

Crescent Mastopexy with Augmentation

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33.1 Introduction

Mastopexy associated with augmentation for small volume and mild ptotic breasts has historically challenged plastic surgeons' creativity. The perfect balance between breast volume, scar, shape, and long-lasting results has been the main focus of the work of many authors.

Circumareolar, periareolar, and donut mastopexy are different names for a common approach to patients with a ptotic breast. The technique, introduced in the mid-1970s, is based on resecting skin from the entire periphery of the areola as a way to lift the breast [1–7]. The crescent mastopexy was later conceived as a modification of this approach in which the skin resection (in a crescent shape) is restricted to the segment adjacent to the upper half of the areola [8–11]. Although limited in its indications, this technique is an important surgical strategy for patients with borderline ptotic breasts.

33.2 Indications

Understanding the parameters for circumareolar mastopexy with augmentation is crucial for selecting the ideal patient for crescent mastopexy with augmentation, since the latter technique derives from the first.

33.2.1 Ptosis Grading

In 1976, Regnault [3] established three different levels for breast ptosis (Table 33.1, Fig. 33.1). Patients with grade 1 (nipple at the inframammary fold level) are best suited for either the crescent or the circumareolar mastopexy with augmentation [5]. Grade 2 patients are borderline regarding indication for crescent mastopexy and are generally accepted as good candidates for the circumareolar approach. On the other hand, the crescent technique is viewed as contraindicated for grade 3 patients because a lift of more than 3–4 cm is very difficult to achieve by simply excising skin adjacent to the upper half of the areola [9, 12].

Another important issue when considering crescent mastopexy with augmentation is the distance between the nipple–areola complex and the inframammary fold. In patients presenting with glandular ptosis and pseudoptosis (nipple at the inframammary fold level but with loose skin *brassiere*), this distance tends to be greater than what one would find in grade 1 ptosis (Fig. 33.2). This scenario is considered a poor indication for a circumareolar approach and a strong contraindication for the crescent mastopexy with augmentation because the excess skin and gland in these situations are not addressed adequately by crescent skin removal. A vertical, L-shaped, or inverted T should be considered here instead [13, 14].

Table 33.1 Regnault's classification of breast ptosis

Grade	Description
1st-degree (minor) ptosis	Nipple is at the inframammary fold
2nd-degree (moderate) ptosis	Nipple below the inframammary fold but still located on the anterior projection of the breast mound
3rd-degree (major) ptosis	Nipple below the inframammary fold and on the dependent position of inferior convexity of the breast mound
Glandular ptosis	Nipple above the fold, but the breast hangs below the fold
Pseudoptosis	Nipple above the fold, but the breast is hypoplastic and hangs below the fold

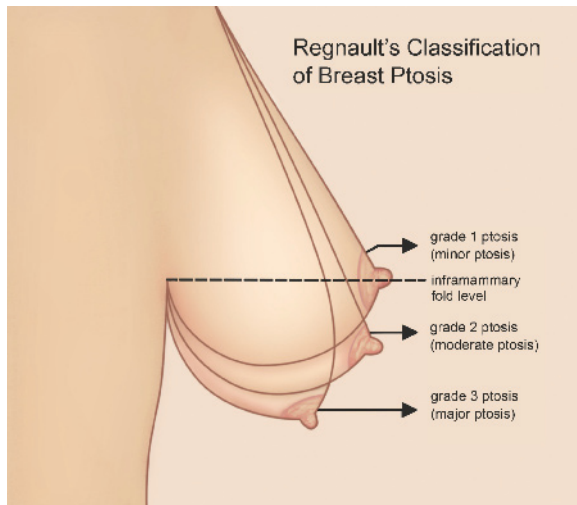


Fig. 33.1 Regnault's classification of breast ptosis

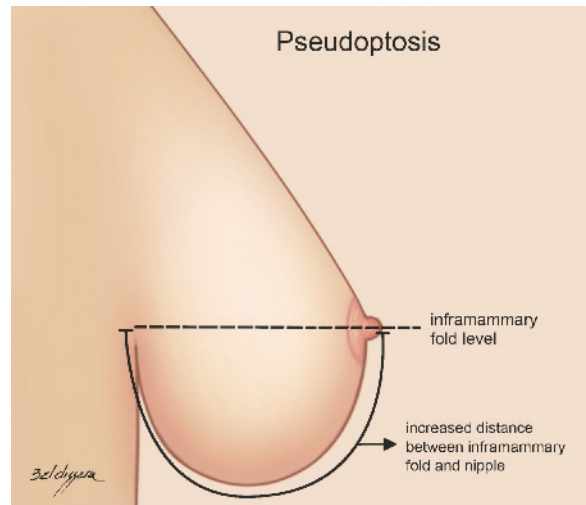


Fig. 33.2 Pseudoptosis according to Regnault

33.2.2 Nipple–Areolar Complex Diameter

Both crescent and circumareolar mastopexy with augmentation are best indicated in patients with a nipple–areolar complex diameter greater than 35–40 mm. Spear et al. [12, 15] suggested a mathematical method to guide the planning of circumareolar mastopexy. This method is based on rules that determine the amount of skin removed in an attempt to prevent tension on closure and to avoid hypertrophic scarring and areolar spreading. According to their guidelines, the outer incision should be less than three times the diameter of the inner circle and is generally less than 10 cm total.

Crescent mastopexy with augmentation is also well indicated in patients with a nipple–areolar complex diameter greater than 35–40 mm who need a lift of no more than 25–30 mm [14]. However, because the skin is not excised in the entire periphery of the areola, this technique should be indicated with care in patients with larger areolas (diameter greater than 8 cm, in the authors' experience).

33.2.3 Skin Characteristics

Thicker and pigmented skins tend to have worse healing when crescent and circumareolar mastopexy with augmentation are performed. Unsightly scarring and areolar enlargement may also occur in a patient with a small and well-delineated nipple–areolar complex [12].

33.3 Technique

Markings should be done before the anesthetic procedure with the patient in a sitting position. At this time, if not done previously, eventual asymmetries should be considered and discussed with the patient, preferably in front of a mirror. It is important to highlight that thoracic asymmetries may not only be of soft tissue origin (skin, gland, and muscle) but also of bone structure, and that the latter are not addressed in the surgery and will persist after the procedure.

The higher point of the nipple–areolar complex is marked and the new point established on an imaginary vertical line 1–3 cm above the original point. The crescent can then be drawn with two almost parallel curves starting at 9 o'clock, passing through the higher points (the original and the new) and going down to the 3 o'clock point (Fig. 33.3) [7].

Local or epidural blockage associated with sedation or general anesthesia are chosen according to the surgeon's and the anesthesiologist's preferences. Infiltrating the skin and the plane to be dissected with adrenaline (1:500,000) may help reduce bleeding.

Incision with a #15 blade scalpel and subsequent deepithelialization is performed. Dissection through the gland should be perpendicular to the thoracic plane and may be performed with electrocautery or with a #22 blade scalpel. If using the scalpel, one should be careful in splitting the gland in only one plane. Thorough hemostasis and placement of a tubular suction drain (if such a device is used) should be done before introducing the implant.

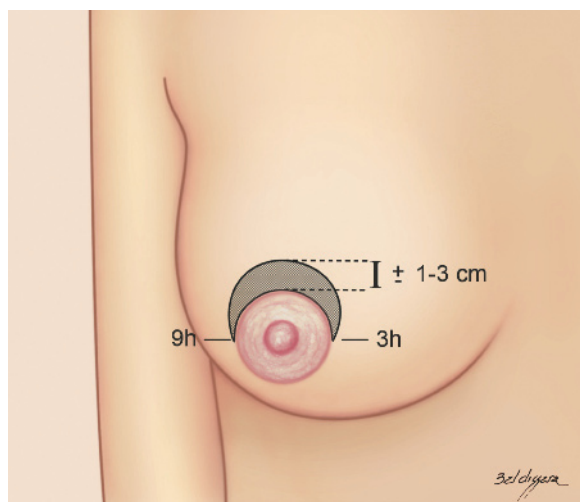


Fig. 33.3 Markings of the crescent mastopexy and augmentation

Closure should follow three planes: glandular, subdermal, and intradermal levels. In all of them, the authors' preference is for poliglecaprone (Monocryl, Ethicon): 3-0 interrupted sutures for the glandular and subdermal planes and 4-0 for the intradermal suture.

In 2006, Gruber et al. [14] proposed a variant approach to the technique described above, the so-called extended crescent mastopexy with augmentation. The objective, according to these authors, is to minimize skin

tension by gland removal under the crescent, thereby reducing the potential for nipple–areolar complex spreading and scar hypertrophy.

33.4

Case Results

Case 1: This 31-year-old patient came seeking treatment for her hypomastia and grade 1 ptotic breasts (Fig. 33.4). She underwent bilateral crescent mastopexy with augmentation. A 250-ml silicone implant (anatomic profile) was used.

Case 2: This 29-year-old sought treatment for her small-volume breasts and the asymmetry of her nipple–areolar complex position (Fig. 33.5). On the right side she presented a grade 1 ptosis, and on the left side, no ptosis. A crescent mastopexy with augmentation of her right breast was planned; on the left side, the implant was placed through the upper half of the areola, but no skin was removed. Both implants were of silicone gel and anatomic profile (275 ml). She underwent simultaneous liposuction.

33.5

Complications

Complications of crescent mastopexy with augmentation are not well documented in the literature. However, as mentioned in the beginning of this chapter, crescent



Fig. 33.4 Case 1. **a** Preoperative. **b** One year postaugmentation

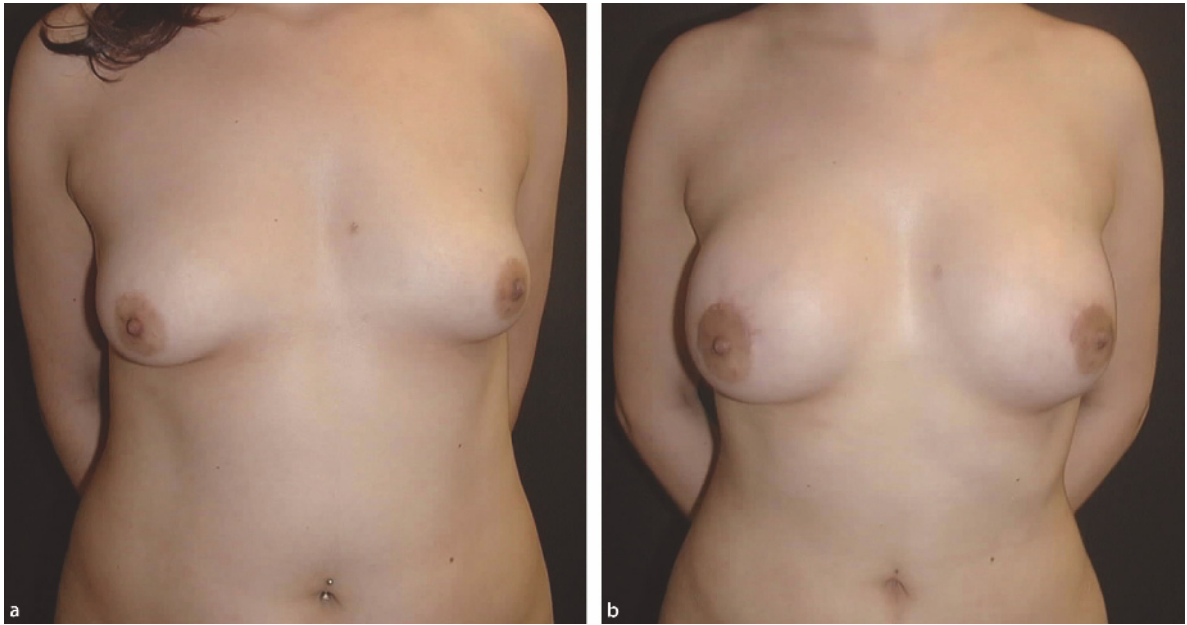


Fig. 33.5 Case 2. **a** Preoperative. **b** Two years postaugmentation

and circumareolar mastopexy are intrinsically analog, and therefore one can extract from the latter potential complications for the former.

Although no specific incidence is reported in the literature, infection, partial and transient loss of nipple-areolar complex sensitivity, and hematoma are listed as possible early complications. Higher bleeding rates are generally expected when approaching the submuscular plane through the upper quadrant [3]. Skin pleats tend to accommodate in the first few months; revision is rarely required for this reason. Globular-shaped and flat

breasts can eventually be found after surgery and may persist as late complications [4].

Areolar spreading and distortion are also among the complications (Fig. 33.6) [16]. When analyzing long-term results in a series of 26 patients who received crescent mastopexy with augmentation, Puckett et al. [9] reported 12 cases of areolar spreading greater than 5 mm and five individuals with oval areolas.

Another important complication of this technique that is poorly indicated in the literature is early and late recurrence of ptosis. Because no gland work is performed, this complication depends greatly on the quality of the patient's skin. Thicker skin tends to keep the result for a longer period than thinner skin.



Fig. 33.6 Bilateral areolar spreading 2 years after crescent mastopexy with augmentation

33.6 Discussion

Balancing shape, volume, and scar with a low recurrence rate is the main goal when considering lifting and augmenting the breast. Although the use of crescent mastopexy and augmentation is restricted to few patients [17], it can be of great help for women with grade 1 or borderline grade 2 ptosis with a normal or near-normal distance between the nipple-areolar complex and the inframammary fold [14].

Other important factors also have to be considered when choosing a good candidate for this technique.

Those with lighter and thinner skins and with areolar diameters greater than 35–40 mm and less than 80 mm tend to heal better.

Upper-pole fullness is among the priorities of women from many cultures when breast augmentation and lift are considered. Therefore, one of the mandatory issues to be discussed with the patient prior to surgery is the recurrence of breast ptosis, a possible late complication of this procedure. In the crescent technique, the blood supply is interrupted on the upper half of the nipple–areolar complex; therefore, a secondary mastopexy using a vertical, inverted T, or L-shaped incision may be precluded—at least for the first few years—for concerns with the areolar skin viability [13].

One of the approaches used by the authors to overcome this problem is to combine the crescent mastopexy with augmentation via the inframammary fold or the axilla. Because the implant is not introduced through the areola, the deepithelialization of the skin (crescent) spares the periareolar dermal and subdermal plexuses. If a vertical, inverted T, or L-shaped mastopexy is needed in the near future, these intact plexuses will provide the blood supply to the areola.

This alternative method (crescent skin excision only and introduction of the implant through the inframammary fold or through the axilla) may be very helpful in patients with asymmetric breasts in which the desired lift is slightly different for each side. For instance, patients with no ptosis on one side but with grade 1 or 2 ptosis on the other side may benefit from this approach (case 2).

33.7 Conclusions

Crescent mastopexy with augmentation is a technique used for patients with a small grade of ptosis in which the desired lift of the nipple–areolar complex does not exceed 3 cm. Thick- and light-skinned patients tend to have better results compared with those with thin or dark skin. Areolar distortion and spreading and early or late recurrence are possible complications (Fig. 33.6). When appropriately indicated, this approach may lead to a good balance between shape, scar, and long-lasting results.

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