The Subfascial Approach to Primary and Secondary Breast Augmentation with Autologous Fat Grafting and Form-Stable Implants

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KEYWORDS

• Breast augmentation • Silicone implant • Form-stable implants • Fat grafting • Subfascial • Outcome • Complications

KEY POINTS

- The latest generations of silicone implants and the introduction of surgical techniques such as the subfascial approach have improved esthetic outcomes following breast augmentation.
- The advantages of the subfascial pocket are soft tissue coverage and avoidance of the limitations of the submuscular position. In the upper breast pole, this technique is useful in minimizing the appearance of the edges of the implant and provides an adequate supporting system.
- Autologous fat grafting has been performed more frequently. Based on various clinical studies, fat grafting may be considered to treat breast defects secondary to oncological diseases and esthetic deformities.
- Most candidates for primary and secondary breast augmentation can be successfully treated with this present technique. Ideal primary candidates are those with significant hypomastia/amastia with less soft tissue to adequately cover the implant. Ideal secondary candidates are those with partial/total soft tissue deficiency with visible implant contours and rippling, and patients with stretched breast tissue and irregularities of the implant surface.

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INTRODUCTION

Breast augmentation is a well-known procedure and continues to be one of the most frequently performed esthetic surgeries worldwide.[1,2] The development of modern silicone implants as well as new surgical techniques has led to widespread acceptance of breast augmentation in recent years.[3–6]

Although breast augmentation has a high rate of patient satisfaction, some patients may present unsatisfactory results and will require surgical revision.[5–7] In the authors' experience, many of these reoperations are required for soft tissue–related problems, such as implant visibility and rippling, and not necessary for implant failure. In fact, although providing satisfactory postoperative recovery, subglandular implant placement may sometimes result in visibility of the implant edge and limited soft tissue coverage.[7–10] With the introduction of subpectoral implant placement, reduced implant visibility and a lower incidence of capsular contracture were observed in some series. However, undesirable superior displacement of the implant and implant animation are frequently observed in some groups of patients.[9–11]

Recently, a new implant position uses the subfascial plane, which is gaining popularity because of the more satisfactory postoperative recovery it yields compared with submuscular techniques.[12–22] It has been the authors' experience, as with other investigators, that a satisfactory outcome and good results following subfascial breast augmentation can be achieved in selected patients.[12–22]

As observed with the subfascial approach, there has been a resurgence in the use of autologous fat grafting for breast surgery for a variety of indications over the past 10 years.[23–36] In fact, autologous fat grafting has been performed more frequently since 2008, when new clinical recommendations were released.[37,38] Based on various clinical studies, the American Society of Plastic Surgeons (ASPS) concluded that fat grafting may be considered for treatment of breast defects associated with oncological diseases and esthetic deformities.[37] Although refinement in fat-grafting procedures has improved reproducibility, it has been the authors' impression that a standardized technique remains to be described.

Given that form-stable breast implants and the subfascial technique are effective and predictable procedures for esthetic breast surgery, a variety of poor outcomes in breast augmentation may result from the limited ability of the overlying soft tissue to adequately cover the silicone implant.[35] Consequently, the relevance of autologous fat grafting as an associated technique to improve the results of breast augmentation may be investigated. In addition, it is reasonable to emphasize that if autologous fat grafting and implant-based breast augmentation are equally reproducible, and involve similar risk and surgical time, it is possible to combine both techniques in one surgical procedure.

The objective of this article is to provide an overview of the subfascial approach to primary and secondary breast augmentation with form-stable implants associated with autologous fat grafting. Although breast augmentation is a well-studied procedure, previous reports concerning the subfascial technique are limited, especially related to the most recent generations of form-stable breast implants.[13,14,16,17,21] In addition, there are few detailed clinical reports that specifically address the operative planning, outcomes, and complications following simultaneous autologous fat grafting.[35] Therefore, in this article a detailed description of the authors' method, including the preoperative evaluation and intraoperative care is provided, for patients undergoing primary and secondary breast augmentation associated with lipofilling. The surgical technique, advantages, and limitations are also discussed. When combined with clinical expertise, this evidence will help the plastic surgeon provide patients with predictable and safer esthetic outcomes.

THE SUBFASCIAL APPROACH

Introduced in the 1990s, the subfascial approach is especially interesting for surgeons who have been seeking alternative planes with less morbidity.[12–14] In fact, placing the silicone implant next to the glandular tissue may result in a disappointing outcome in terms of.[13–22] A visible implant edge is especially apparent in underweight patients with severe hypomastia and less soft tissue coverage, where a transition can be seen at the borders of the silicone implant.[12–14,16] From an anatomic point of view, the pectoral fascia is a distinct, identifiable layer and is suitably strong, as is apparent during intraoperative manipulation[13,14] (**Fig. 1**A, B). Although the fascia may be thin in the lower pole, it is not thin in the upper sector corresponding to the underlying muscles such as pectoralis muscle. According to Ventura and Marcello,[20] this anatomic aspect is helpful for creating a foundation to support the implant at the lower edge, preventing inferior displacement and palpation of the implant border. In a study of 1000 cases of subfascial breast augmentations, Tijerina and colleagues[22] observed that the upper displacement of the implant can be limited because the pectoral fascia force the implant downward. In the upper thorax, the pectoral fascia is useful in minimizing the visibility of the