Mammaplasty: Short Scar Breast Reduction

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13.1 Introduction

In the 1980s, plastic surgeons already dominated with relative ease the techniques of reduction mammaplasty, some problems having been resolved, but others still awaiting a solution. At that time, I performed mammaplasty with good reductions, but with very long inframammary scars, especially in cases of large reductions in which the incisions ran from the axilla to the sternum. This occasionally caused problems for the nipple–areola complex (NAC) owing to excess traction (Pitanguy 1967; Skoog 1963; Strombeck 1960). Even when satisfied with their reductions, the patients inquired about the possibility of reducing the scars. It was on the basis of these requests that a group of surgeons who were not satisfied with the techniques that resulted in large scars started to look for a solution to this problem (Basile 1985; Marchac and DeOrlate 1982; Peixoto 1980). This trend motivated me to introduce technical modifications in my surgeries that resulted in a new procedure (Basile and Basile 2015).

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Some problems had to be faced:

1. Reducing inframammary scars
2. Reducing NAC morbidity in cases of large reductions
3. Being able to remove large mammary volumes
4. Obtaining results with aesthetically pleasing shapes.

Experience and experimentation led to solutions that, after some refinement, resulted in a simple, efficient, and versatile technique (see Fig. 13.2).

The following solutions were developed:

1. Elevation of the mark of the new inframammary sulcus 3 cm above the original sulcus as the new breast is fully elevated and the sulcus needs to be higher (Fig. 13.1a).
2. Modification of skin removal by replacing horizontal resections with vertical compensations. Thus, all the excess skin is removed by pulling it upward in the cephalic direction. This procedure dramatically reduces the horizontal scar, leaving only a vertical scar in medium-sized and small breasts (Fig. 13.1d, e).
3. Total undermining of the breast based on the supramuscular areolar plane was routinely adopted. This procedure fully separates the breast from the thorax, facilitating glandular resection and elevation.
4. The concept was introduced that the most important feature in reduction mammaplasty

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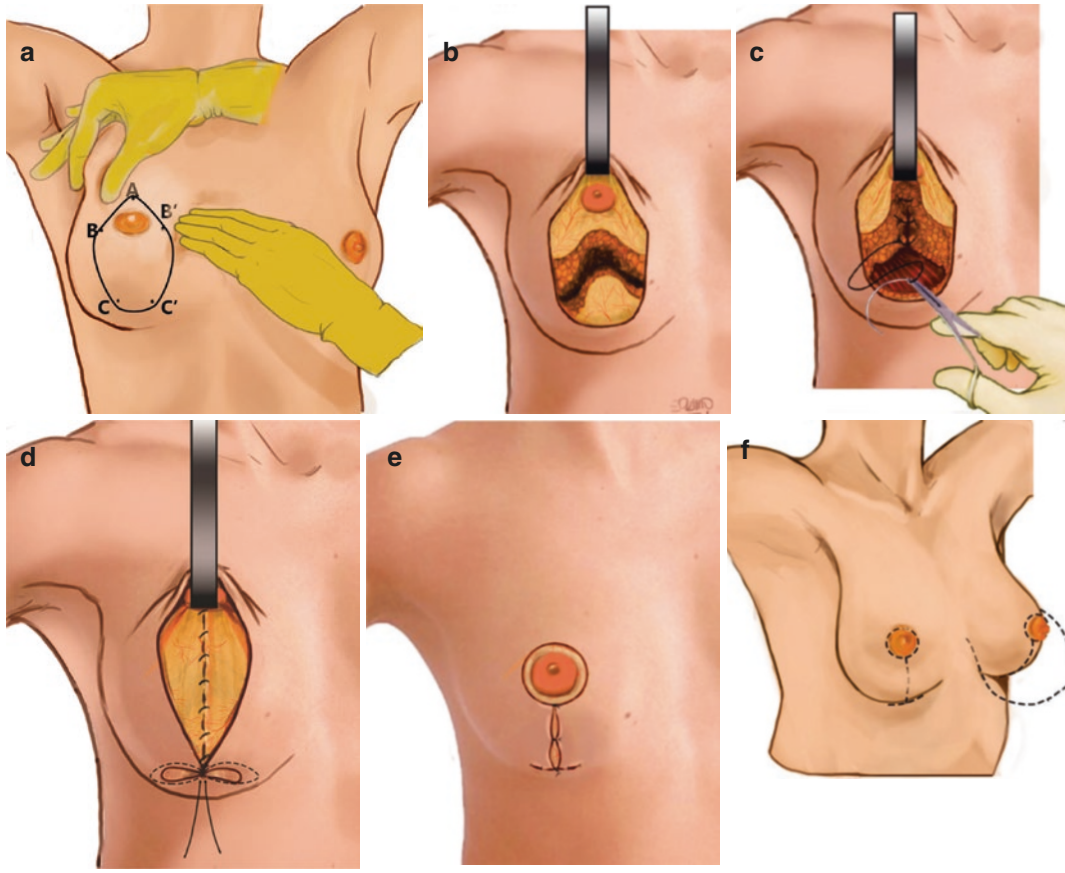

Fig. 13.1 (**a**) Dr. Basile's technique for reduction mammaplasty. Final drawing. (**b**) Beginning of the pyramidal bloc resection on the cubic base. (**c**) Final aspect of the resection and illustration of the pillars for construction of the breast. (**d**) Skin resection in the cephalic–vertical direction. (**e**) Position of the nipple–areola complex (NAC) on top of the breast. (**f**) Final suture, only vertical or minimally horizontal

is the remaining mammary shape and volume, as they form the new gland. Thus, my advice in large resections is to remove the gland by imagining a pyramid superimposed on a rectangular box as this shape permits the removal of volumes both in the height and in the base of the mammary cone without requiring skin resection (Fig. 13.1b).

5. The construction mode was modified using a simple concept that had never been used before. The new breast is constructed through its lateral pillars by pulling them separately to the center, without suturing them to each other. Three or four sutures are used to bring the glandular mass toward the middle and upward in a cephalic direction, and this traction is repeated on the sternal side, placing the pillars one in front of the other. This strategy molds the breast both along the axillary line and in the sternal region, resulting in a new mammary gland with a defined shape.
6. In other techniques, the NAC suffers due to the rotation of the pillars. Thus, in large reductions the pillars must be pulled for appropriate positioning. This construction permits the

NAC to be always on the top of the mammary cone and not buried. In other words, the gland is set up from the sides to the middle without rotation of the pillars (Fig. 13.1e).

7. Recently, I have been using this same technique to perform augmentation mastopexies. The implant is placed subpectorally and the gland is dissected from the pectoralis muscle and then elevated as described above. The glandular tissue is fixated to the pectoralis muscle in the same fashion as described above, with the implant protected by the muscle (Basile et al. 2012; Basile 2015).

13.2 Method

This technique is simple and does not require previous molds or marks. With the patient under general anesthesia and in a supine position on the surgical table, the clavicular midpoint is determined and extended to the inframammary sulcus. On this line point A is marked, the center of the future nipple, which is established by lifting the NAC upward and determining up to what point it may be lifted. In large breasts, this point is located on average 16 cm below the clavicle. Two points, B and B′, are then determined 1 cm below the line that cuts the nipples transversely. These points are determined by lifting the glands upward, invaginating the lower pole and evaluating the extent of the skin to be removed when an attempt is made to join them. Joining point A to points B and B′ form an isosceles triangle with a wider angle in large resections. Two centimeters above the inframammary sulcus, at the midpoint, I mark line CC′, parallel to the sulcus, which measures 2–4 cm depending on the gland volume. The tracing is completed by joining point B to point C and these lines are straight or curved according to the extent of resection. Lines BC and B′CI are external convex curves in large resections of skin and parenchyma, but always converge toward line CC′. Because of the short extent of the latter, small horizontal scars result.

In most of the cases operated upon, consisting of medium or small breasts, points C and C′ coincide.

This design provides a final result that eliminates the horizontal scar. A new areola is traced with molds and the periareolar incision is started, with de-epithelialization of the entire area of the triangle ABB′ using Schwarzmann's maneuver, continuing subcutaneously until reaching line CC′. The incision of the new inframammary sulcus, CC′ is made to a depth reaching the submammary areolar tissue, with undermining in the supra-aponeurotic region of the pectoralis major muscle. This extensive undermining is performed under virtually the entire gland, which is left practically isolated, although the irrigation and innervation emerging from the median intercostal spaces are fully preserved, with subcutaneous anastomosis with branches of the lateral thoracic artery. With the gland pulled upward, en bloc resection of the breast parenchyma is started with an incision 3 cm below the areola, which is the vertex of a pyramid that progressively widens downward until larger removal is performed horizontally in a rectangular block. This permits the extirpation of a large volume at the base of the mammary cone below the entire circumference, but preserves a cone that will be the new gland and that contains the NAC (Fig. 13.1b). The new breast is mounted with 2-0 nylon stitches that first attach it to the floor (the pectoral muscles). This suture positions the top of the gland approximately 15 or 16 cm from the line that joins the furcula to the clavicular midline (Fig. 13.1c). Three or four 2-0 nylon sutures are then used to take the axillary glandular mass to the middle and upward cephalically, a maneuver that projects the new breast and removes volume from the external axillary line, taking it to the upper medial pole. The same procedure is repeated in the external region so that the entire remaining part of the gland is directed medially and upward, placing the gland pillars one in front of the other. At this time, the gland is already formed, with the AMC on top. Any compensation is performed in an upward direction and only at this time are the pillars joined with sutures (Fig. 13.1c). After the mounting of the breast, subcutaneous suturing with

colorless 4-0 nylon stitches is done in two layers, as I do not suture the skin. This stage of the mammaplasty is very important because the traction and direction of the sutures are from below to above, provoking skin compensation in the direction of the NAC. Thus, excess skin is removed in a vertical direction, a fact that greatly reduces or eliminates the horizontal incision (Fig. 13.1d–g). I started to use this technique in December 1979 and have been improving it gradually over the course of approximately 2000 cases, with minimal complications, which are listed below:

1. Scars with "dog ears" of excess skin, 10% of cases.
2. Recurrent breast ptosis, two cases of gigantomastia (0.22%).
3. Reoperation for further reduction, three cases (0.33%).
4. Breast asymmetries occurred in approximately 3% of cases, but were only noted by the surgeon, with no complaints on the part of the patients. Since using appropriate subcutaneous delipidation or liposuction in the region below the axilla, the "dog ears" phenomenon has no longer occurs.

13.3 Discussion

This method has left patients highly satisfied, as they value surgeries that leave minimal scars, which is demonstrated by an increased number of patients seeking mammaplasty and by the number of patients who express their desire to have

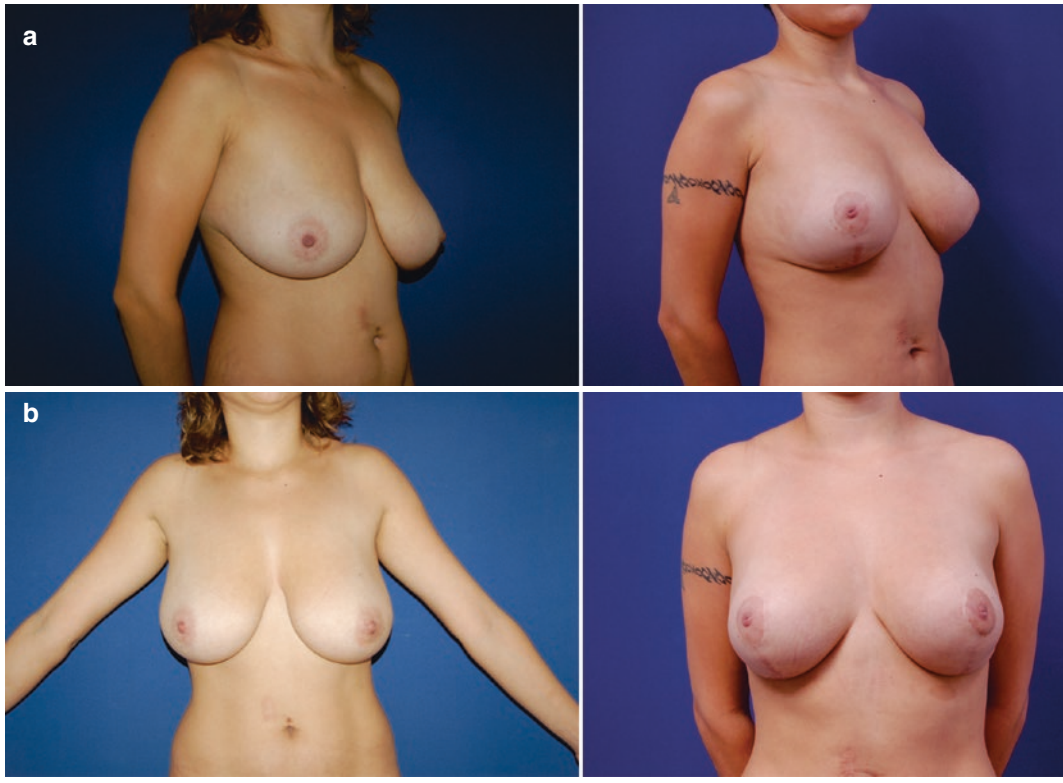

Fig. 13.2 (**a**, **b**) A 23-year-old patient with mammary hypertrophy and ptosis. Large reduction with a minimal horizontal scar

only vertical scars at their first visit (Figs. 13.2 and 13.3). In summary, I believe that the techniques directed at the elimination or the drastic shortening of horizontal scars satisfy both the surgeon and the patients and therefore should be continuously improved. Also, in view of the diversity and large number of mammoplasty techniques, those that are simpler incur fewer risks of surgical error and therefore provide greater patient satisfaction (Figs. 13.4 and 13.5). The technique permits breast reduction with pleasing shapes, minimal and only vertical scars or small horizontal scars in large breasts, with simple technical tracing.

Fig. 13.3 A 20-year-old patient with mammary hypertrophy. Reduction mammaplasty without inframammary scars, with only a vertical suture. Close-up

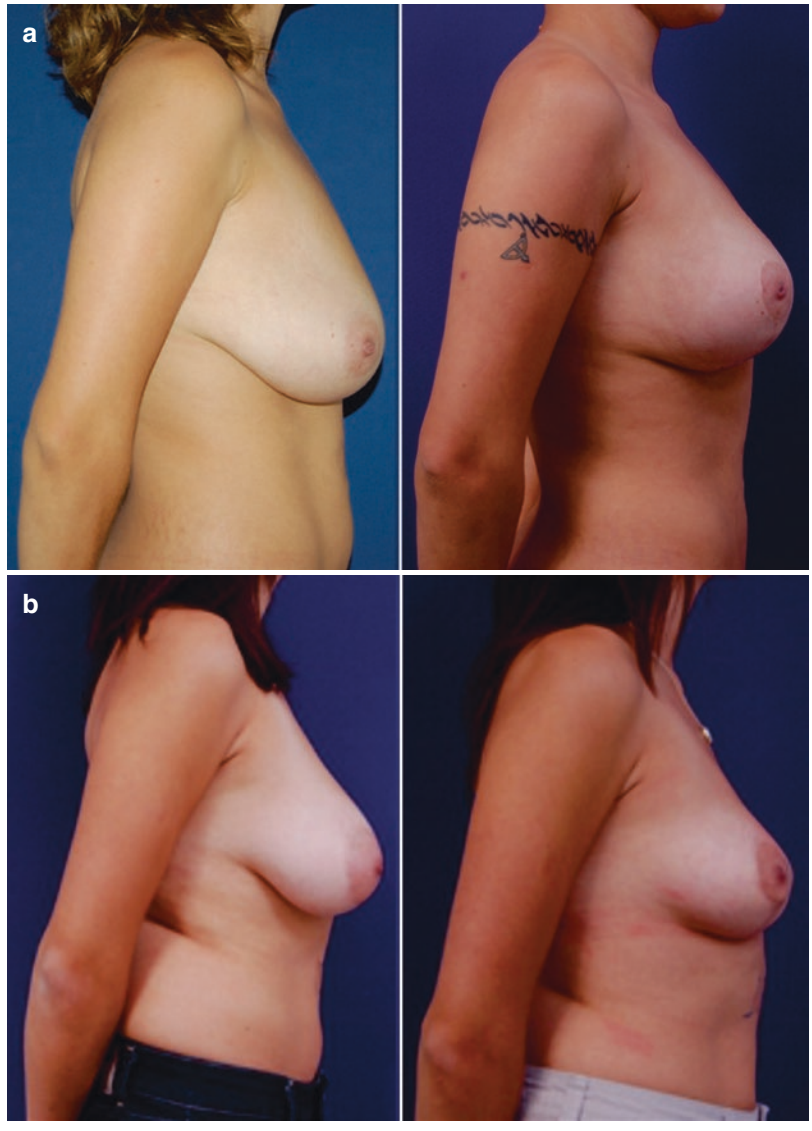

Fig. 13.4 (**a**, **b**) Two examples of severe mammary hypertrophy resulting in a minimal horizontal scar. Note in the profile view

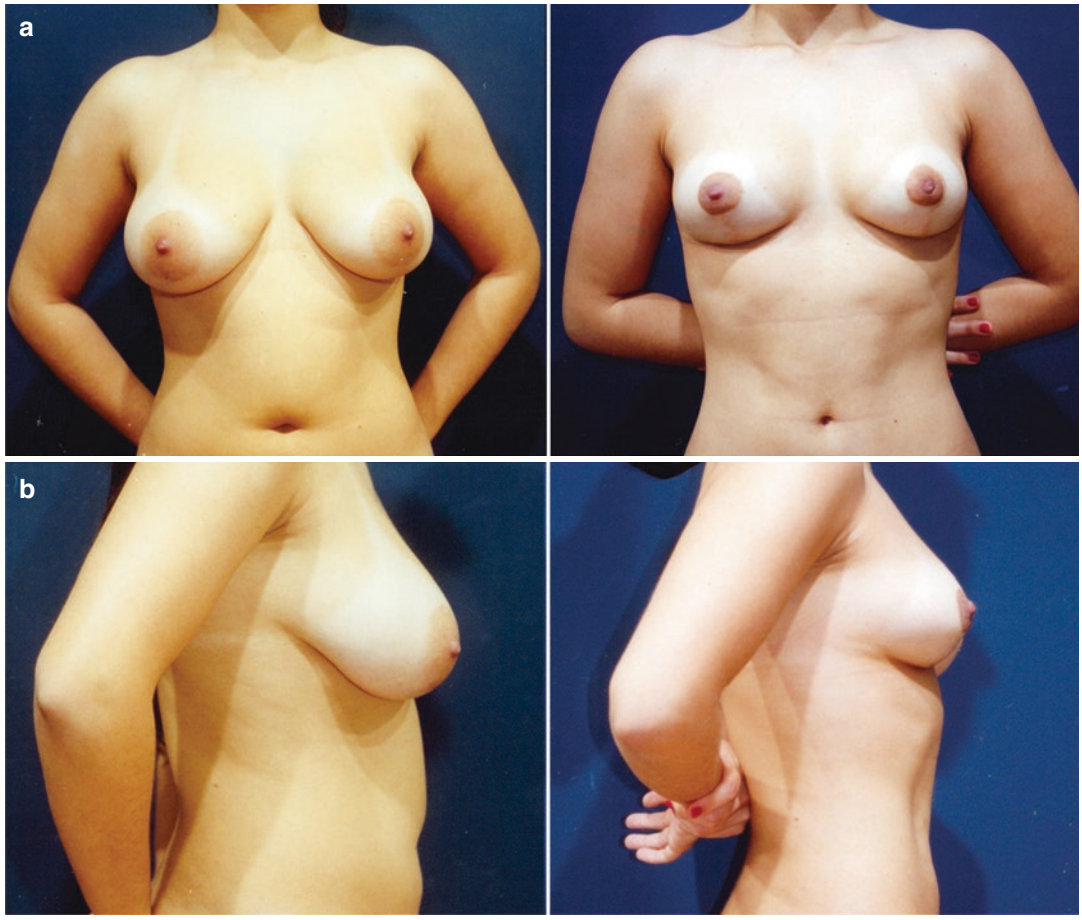

Fig. 13.5 (**a**, **b**) A 21-year-old patient with moderate hypertrophy. Front and profile views

Conclusion

Mammaplasty is quite a common procedure with very good aesthetic results. In fact, in the 1980s, plastic surgeons had already dominated with relative ease the techniques of reduction mammaplasty, some problems having been resolved, but others still awaiting a solution. Over the last few decades, I have developed a method through which it is possible to achieve good surgical results with short scars. A complete description of the technique is provided and details of the surgical methods are given. Our short scar breast reduction is effective at accomplishing good results with minimal scarring.

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