Submuscular Implant-Based Reconstruction with Total Coverage: Is It Time to Move On?

Sir:

We read with great interest the article written by Ivey et al.1 Their publication clearly demonstrates their vast experience of subpectoral implant-based breast reconstruction and demonstrates the superiority of total muscle coverage compared with the use of meshes. It is interesting to note that their outcome of total muscle coverage compares favorably with mesh-based subpectoral breast reconstruction. It seems to be cost-saving, avoiding the enormous expenses associated with the use of meshes. However, the authors have not evaluated short- or long-term patient satisfaction using either formal BREAST-Q or modified questionnaire.

In 1971, Snyderman and Guthrie were the first to report the technique of prepectoral implant breast reconstruction following radical mastectomy for breast cancer.2 Advances in biomaterials and meshes has enhanced the evolution of implant-based prepectoral breast reconstruction over the past few years.

We do know that evolution of subpectoral to prepectoral implant-based reconstruction occurred to avoid the problems of animation, pain, and shoulder dysfunction.3 However, the authors have not mentioned or measured any of these parameters in their study. We have previously graded the degree of animation deformity and reported an animation deformity rate of 70 percent in our experience.4 A survey conducted by Becker and Fregosi in patients who underwent submuscular reconstruction revealed that all patients had some form of animation deformity.4 Thus, it is important not to underestimate the problems associated with submuscular technique and appreciate the degree of disruption of chest wall musculature that occurs with this technique and its sequelae. However, we do agree with the authors that the cost-effectiveness of meshes poses a major problem and thus we can consider suitable alternatives of meshless prepectoral implant reconstruction with delayed enhanced lipomodeling.

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References


Reply: Total Muscle Coverage versus AlloDerm Human Dermal Matrix for Implant-Based Breast Reconstruction

Sir:

My colleagues and I are very grateful for the additional comments pertaining to the study comparing total muscle coverage and acellular dermal matrix (AlloDerm; LifeCell Corp., Branchburg, N.J.) in the setting of implant-based breast reconstruction.1 Certainly, there has been a tremendous paradigm shift in terms of prosthetic breast reconstruction from complete prepectoral reconstruction to total muscle coverage to partial muscle coverage with an acellular dermal matrix sling to complete acellular dermal matrix prepectoral reconstruction.2,3 Clearly, the ideal technique is still under considerable debate as plastic and reconstructive surgeons strive to achieve optimal results for a patient population that is not only more knowledgeable regarding the options for reconstruction but also more discerning in terms of the overall outcomes.

Even though a formal survey such as the BREAST-Q was not used in our study, the number and type of revision operations serve as acceptable surrogates of patient satisfaction and have been used as means of measurement in multiple other studies. We found that the most common secondary operation was exchange of the implant because the patient wished to have larger breasts, and the second most common revision operation was fat grafting to address hollowing and implant rippling. In this patient cohort, there were two patients reporting animation deformity who underwent additional surgery to address this issue. Sbitany first reported five patients with hyperanimation deformity over a 1-year period who had the initial reconstruction performed at an outside institution.4 Although he is an extremely prolific surgeon who performs a large number of prosthetic breast reconstructions, there evidently is not a large volume of patients with such severe animation deformity such that they are seeking additional surgery, because all these patients were initially treated by another surgeon, and he does not report any of his own patients during this same period where he was performing partial submuscular coverage with an AlloDerm sling.

The advent of new technologies including not only various types of acellular dermal matrices but also techniques to assess tissue perfusion has stimulated a new interest in prepectoral breast reconstruction.5 There are certainly many perceived benefits from prepectoral reconstruction, such as decreased postoperative pain and correction of the potentially bothersome animation deformity, that warrant further investigation.6 The current study7 is designed to evaluate the differences between only total muscle coverage and partial muscle coverage. Future large-volume studies with long-term follow-up will undoubtedly add more much needed information to determine the best option for reconstruction in patients with breast cancer. Obviously, no single technique will be the ideal operation for every patient, and plastic and reconstructive surgeons must be cognizant of all the possible options available.

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DISCLOSURE

The author has no financial interest to declare in relation to the content of this communication.

REFERENCES
