Minimizing Scars in Mastopexy

25

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Introduction

Breast ptosis is a common complaint in women seeking aesthetic breast enhancement. In 2017, mastopexy was the third most commonly performed aesthetic surgical procedure among women in the United States [1]. A main concern for these patients is the resultant scarring. Women will often accept less of a lift in exchange for a smaller scar. Over the past century, several techniques have been employed to reduce scarring ranging from periareolar to vertical techniques; however, classic patterns resulting in more lengthy scars are still popular among surgeons today such as the inverted-T technique that allows for the greatest amount of lift and predictable results [2]. Benelli and Goes addressed the need for parenchymal reshaping through a periareolar incision [3–5]. These techniques broadened their application to larger more ptotic breasts with limited scars. Disadvantages included a steep learning curve associated with creating the optimal breast shape and projection. Although great strides have been made by limiting the incision to around the areola in cases of moderate breast ptosis, recurrent widening of the scar and flattening of the areola are undesired sequelae.

Patient Selection

Patients will often request a smaller scar pattern; however, careful patient selection is key in achieving expected results [6]. The shortest scar may not yield the best result. Patient factors include skin laxity, parenchyma volume, degree of nipple-areolar complex elevation needed, history of prior surgeries, scarring, and overall expectations [7]. Surgeon factors include experience and technical ability. The ideal patient will have normal breast parenchyma volume with a minimal to moderate excess of skin. Alternatively a patient with minimal glandular mass and ptosis should be considered for an augmentation-mastopexy. A patient with an excess of breast parenchyma and ptosis should be considered for a reduction mammoplasty.

Methods

Subareolar Mastopexy Technique

The authors' preferred technique is a subareaolar mastopexy (Figs. 25.1 and 25.2 and Video 25.1) [8]. The patient is marked in the standing position. The amount of skin to be excised is estimated by using the pinch test, and this skin is outlined around the existing areola; most, if not all, of the areola is maintained. The areola contracts when it is partially elevated, and it is preferable to have the areola skin bunch up, rather than be sutured under tension. The marked excess periareolar skin is removed by deepithelialization, and the areola is elevated approximately 20–50% of its surface area. The dermis is then incised circumferentially and partially undermined. If augmentation with implant will be performed, the pocket is created through this incision. The prepectoral space can also be entered through this incision for internal plication or mesh insertion. Cautery can be applied to the dermis to increase contraction and adherence. Several permanent braided purse-string sutures are used for the

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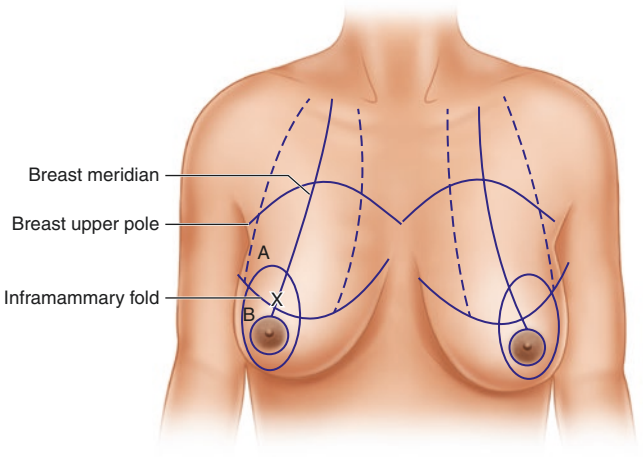

Fig. 25.1 Patient with bilateral ptosis. Preoperative markings. Patient is marked in the supine position. Midline, breast meridian, inframammary fold, and breast upper pole are marked. The nipple-areolar complex (**b**) is marked, and the inframammary fold is transposed onto the breast mound (X); the new height of the nipple-areolar complex (**a**) is determined from this point. Dotted lines are marked medial and lateral to the breast meridian to depict the location of suture placement to resuspend the breast parenchyma at the level of the clavicle

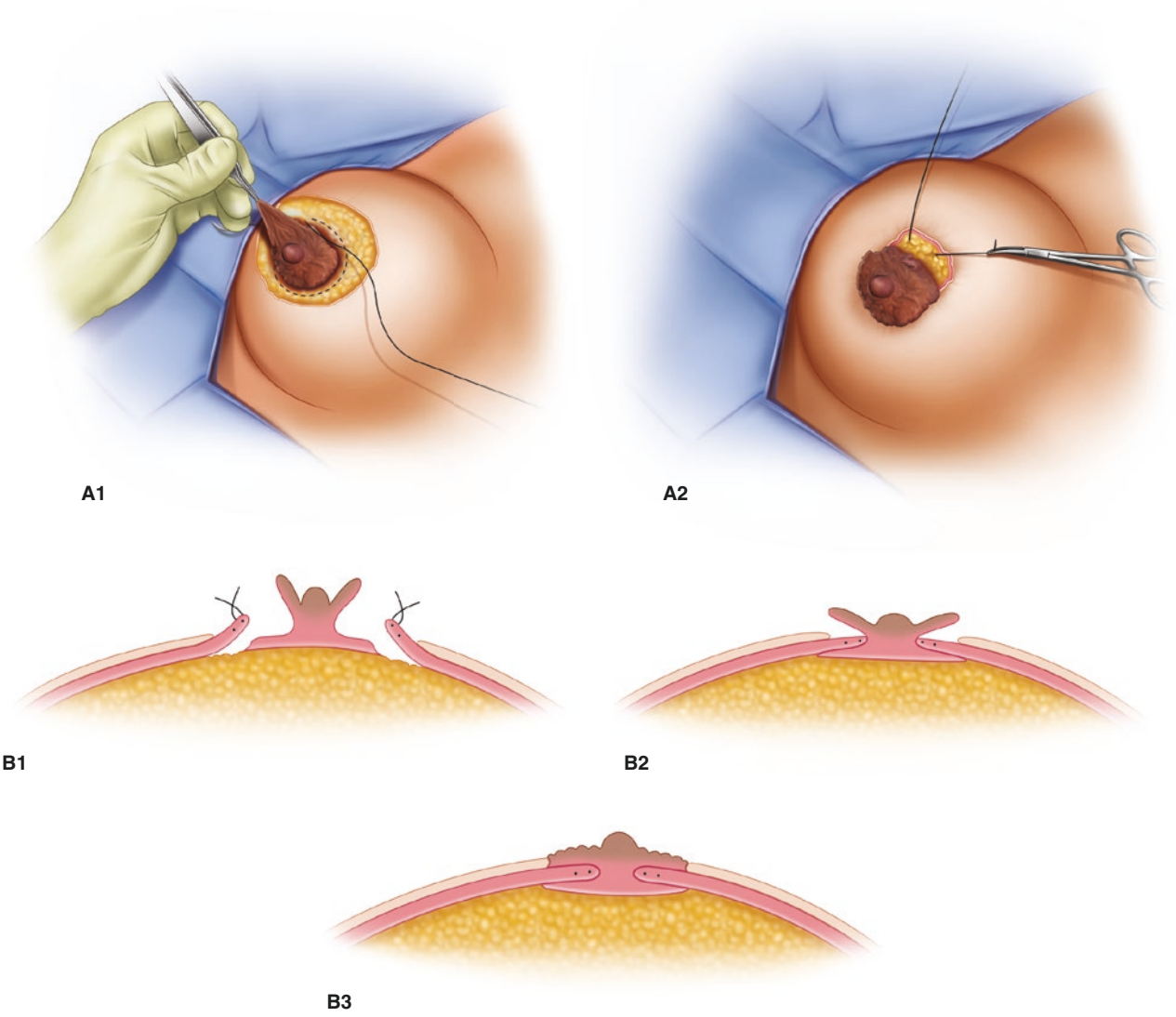

Fig. 25.2 (**a1**) The areola is partially undermined, the first purse-string suture placed. (**a2**) Second purse-string suture placed. (**B**) Cross-sectional diagram of the procedure. (**b1**) Areola raised. Dermal flaps to be advanced beneath the areola. Alternately, the dermal flap can be plicated. (**b2**) Two purse-string sutures placed. Tension taken up by the dermal flaps. (**b3**) Areola flap sutured back in position tension-free

subareolar closure. A 3-0 Nurolon (Ethicon, Inc., Somerville, NJ) purse string suture is placed along the dermal flap edge and tied to recreate the desired nipple size. The surgeon's finger is placed in the center of the areola when the purse string sutures are synched to avoid constriction of the blood supply. The first purse-string suture is under the most tension, while the subsequent 2–3 purse-string rows are placed with less tension. These tension-free rows allow the suture to be integrated and fixed within the tissues. The skin now has a tension-free closure with a 5-0 Monocryl (Ethicon, Inc., Somerville, NJ) in a running subcuticular fashion (Fig. 25.3).

For further lift or elevation, internal suspension can be performed. The dermis is incised circumferentially, and the total anterior flap undermined. The breast parenchyma is plicated with sutures and anchored to the pectoral fascia inferior to the clavicle (Figs. 25.4 and 25.5). The gland can be cauterized to help encourage contraction. The inferior glandular flap can be incised and overlapped. A breast implant can be inserted in the submuscular or subfascial pocket as needed for superior pole fullness. A mesh can be added inferiorly for additional support. Postoperatively the breast is maintained in an elevated position using postoperative garments to facilitate adhesion of the undermined skin flap.

Discussion

Mastopexy techniques overall achieve high patient satisfaction with low complication rates [9]. The inverted-T technique is the most utilized technique for patients with moderate to severe ptosis. The major disadvantages are its incisions resulting in large scars. Periareolar techniques are best suited for patients with mild to moderate ptosis. Its main advantage is a camouflaged skin incision. Disadvantages include limited nipple elevation and breast projection as compared to other techniques. The major disadvantage of the traditional circumareolar mastopexy is the risk of hypertrophic scarring because of excessive tension at the areolar edge or widening of the areola as a result of suture failure. Scar widening is related to the tension placed on each side of the incision. A single permanent suture is ineffective in preventing stretch since it is prone to cut through tissues until there is no longer any tension. An alternative method to reduce the tension on the skin edges in a circumareolar incision is to partially elevate the areola as a myocutaneous flap and plicate the dermal base with several nonabsorbable sutures, thus eliminating tension on the areolar skin. Satisfactory results are achieved with few complications, including less areolar stretching and improved nipple areolar projection (Fig. 25.6) [8]. The degree of ptosis correction is not as significant as that achieved with a vertical limb or anchor mastopexy; however, in the ideal patient with limited to moderate ptosis and without large skin excess, this technique offers excellent results for patients desiring to limit their scars.

Conclusion

Periareolar scars can be a source of frequent dissatisfaction after mastopexy or reductions. The authors delineated a novel technique to minimize such scars while maintaining optimal nipple aesthetics.

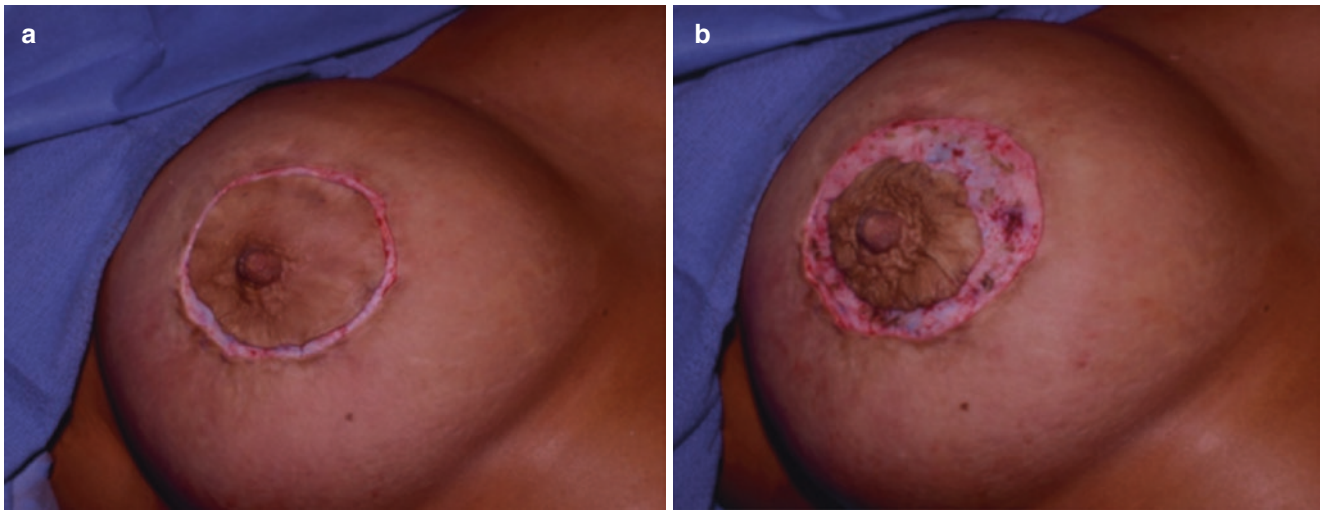

Fig. 25.3 Intraoperative photos of a subareolar mastopexy: (**a**) Circumareolar incision, preserving the entire nipple-areolar complex. (**b**) The excess skin edge is deepithelialized. (**c**) The dermal edge is incised. (**d**)The dermal layer is closed: (**e**) first deep dermal purse-string suture, (**f**) second purse-string suture placed, (**g**) dermal edge to NAC, (**h**) final skin closure

Fig. 25.3 (continued)

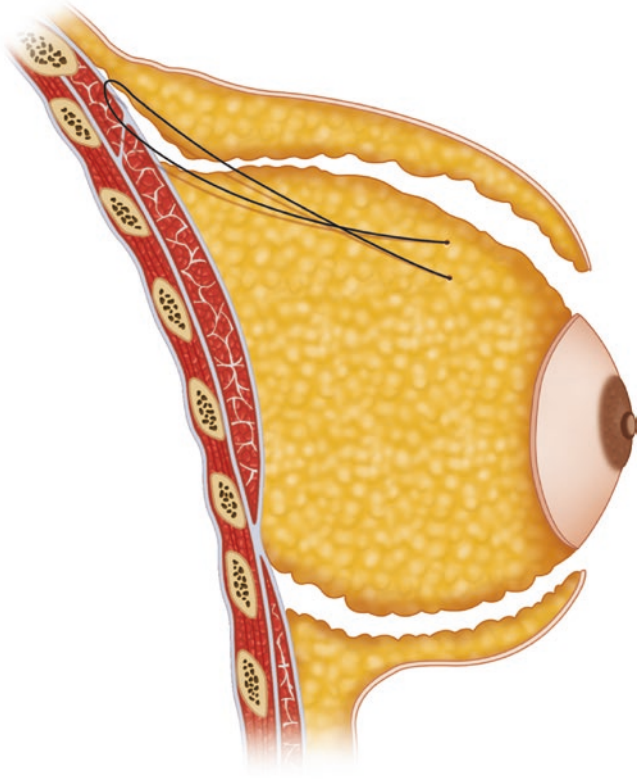

Fig. 25.4 Superior and inferior flaps elevated. Upper glandular tissue placated to pectoral muscle

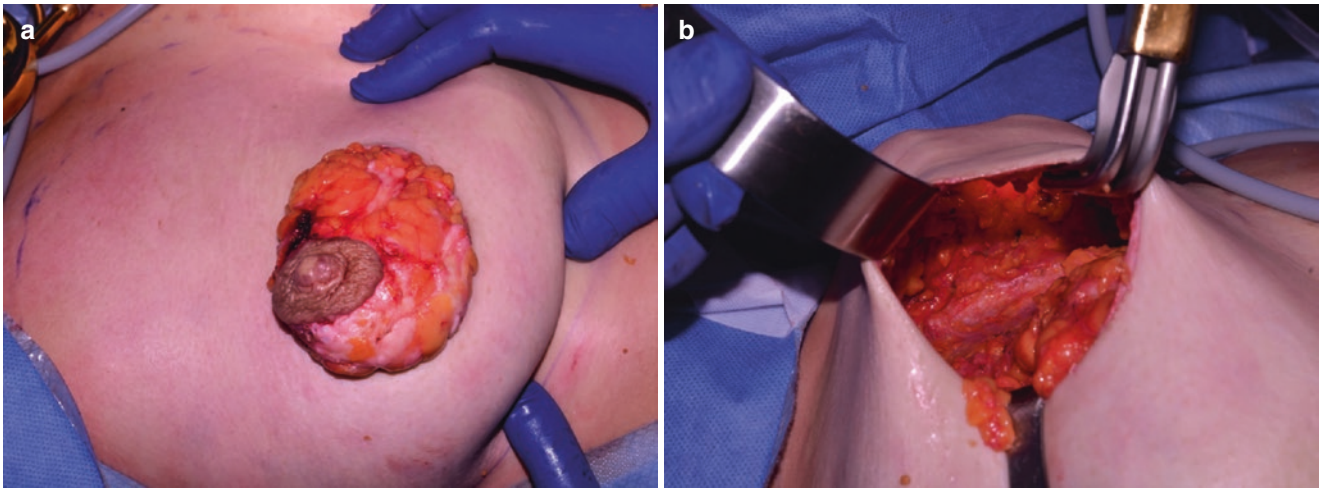

Fig. 25.5 Intraoperative photos of a subareolar mastopexy: (**a**) Through a circumareolar incision, the flap is raised the level of the clavicle. (**b**) Elevation of breast mound. The superficial breast flap is elevated. The parenchyma is cauterized to help with upward contraction. Three tacking sutures are placed from the superior breast mound to the prepectoral fascia at the level of the clavicle

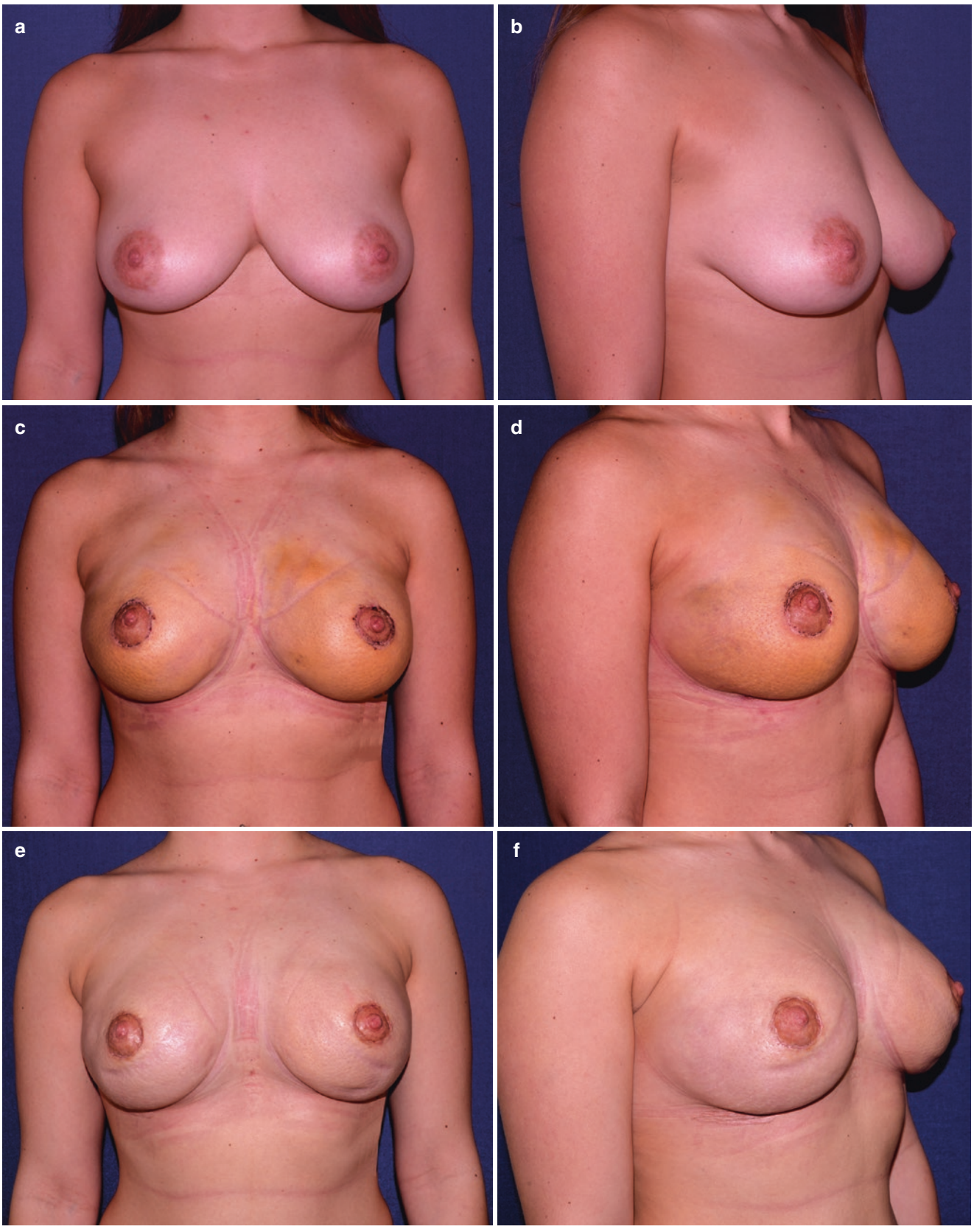

Fig. 25.6 (**a**, **b**) Preoperative photos. (**c**, **d**) One week postoperatively. (**e**, **f**) Four weeks postoperatively