered a large seroma and a patient with red breast syndrome that resolved in 9 weeks. The patient depicted in their 3-month postoperative photographs also has persistent erythema, which would add at least one more patient with this complication. Three complications related to ADM among the 12 treated patients (25%) are not trivial. Seromas are rare in non-ADM mastopexy. ADM may be palpable and can cause artifacts on mammograms.[19] This biological material is not 100% sterile[20,21] and may contain nuclear material and donor DNA.[22] This fact may surprise surgeons who believe this "acellular" product (a misnomer) has been processed to remove all cellular materials. ADM is very expensive.[13,19] This product is not approved by the U.S. Food and Drug Administration for use in breast surgery.[14,16]

Regardless of other considerations, the authors' data do not support their claim. Even if there were a small benefit, it is not clear that insertion of ADM justifies an increased complication rate, additional expense, and 40 minutes of operating time.[1]

Table 1. Comparison of Changes in Mean Suprasternal Notch-nipple Measurements in Authors' Study*

Group	Change 1 wk to 36 mo (cm)	Change 1 wk to 36 mo (%)	Change 6–36 mo (cm)	Change 6–36 mo (%)
ADM				
Mean	1.58	7.55	0.67	3.20
SD	0.67	3.16	0.49	2.36
No ADM				
Mean	1.83	8.73	0.83	3.98
SD	0.72	3.40	0.72	3.42
P	0.3868	0.3871	0.5140	0.5203

*Independent samples *t* test.

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DISCLOSURE

Dr. Swanson receives royalties from Springer Nature (Cham, Switzerland). Dr. Swanson is a plastic surgeon in private practice in Leawood, Kansas.

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