



Personal Technique: Reduction Mastoplasty in Gigantomastia with Thin Superior Medial Pedicle

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22.1 Introduction

There are many techniques used to correct hypertrophic and pendulous breasts using plastic surgery (Bames 1948; Baroudi and Lewis 1976; Biesenberger 1931; Born 1994; Bustos 1988; Brauman 1994; Conway 1952; Courtiss 1993; Courtiss and Goldwyn 1977; Costa et al. 2005, 2008; Dartigues 1935; de Benito and Sanza 1993; de Castro 1976; Dufourmentel 1939; Farina 1972; Ferreira et al. 1995; Gillies and McIndoe 1939; Hawtof et al. 1989; Johnson 1976; Shin et al. 1996; Koger et al. 1994; Lassus 1996; Lejour 1994; May 1956; McKissock 1972; Melega et al. 1992; Pontes 1973; Rees 1971; Rees and LaTrenta 1994; Regnault 1974; Ribeiro 1975; Robbins 1977; Sampaio Goes 1996; Schatten et al. 1971; Varotto 1996; Skoog 1963; Strombeck 1971, 1960). In cases of gigantomastia, amputation with

a free nipple graft is most frequently used. In such cases, its aesthetic limitations of loss of nipple projection, partial or total nipple necrosis, hypopigmentation of the nipple–areola complex (NAC) and loss of sensitivity are frequently present (Gillies and McIndoe 1939).

In patients with heavier and ptotic breasts, who need large resections of breast tissue, where the suprasternal notch-to-nipple distance is long, the use of nipple–areola transposition techniques is a challenge for the surgeon.

With the aim of solving these problems, the superior medial technique with a thin pedicle has been used by me and the gigantomastia group at the Hospital das Clínicas, USP School of Medicine, with excellent results (Costa et al. 2008).

This technique of reduction mammoplasty is based on the following principles: mammary reduction utilizing a thin superior medial pedicle (1.5–2.0 cm thick) and resection performed in two steps: (1) the base excess at a plane perpendicular to the breast (this determines the cone's height) and (2) a central half keel (this determines the reduction in the breast diameter).

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22.2 Methods

More than 800 patients with breast hypertrophy have been operated on at Hospital das Clínicas, São Paulo University Medical School over the last 17 years. Definitions of severe breast hypertrophy are varied and include cup size, weight

of the resected breast tissue, and the height of nipple elevation (Meijer 1974; Pitanguy 1965; Rees 1971).

Regarding breast shape, 100% of the patients belonged to type 2 according to Rees' classification (Meijer 1974; Pitanguy 1965; Rees 1971). According to Regnault, 100% had third-degree ptosis. (Rees and LaTrenta 1994). Neck pain, back pain, and bra strap indentations were reported by all patients. Breast measurements were obtained with the patient standing.

22.2.1 Preoperative Markings

Marking of the breast is done with the patient erect. The new, desired position of the areola is estimated by projecting the inframammary crease to a line that crosses the clavicular mid-point, whereas the future nipple is determined by the index finger (point A) (Fig. 22.1).

Points B and C are determined by the pinch test (using the thumbs and index fingers the skin of the breast is pinched together near the inferior border of the areola). The postoperative breast

result could be visualized using this preoperative pinching maneuver (Fig. 22.1).

According to the degree of hypertrophy and the amount of tissue resection, the length of the arm and the angle of the wedge resection are varied. The length of the medial arm (AB) is between 8 and 9 cm and the lateral arm (AC) is between 10 and 12 cm (Fig. 22.1) in most patients.

The breast is elevated and the inframammary crease marked.

With the thumb and index finger of one hand pinching the breast skin at the level of points B and C, the base limit of the resection is determined. The medial and lateral lines are marked connecting the points B to the medial and C to the lateral junctures of the inframammary crease (points D and E) (Fig. 22.1). Point F depends on the base width and may range between 10 and 12.5 cm (approximately half way between D and E) (Fig. 22.1).

22.2.2 Surgery

The patient is evaluated preoperatively (Figs. 22.2 and 22.3) and the marks are made (Fig. 22.4).

Incisions are made in the upper V and around the areola markings. The upper V and the subdermal plexus surrounding the nipple are de-epithelialized (Fig. 22.5).

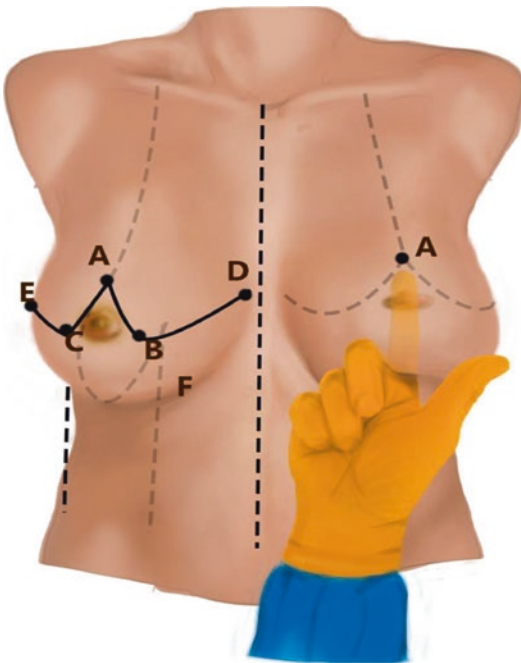


Fig. 22.1 Preoperative markings



Fig. 22.2 Photo of the preoperative breast



Fig. 22.3 Photo of the preoperative breast



Fig. 22.5 Photo showing the upper V and the subdermal plexus surrounding the de-epithelialized nipple



Fig. 22.4 Photo showing the preoperative markings



Fig. 22.6 Photo showing the undermined superior medial pedicle

The operation begins with the patient in the supine position and arms adducted. The inframammary crease incision is made, and the breast is lifted off the deep surface of the superficial fascia over the pectoralis major (medially until the projection of point B over the pectoralis and laterally, far from the projection of point C over the pectoralis major).

The superior medial pedicle is marked. The width of the flap base is between 6 and 7 cm, leaving 1 cm in the upper part of the V and in the lower part of it. A line is drawn passing near the

areola. Therefore, the flap is undermined with 1.5 cm of thickness and is made progressively thicker at the base. While undermining the flap in the subcutaneous layer, it is important to include some glandular tissue beneath the areola (Fig. 22.6).

Next, resection of the excess mammary tissue is accomplished with the patient in an elevated position of 80° (nearly sitting up), in two steps: (1) the base excess at a plane perpendicular to the breast (this determines the height of the cone) (Fig. 22.7) and (2) a central half keel (this determines the reduction of the breast diameter) (Fig. 22.8).



Fig. 22.7 Photo showing the base excess resection at a plane perpendicular to the breast (this determines the height of the cone) and the thickness of the pedicle



Fig. 22.9 Photo showing the lateral and medial segments of the horizontal scar sutured after the transposition of the nipple-areola complex

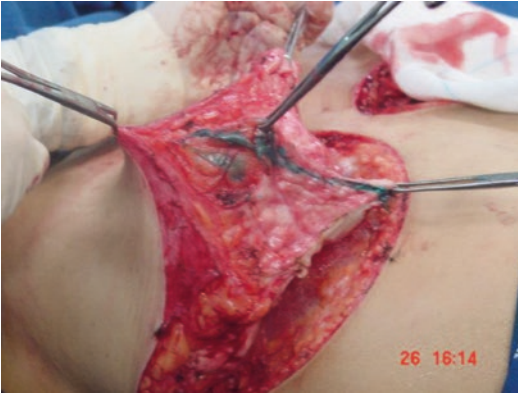


Fig. 22.8 Photo showing the central half keel resection



Fig. 22.10 Photo showing the sutures of lateral and medial pillars

The NAC is moved upward to its new position. A cut of about 1 cm can be made on the medial portion of the V at point B if it is necessary to enhance the transposition distance of the areola.

The breast segments are approximated at the midline using sutures of 3-0 monocryl. Sutures of 2-0 mononylon are applied to approximate the medial and lateral pillars and a greater projection of the areola and nipple occurs (Figs. 22.9 and 22.10). A trifurcation suture of 3-0 monocryl is inserted among points B, C, and F. If more skin is needed to be removed, it can be taken along AB and BC. Skin closure is carried out (Fig. 22.11) and drainage performed. The results of the thin superior medial technique are demonstrated in (Figs. 22.12–22.29).



Fig. 22.11 Photo showing the final aspect of the surgery



Fig. 22.12 Patient A preoperatively

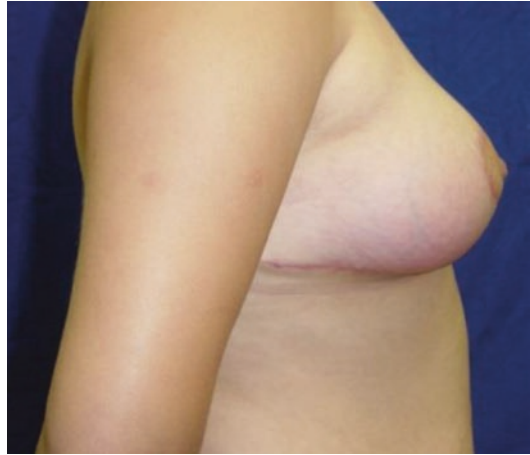


Fig. 22.15 Postoperative lateral view



Fig. 22.13 Nine months postoperatively, 1050 g removed from the left breast and 1000 g from the right breast



Fig. 22.16 Patient A preoperatively



Fig. 22.14 Patient A preoperatively



Fig. 22.17 Postoperative 3/4 view



Fig. 22.18 Patient B preoperatively



Fig. 22.21 One year and 6 months postoperatively, 1900 g removed from the right breast and 1700 g from the left breast



Fig. 22.19 One year and 6 months postoperatively, 1250 g removed from the right breast and 800 g from the left breast



Fig. 22.22 Patient C preoperatively

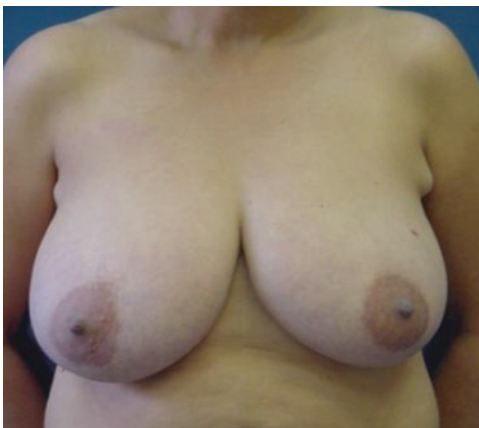


Fig. 22.20 Patient C preoperatively

22.3 Discussion

There are a multitude of procedures used to correct hypertrophic breasts with plastic surgery (Bames 1948; Baroudi and Lewis 1976; Biesenberger 1931; Born 1994; Bustos 1988; Brauman 1994; Conway 1952; Courtiss 1993; Courtiss and Goldwyn 1977; Costa et al. 2005, 2008; Dartigues 1935; de Benito and Sanza 1993; de Castro 1976; Dufourmentel 1939; Farina 1972; Ferreira et al. 1995; Gillies and McIndoe 1939; Hawtof et al. 1989; Johnson 1976; Shin et al. 1996; Koger et al. 1994; Lassus 1996; Lejour 1994; May 1956; McKissock 1972; Pitanguy 1960.



Fig. 22.23 Postoperative lateral view



Fig. 22.25 Two years postoperatively, lateral view, 1000 g removed



Fig. 22.24 Patient D preoperatively

The superior medial pedicle reduction mastoplasty with a thin pedicle is a safe surgical option for severe mammary hypertrophy, which could solve problems such as when the distance between the new, desired position of the NAC is too long.

The advantages of a superior medial pedicle include reliable circulation with the capacity of a long transposition distance of the NAC. Results such as a mean change in nipple position of



Fig. 22.26 Patient E preoperatively

16 cm (range 12–21 cm) and a mean weight of each breast of 1400 g (range 750–3000 g) have been shown in a study with 90 patients carried



Fig. 22.27 Two years postoperatively, lateral view, 1050 g removed



Fig. 22.28 Patient F preoperatively

out between 2000 and 2005 at Hospital das Clínicas, University of São Paulo.

From an anatomical standpoint, a thin pedicle with adequate blood supply avoids problems with



Fig. 22.29 Two years, 1250 g removed

venous drainage. A thicker pedicle would bring an excess of arterial flow without competent venous drainage, causing areolar necrosis.

Although the technique uses a thin pedicle, in different hands, similar outcomes can be achieved. Residents of São Paulo's University Medical School are performing this surgery well.

Considering the large volumes removed and the size of the operated breasts, only a few complications were observed, and were similar to those reported following other techniques described in the literature (Costa et al. 2005; Dartigues 1935; Koger et al. 1994; May 1956; Orlando 1975; Robbins 1977). Patient satisfaction following this procedure was high.

Another important detail is that the same principle of the thin superior medial pedicle can be used for a superior lateral one. The markings are the same, but instead of using the medial area, the lateral area would be used. The importance of this assertion is that in an oncological breast with a tumor in a superior medial position, a superior lateral pedicle can be used.

22.3.1 Complications

The complications arising in a series of 90 patients treated between 2000 and 2005 are shown in Table 22.1.

Table 22.1 Complications

Complications	Number of cases	%
Seroma	1	1.1
Hematoma	1	1.1
Infection	0	0
Areolar necrosis	0	0
Skin ischemia	3	3.3

There were only a few complications. One patient developed seroma (1.1%) but had no further problems. There was one case (1.1%) of a small volume hematoma, which was evacuated by punctures with no need for re-operation. In three patients (3.3%) with inverted T scars superficial skin ischemia occurred and healed with secondary intention. There were no cases of areolar infection or necrosis.

Conclusion

The results of this study clearly demonstrate that thin superior medial pedicle reduction mammoplasty is a safe and reliable technique in cases of severe breast hypertrophy.

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