

Breast Reduction With Dermoglandular Flaps

Tessier's "Total Dermo-Mastopexy" and the "Yin-Yang Technique"

Francesco Gargano, MD, PhD,* Paul Tessier, MD,† and S. Anthony Wolfe, MD‡

Abstract: The use of dermoglandular flaps in reduction mastopexy was advocated by Paul Tessier, who never published his method, but had actually almost finished the following article before his death in June 2008. Dr. Tessier is acknowledged as the "father" of craniofacial surgery, but he had interest in aesthetic surgery, and was quite proud of the technique he had developed using dermoglandular flaps in reduction mammoplasty. He had literally hundreds of techniques and methods that he had developed but which never found their way into print, both because of his enormous surgical schedule, and perhaps his self-imposed standards for anything that he published, which were almost impossibly high. The technique proposed by Dr. Gargano is similar in some ways to Dr. Tessier, it seemed good that they will be published together—S. Anthony Wolfe, MD.

Key Words: breast reduction, Tessier, dermoglandular flap, total dermomastopexy, the "Yin-Yang Technique"

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The treatment of breast hypertrophy and ptosis has for some time been dominated by the procedures of Biesenberger, using a single medial pedicle (1928), and then that of Ragnell, which employed 2 pedicles (1954). Both of these procedures involved extensive dissections between the skin and the gland.

There followed the method of Arié (1957), popularized by Y. Pitanguy (1961). Soon thereafter, followed another method of Marc, popularized by C. Dufourmentel and R. Mouly (1968) as the "oblique method," characterized by very limited skin dissection above the glandular flaps.

After the methods of Arié-Pitanguy and Marc-Dufourmentel, many procedures emphasized the security and sensibility of the nipple, the viability of the skin flaps, size and location of the scars, and the embryological relationship between the skin and the mammary gland. These were the procedures of Wise (1956/57), Strombeck (1960), Skoog (1963), McKissock (1971), Goulian (1971), Elbaz (1972), Lallarderie (1974), Hinderer (1976), Peixoto (1980), Monfarrege (1985), Marchac (1982), Hester-Bostwick (1985), Maillard Montandon-Goin (1984), Ship (1989), Lejour (1990 and 1994), Bayati-Seckel (1993), Richbourg (1991), and Dessert and Lagrille (1993).

As opposed to the Biesenberger and Ragnell procedures, all of these methods are characterized by less dissection between the

skin and the gland and less "isolation" of the areola from the skin and its vascular and nerve network. Because of this, there was greater security for the nipple and the skin flaps; but, the most rapid method seemed also to be a reason for its choice.

The Ragnell procedure, and particularly the Biesenberger procedure, has been criticized because of a lack of vascular security associated with an extended dissection between the skin and the gland. During 1947 or 1948, I observed McIndoe brilliantly performing a Biesenberger procedure, and noted a good shape of the breast at the end of the operation. Thus, I began using the Biesenberger procedure in this pure form, but was never satisfied with my results, even short-term. Having often used dermis in the treatment of hernias, I then thought that I would conserve the dermis of all of the peri- and infraareolar areas which was generally discarded down to the inframammary fold (IMF), and to use it to construct around the mammary remnant as a system of suspension and support.

CONTROVERSIES

In breast surgery, there are 2 specious arguments that can be disposed of: first, not to separate the gland from the skin since the gland is an appendage of the skin; second, to shorten the length of the scars.

1. Embryologically, the gland is certainly a cutaneous appendage, but, when there is ptosis, the distended skin can no longer support the gland; this is in fact the reason for the operation. The stretched skin can no longer support the gland, unless it is first separated from it before redraping it.
2. As for short incisions (invoked among others by the oblique method), the argument does not hold water. In fact, no matter what the method, a breast that has been operated upon will have scars. Six or 10 centimeters more or less count for little in the balance between scars and a pleasing shape. If the shape is good, perhaps the scars will be criticized. If the shape is poor, both the shape and the scars will surely be criticized.
3. Which factor will play the greatest role in the erogenous power? The shape, or the scars? That depends on the daily or nightly activities, with or without veiling, and certainly the usage, all other factors being the same.

THE BASIC PRINCIPLES OF THE PROCEDURE USED BETWEEN 1950 AND 1992

1. The position of the breast is determined by the shape of a given thorax. The main landmark, if not the only one, is the IMF, which is the point of inflection of the breast. Except for cases of skin pathology or advanced senescence, the position of the IMF is determined by the length of the thorax, by the primary position of the breast, and by the thoracoabdominal aponeurosis. The landmarks are marked with the patient in a standing position before the operation. Once the axis and the meridians are marked, the other markings for the procedure are from below upward, from the IMF up to the upper pole of the breast.
2. Aim for divergence. Too many methods have to stress convergence, which the oblique method often renders impossible, at least in the immediate. This propensity for convergence comes

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from the fact that almost all procedures do not foresee the need for lateral movement when in the supine position; almost all, except that is for the dermal embrace which is the basis of the method described.

COMPARISONS WITH THE PURE BIESENBERGER PROCEDURE

1. Like in the Biesenberger procedure, the resection is carried out on the inferolateral quadrant, and it can extend to the inferior border of the gland and to the superolateral quadrant. The lateral blood supply (the lateral mammary) is therefore cut off. Depending on the extent of the hypertrophy, the lateral resection can be completed with a large excision of the deep surface of the breast flap. The lateral resection is done in an "S" shape to lengthen the medial border and to thereby favor a closure in a spiral manner.
2. Like in the Biesenberger procedure, the vascularization of the glandular tissue is provided only by the 4 or 5 intercostal branches coming from the internal mammary.
3. Differing from the Biesenberger procedure, all of the dermis in the areas of excess is conserved, attached to the gland, hence the name "Total Dermo-Mastopexy." This dermis is used:
 - To preserve a peri- and subareolar network down to the IMF;
 - To wrap around the glandular breast remnant to provide its form;
 - To suspend to the pectoralis major fascia;
 - To limit lateral inclination.
4. Differing from the Biesenberger procedure, the fascia of the axillary tail is preserved. It is sutured to the gland at about 6 o'clock, thus reinforcing the dermal hammock.
5. Differing from the Biesenberger procedure, the flaps are placed not over but rather under the superomedial quadrant. The dissection between the gland and the pectoralis major is therefore extended under the superomedial quadrant. On the other hand, the subcutaneous dissection of the superomedial flap is much less extensive than the retromammary dissection.
6. Differing from the Biesenberger procedure, there is a layer of subcutaneous sutures because there is always a subcutaneous fascia which can be sutured in the IMF and in the vertical incision at 6 o'clock.

And at last, the final position of the nipple is determined by the shape of the breast. The nipple is not centered exactly on the height of the curve of the breast, but it is placed a bit lower. Since the main landmark is the IMF, at the end of the operation the nipple is found at the same constitutional level as at the beginning.

THE LANDMARKS

The landmarks are always marked with the patient in the standing position (never sitting), in the patient's room before any premedication. The markings will indicate:

- The median axis;
- The "lateral slope" axis, and, on it, the superior pole of the gland;
- The IMF behind the ptotic breast;
- The projection of the IMF on the anterior surface of the breast (SM 1 and SM 2 on the drawing). This line indicates the superior limit of the zone to be deepithelialized;
- The IMF;
- The midline from the sternal notch down to the tip of the xiphoid and the umbilicus;
- Two meridians from the substernal notch, directed toward the lateral border of the areola and extended to the IMFs;
- The superior pole of the gland located by pinching between 2 fingers;

The future site of the nipple 60 mm below this pole;
From these site 2 lines marking the limits of the skin excision, the edges of which will be sutured together for the vertical closure;
A transverse line joining the ends of the inframammary line, at 60 mm;
Laterally, the limits of the skin undermining.

In this manner, the following are marked:

- The pole of the breast;
- The future site of the nipple;
- The zone of epidermal removal, the underlying dermis of which will constitute the envelope of the breast;
- The lower level of the breast and in IMF (inframammary 2);
- The future position of the nipple, determined by: a triangle, the apex of which is the future circle for the nipple and its base on Inframammary 2.

The length of this base varies according to the skin distension associated with the ptosis and with the estimation of the skin surplus which will result from the glandular resection.

Between Inframammary 1 and Inframammary 2 lies the zone of skin to be excised, which is wider and longer the more the breast is hypertrophic and ptotic. The angle O, and as a consequence of the width of the base of the triangle, varies with the skin distension caused by the ptosis and with the intended resection of the hypertrophic glandular tissue. This angle "O" and the basal width are the only subjective elements of the operation (Figs. 1A, B).

THE INSTRUMENTS

- A ruler;
- Three noncutting calipers;
- A marking pen;

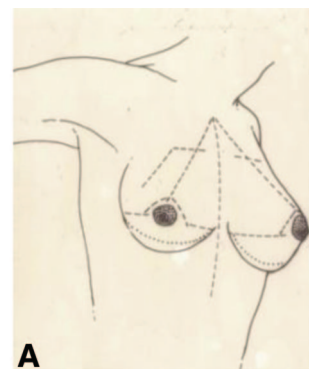


FIGURE 1. A, B, Schematic drawings and preoperative view of the Tessier "Total Dermo-Mastopexy" markings (details mentioned in the text).

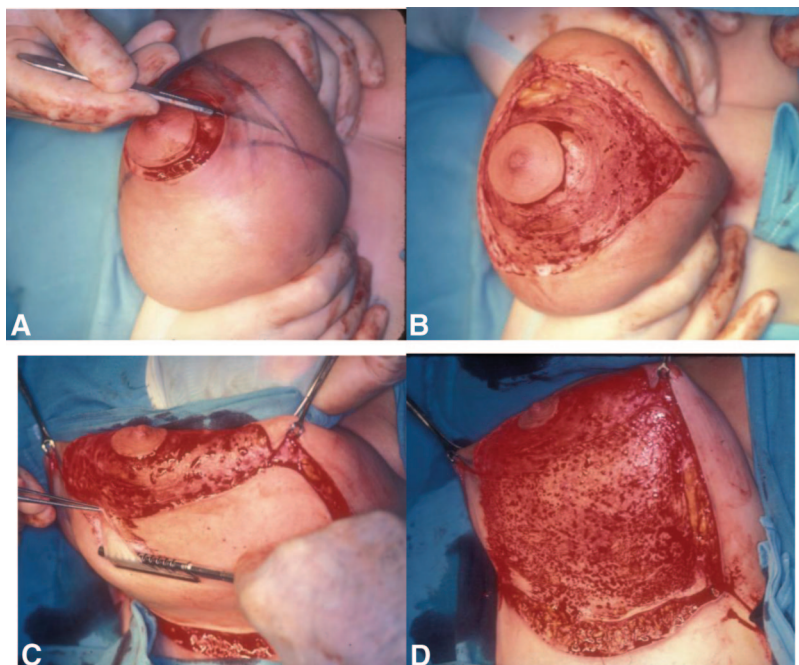


FIGURE 2. A–D, Deepithelialization around the areola and at the inferior pole.

A McIndoe compass;
A Ferris Smith dermatome;
Twelve hemostats;
Four Welty clamps;
Two Skoog clamps;
Two heavy Tessier skin hooks;
Two large Mayo-Hegar straight scissors from Stille;
Two large Mayo-Hegan curved scissors from Stille;
Sponges.

THE TECHNIQUE

1. On the inner surface of the areola (often too large), draw the new nipple with the skin under considerable tension. The incision circumscribing the new nipple is therefore always made in the pigmented zone of the areola, rarely on the areolar-cutaneous junction. The diameter of the final caliber is 10 mm less than that of the initial caliber. Because of this difference, there is a more pronounced final projection of the nipple, and less tension on the periareolar sutures.
2. With a scalpel, the superficial periareolar dermis is dissected and removed.
3. Incise the dermis over Inframammary 1 and Inframammary 2, thereby outlining the cutaneous excision; then with the Ferris Smith dermatome, deepithelialize the area which was outlined (Figs. 2A–D).
4. Dissect the lateral portion of the superomedial skin flap over the gland, then deep penetration down to the pectoralis major over the axillary tail.
5. Superficial dissection of the superomedial skin flap. This dissection is done with a moist sponge maintaining the skin flap held taut over the hand and by pressure on the gland and the pectoralis major.
6. Laterally, the dissection of the dermal flap is done up to the point where it becomes free after the glandular resection.
7. The breast is then elevated with the following 4 Welty clamps:
 - Exposing the thoracoabdominal fascia;
 - Locating the inferior mesentery of the gland;
 - And laterally, the dissection between the pectoralis major and the gland is done with finger dissection up to the dissection already done behind the gland; this dissection is completed under the axillary tail.
8. The axillary tail is excised with scissors.
9. The retromammary dissection is carried as high as possible under the superomedial quadrant. The gland is elevated and the intercostals are seen, issuing from the thorax.
10. The breast is then spread over the 4 Welty clamps. An “S” shaped incision is made in the gland, then tailored with the scissors on the posterior surface of the 2 medial quadrants. Excision of the lateral quadrants (Figs. 3A–C).
11. A test movement is then made in a spiral manner of the breast remnant, and the dermal flaps are wrapped around. Further excisions are then made either from the lower border of the gland, or from its posterior surface. However, the axillary tail is only excised in very large hypertrophies (Figs. 4A, B).
12. Several sutures are taken between the inferolateral pole of the gland and the pectoralis major fascia, behind the superomedial quadrant. Sutures of the dermal flap are placed very high on the pectoralis major, at first fairly loosely, then under increasing tension laterally to limit the lateral slope of the gland (Figs. 5A, B).
13. Suture of the axillary tail to the inferomedial dermis which the rotation has brought inferiorly (Figs. 6A, B).
14. The residual volume and shape are then evaluated; the breast should maintain its shape solely by the support of the dermal draping. Further large adipose globules are removed by dissection.
15. The skin is redraped, the transverse tension evaluated, and final adjustments are made by small skin excisions. Several tacking skin sutures are taken 15 mm below point “O.” Several subdermal vicryl sutures are taken completely covering the nipple-areolar complex (NAC). Inframammary subcuticular sutures of vicryl are placed. Several skin sutures are taken at the T-junction with Inframammary 1; but these are only reference sutures.

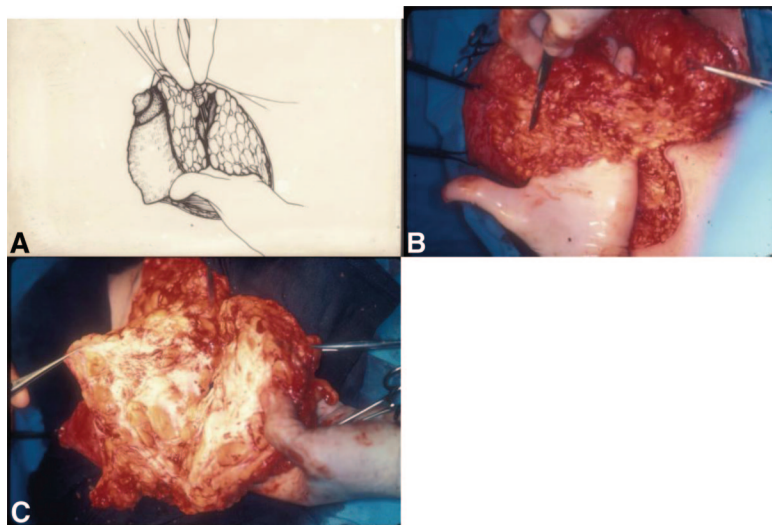


FIGURE 3. A–C, Gland excision is performed with an S pattern and the axillary tail removed only in big hypertrophies.

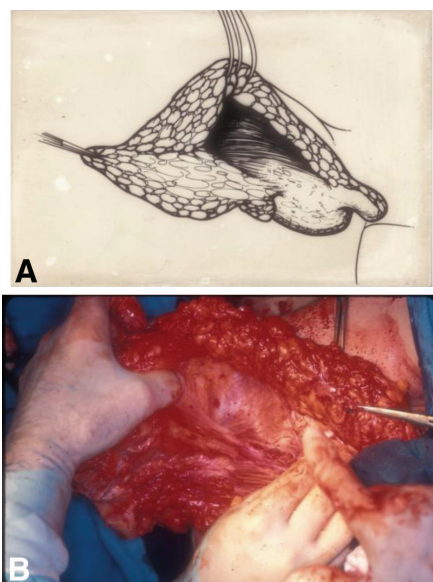


FIGURE 4. A, B, Dissection over the fascia at the medial quadrant and creation of the space where to inset the laterally based dermal flap.

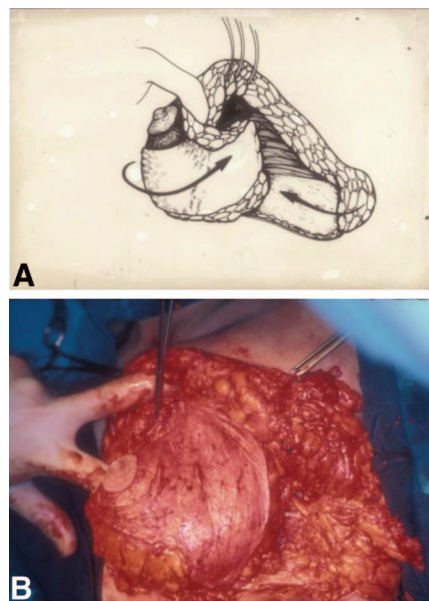


FIGURE 5. A, B, Movement of the flap and its inset at the medial quadrants on the parasternal line.

16. An estimation of the curve of the breast and the localization of its center is made, which should be the location of the nipple. This is always placed 10 mm lower to compensate for an inevitable relaxation and to prevent a flattened nipple (Fig. 7).
17. The nipple position is marked with a caliber less than that used for the original marking. The NAC is then extruded. Mattress sutures are taken at the 4 cardinal points (Fig. 8).
18. Intradermal inframammary sutures;

Vertical sutures plus Steristrips;

Periareolar sutures;

Elastoplast placed like an "X" brassiere;

Seventh day: first dressing change;

Fourteenth day: removal of sutures and elastoplasts, second dressing change;

Twentieth day: no more dressings.

Pitfalls

They are those of all procedures

To try to excessively elevate the breast beyond the limits imposed by the morphology of the thorax and the location of Inframammary 1.

To try to obtain an overly firm breast by an overly tight skin drape. If the vertical tension dominates, it will produce a parasternal redundancy below the IMF. If the transverse tension dominates, the redundancy will form above the IMF.

In very large hypertrophies, the inframammary incisions tend to join in the presternal area. It is better to extend the excisions and have them meet to have an unsightly prexiphoid shape.

RESULTS

This method has been used without notable changes from 1950 to 1992.

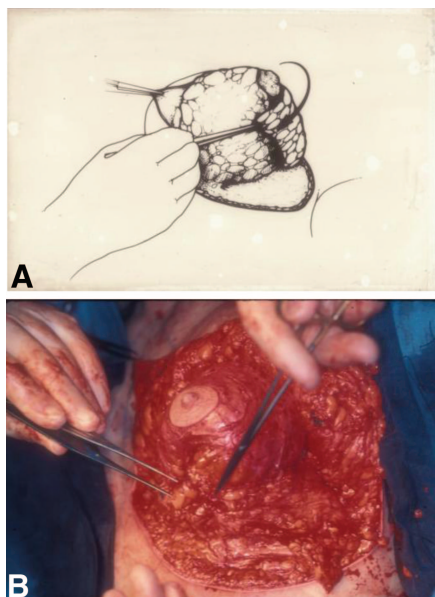


FIGURE 6. A, B, Suture of the medial flap over the lateral flap to form a “bra supporting sling.”



FIGURE 7. Nipple location is 1 cm below the expected position to avoid nipple flattening and compensate relaxation.



FIGURE 8. Final intraoperative picture.

Topography: good, thanks to the inframammary landmark.
Shape: very good, and durable; a brassiere does not serve any purpose, and it is better to advise against it; 9 out of 10 patients stop wearing one.

Areolae: Sometimes slightly asymmetric.

Sensibility: Diminished initially, but in general it returns.

Scars: They can be hypertrophic in young patients; the inframammary scar sometimes tends to ride up on the breast. At the junction of the T, pigmentation can occur.

“Dog Ears”: Lateral or medial, they can occur.

Several reoperations for hypertrophic scars were done with an easy dissection, showing the preservation of a fine dermal network.

Complications have been:

Subtotal necrosis of the nipple—1

Partial necrosis of the nipple—4

Cutaneous necrosis of the inferior angle of the medial flap—3

Cysts resulting from buried epidermal elements—4

Of the 5 nipple necroses, 3 occurred when there were secondary procedures; the original procedure seems to have been a variant of the Arie (Figs. 9A–D).

PRINCIPAL APPLICATIONS OF THE PROCEDURE

Ptosis without hypertrophy or even mild mammary hypoplasia: The use of the totality of the dermis and the axillary tail make it possible to add several dozens of cubic centimeters of volume and avoid an eventual mammary prosthesis.

So called “moderate” hypertrophy: But where is there moderation in hypertrophy and the reconstruction of a breast.

In extremely large hypertrophies, a free nipple graft (Thorek) is preferred (Figs. 10A–D).

RÉSUMÉ

Because of its single medial pedicle, the Biesenberger procedure can provide an incomparable form by a spiral rotation of the glandular remnant, which can be trimmed as desired.

The preservation of the totality of the skin zones rendered superfluous by the peri- and infraareolar glandular resection preserves a portion of the vascular network of the NAC. This deepithelialized skin is used to wrap around the glandular remnant, to suspend it to the pectoralis major fascia, and to limit the lateral pocket of the breast, thereby preventing a lateral sloping. The superomedial skin flap is dissected minimally, since the rotation of the gland takes place beneath the superomedial quadrant and not above it. A strip of the axillary tail reinforces the inframammary hammock made up of dermis.

There different factors are at play to assure obtaining a good, lasting shape, without the vascular risks attributed to the Biesenberger procedure.

THE YIN-YANG TECHNIQUE (F. GARGANO)

The vertical scar mammoplasty was first described by Dartigues¹ in 1925, followed by Arie² in 1957. In 1970, Lassus³ first used a vertical scar technique with a superior pedicle. Lejour et al^{4,5} popularized the vertical reduction mammoplasty adding some modifications that solved some of the problems with a vertical approach. Recently, several other authors have published technique refinements that have led to more predictable and reproducible results.^{6–10} Nevertheless, criticism of the various vertical mammoplasty procedures has continued. In general, detractors complain about healing problems, skin redundancy at the IMF, the tendency to leave the breast too large, the inability to treat lateral breast fullness, lower pole instability, and tear-drop NAC deformity.^{11,12}

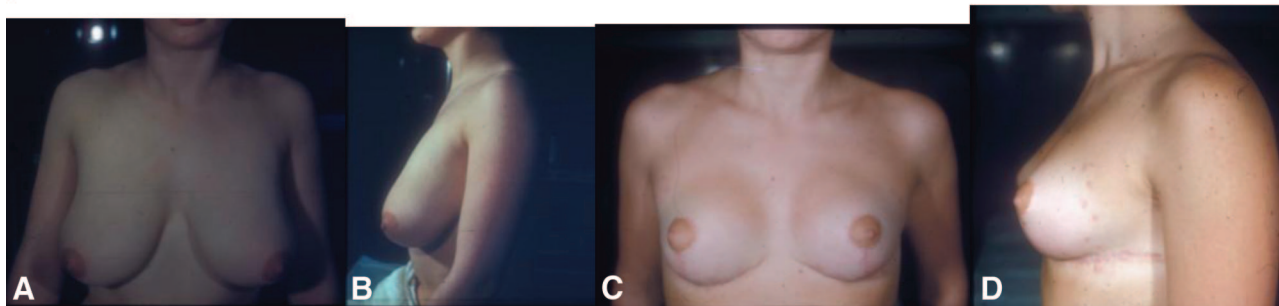


FIGURE 9. A–D, Preoperative and postoperative views. Note the narrowing of the mammary bases and the good support to the lower pole.



FIGURE 10. Another patient operated with the “Total Dermo-Mastopexy” technique, before (A, B) and after surgery (C, D).

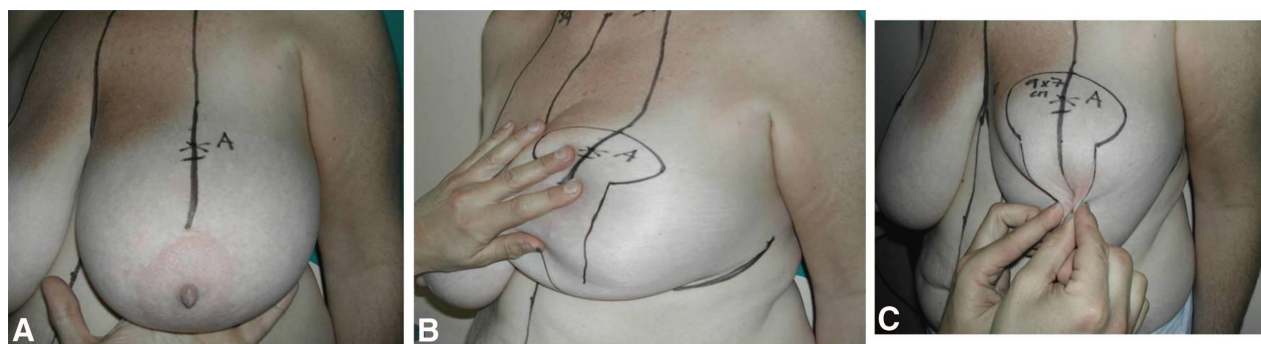


FIGURE 11. A–C, Markings. The nipple position, mammary line, IMF, pillars are designed on the skin and the quantity of skin to be resected is checked by pinch test.

Breast shape and long-lasting results in reduction mammoplasty have been shown to be improved by using different types of flaps.^{13–18} Tessier’s “Total Dermal Mastopexy”^{19–21} was the first technique to describe dermoglandular flaps to correct the breast slope of the hypertrophic breast and support its lower pole. Our modifications to the vertical scar mammoplasty uses the same principles of gland remodeling suggested by Tessier more than 50 years ago and introduce an innovative method of glandular resection, remodeling, and skin redraping. Characteristics of the Yin-Yang technique are as follows: (1) superomedial pedicle (SMP) for the nipple, (2) Glandular resection pattern: an S-shape on the right breast and exact opposite Z-shape on the left breast, and (3) an LBIP (laterally based inferior pole) dermoglandular flap. Main difference is that Tessier’s technique carried the nipple on a glandular base (as

did the Biesenberger procedure); the Yin-Yang technique carries it on superomedial dermoglandular pedicle, which is somewhat safer.

SURGICAL TECHNIQUE

Markings are performed with the patient standing. The midline from the sternal notch to the umbilicus and the middle mammary line from the midclavicle to the NAC are outlined. The IMF fold of each side is subsequently marked.

The new desired position of the areola nipple is located 2 cm below the anterior projection of the IMF to avoid postoperative nipple bottoming out (point A) (Fig. 11A).

Centered on point A, a periareolar mosque-dome shape of 9×7 cm is designed (if a 4.5-cm areola is planned) and 2 vertical

pillars lines while gently pulling the breast laterally and medially (Fig. 11B).

The quantity of skin to be excised is controlled by pinching (Fig. 11C).

The vertical lines are joined inferiorly with a soft curve. Depending on the grade of ptosis, a skin bridge of at least 2 cm can be left intact at the lower pole. As in the Tessier's technique, the only fixed landmark will be the new position of the IMF. The SMP of the nipple is designed with a base of 8 to 10 cm (G). The LBIP dermoglandular flap is outlined at the inferior pole with a base of 6 cm (F) (Fig. 12). The internal edge of the periareolar design must be located at 10 cm from the parasternal line to avoid lateral nipple

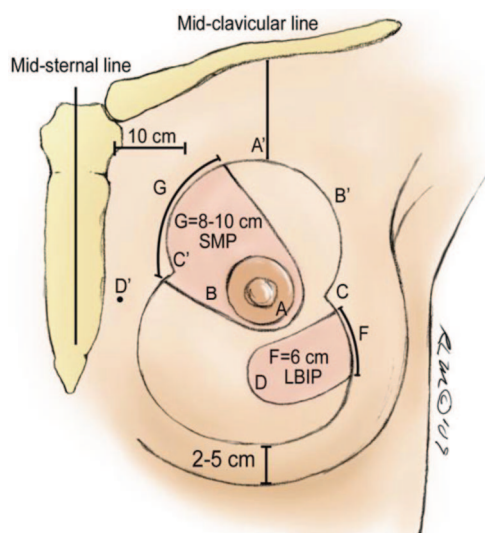


FIGURE 12. Diagram of the markings of the "Yin-Yang technique." Centred on the point A, a periareolar mosque-dome shape is designed. The SMP for nipple has a width of 8 to 10 cm and the LBIP demoglandular flap is designed at the inferior pole with a base of 6 cm.

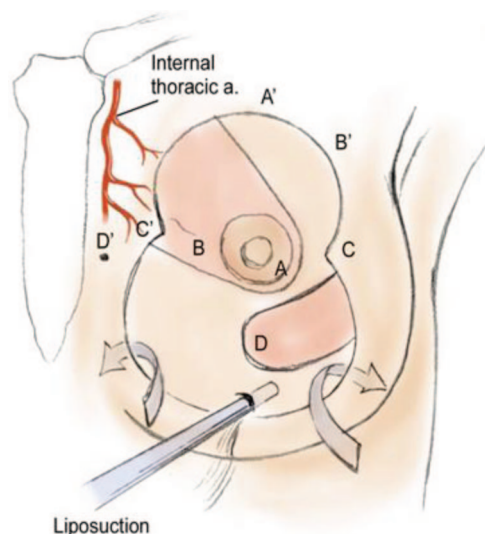


FIGURE 13. Deepithelialized over the SMP and LBIP flaps and liposuction of the axillary roll below the base of the LBIP flap.

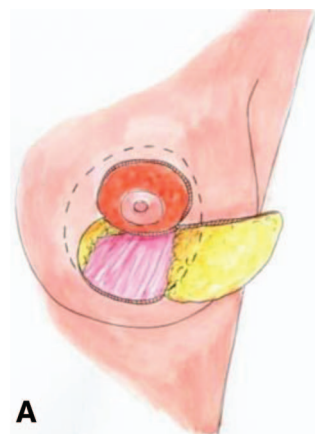


FIGURE 14. A, B, The LBIP dermoglandular flap is raised above the pectoral fascia.

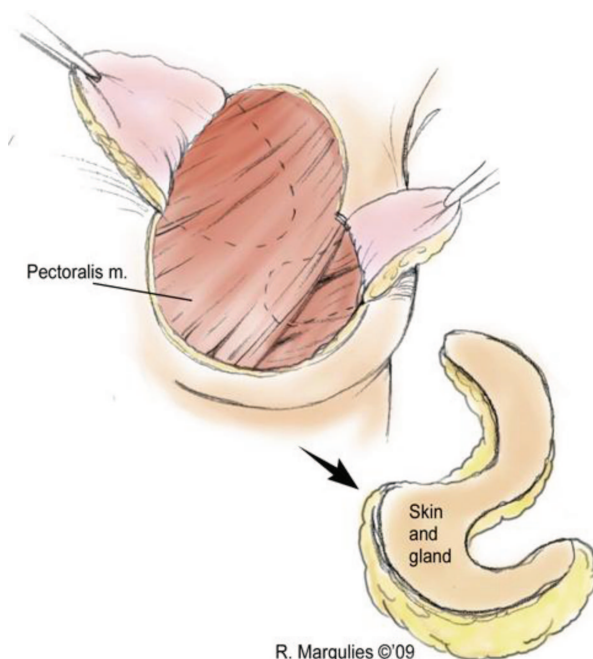


FIGURE 15. Gland resection. The shape of the resected tissues will be in S-shape pattern on the right breast and specular Z-shape on the left breast.

displacement after nipple rotation. If the breasts are not symmetric, the design will be adjusted to achieve symmetry.

The operation is performed with the patient in a supine position, arms at the side, away from the body.

1. The operation starts with infiltration of tumescent solution and liposuction of the axillary roll below the LBIP flap base. The goal is to reshape the squared lateral sloped breast into an anatomic round one. The deepithelialization is performed only over the areas of the SMP and the LBIP flaps (Fig. 13).
2. The LBIP flap is incised through the gland until the pectoral fascia preserving its vascular supply of the arteries of the fourth and fifth intercostal spaces. The dimensions of the flap will be decided according to the use and the size of the desired breast. It will be bigger for mastopexies or "auto-augmentation" and smaller if major reduction is required (Figs. 14A, B).
3. The nipple SMP is incised through the gland to the pectoral fascia leaving a base G of 8 to 10 cm and not less than 2 cm thick to preserve vascular supply of branches of the internal thoracic artery.

4. Glandular resection is performed in an S-shape pattern on the right breast and exact opposite Z-shape on the left breast leaving on the chest wall only the SMP and the LBIP flaps. The amount of gland to be removed can be evaluated according to the grade of ptosis and hypertrophy (Fig. 15).
5. Movement of the flaps. The SMP for the nipple and the LBIP flap will form the 2 components of the Yin-Yang symbol (Fig. 16).

The 2 flaps are inset with opposite spiral movements. The nipple is transposed to the new position with a movement of 45 degrees, and the 2 breast pillars are sutured in the midline. The position of the LBIP dermoglandular flap is determined according to the new IMF height and the grade of hypertrophy. The LBIP dermoglandular flap is anchored medially to the pectoral fascia on the parasternal line at the level of the nipple and then sutured with passing nonabsorbable material to the breast pillars and the IMF, acting as a support bra for the lower pole (Figs. 17A–C).

In small reductions or mastopexy, it is instead convenient to place the LBIP flap on the chest wall under the 2 pillars before the pillars suture to augment and project the mammary cone (Fig. 18).

By pulling the flap medially, the lateral axillary contour is improved and the lower-pole is supported (Fig. 19).

Its definitive position allows the achievement of inferointernal quadrant fullness, round shape, and nipple projection.

6. Skin redraping. The vertical suture begins by excising a skin triangle from the lateral pillar that is then fixed to the areola (Fig. 20A).

With this maneuver, we transform a curve line into a straight line, determining the exact direction of the vertical scar from the areola to the IMF. The 2 edges of the vertical subareolar incision are then sutured with "figure of 8" or mattress subcutaneous sutures starting from the inframammary crease upward. A skin triangle is excised from the superior part of the medial pillar and then fixed to the areola (Fig. 20B).

Suturing the vertical incision from the IMF to the areola allows us to evaluate the size of the triangles to be excised, have 2 vertical wound edges of the same length, and to recruit more skin in the periareolar area, thus shortening the vertical scar with no tension on the areola. This tension-free suture prevents the tear-drop areola deformity. The 2 excised triangles will transform the periareolar mosque-dome shape 9×7 cm design (if a 4.5 cm areola is planned)



FIGURE 16. The spiral movement of the 2 flaps will reproduce the Yin-Yang symbol.

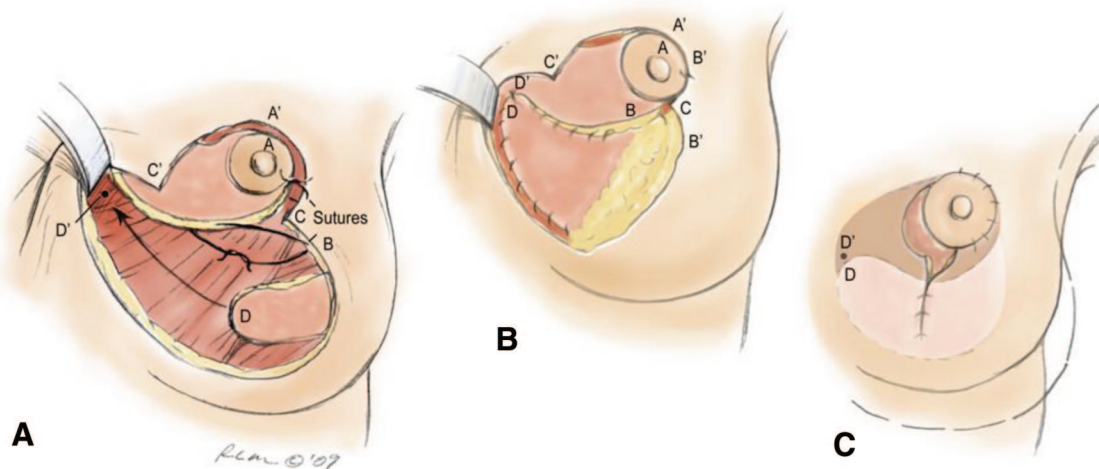


FIGURE 17. A–C, The nipple is transposed 45 degrees, the 2 breast pillars are sutured in the midline, and the LBIP dermoglandular flap is secured to the breast pillars and the IMF acting as a support bra for the lower pole.



FIGURE 18. In mastopexy, the LBIP flap is used as an “auto-implant” adding volume and projection.



FIGURE 19. The medial pull of the LBIP flap will correct the axillary roll and narrow the mammary base.

in a 9×9 cm circle with a perimeter that is the double of the areolar one (4.5×4.5 cm).

The areola is closed with 8 “octopus stitches,”²² a double continuous half-buried stitch through the dermis on the breast skin side (Fig. 20C).

This technique avoids hatch marks, distributes tension equally on the skin, and matches the 2 wound edges of different lengths. Octopus stitches are also very easy to remove ensuring that no stitch remnants are left inside the scar, decreasing the risk of postsurgical abscesses and extrusion. This skin remodeling technique releases tension on the areola and recruits the vertical scar skin upwards, thus

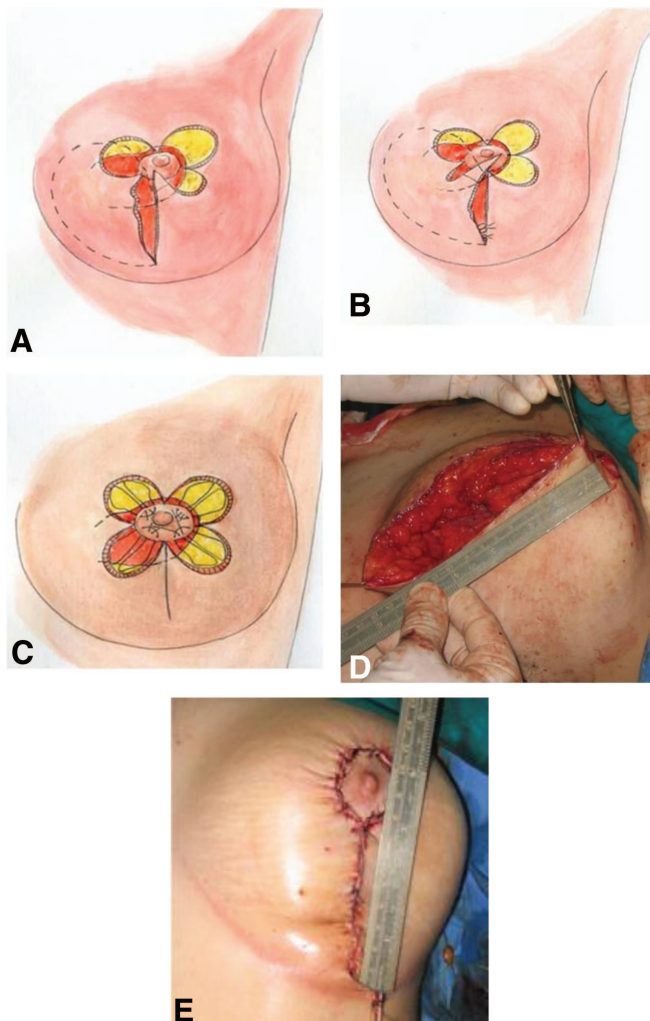


FIGURE 20. A–E, The innovative skin redraping allows to reduce scar length without compromising the safety of the skin flaps.

shortening the final scar and preventing widening of the periareolar scar (Figs. 20D, E).

7. A drain is rarely used and a compressive dressing is applied and left in place for 48 hours and then replaced by a firm support bra to be worn day and night for the first 3 weeks postoperatively, and during the daytime for another 3 months. The postoperative follow-up plan includes direct examination of the patients' wounds after 1 week; 2 weeks; and 1, 3, 6, 12, and 18 months.

PATIENTS, INDICATIONS, RESULTS, AND DIFFERENCES WITH TESSIER TECHNIQUE

Between 2002 and 2009, the Tessier technique has been used in 79 cases, 53 breast reductions, and 26 mastopexies with or without implants. In the mastopexy group, cases of asymmetry due to reconstruction or cosmetic were included. Prospective clinical evaluation and statistical analysis of results were performed. Mean follow-up was 36 months and patients questionnaire obtained.

Principal applications of the procedure and differences and similarities with the Tessier technique are as follows:

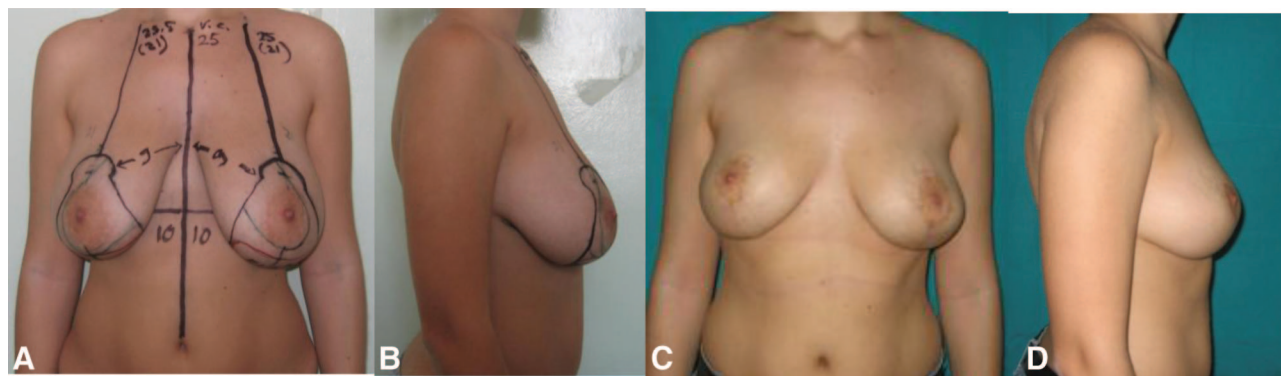


FIGURE 21. Preoperative (A, B) and postoperative (C, D) at 12 months views of a 25-year-old woman who underwent mastopexy procedure and a small resection of 200 g.

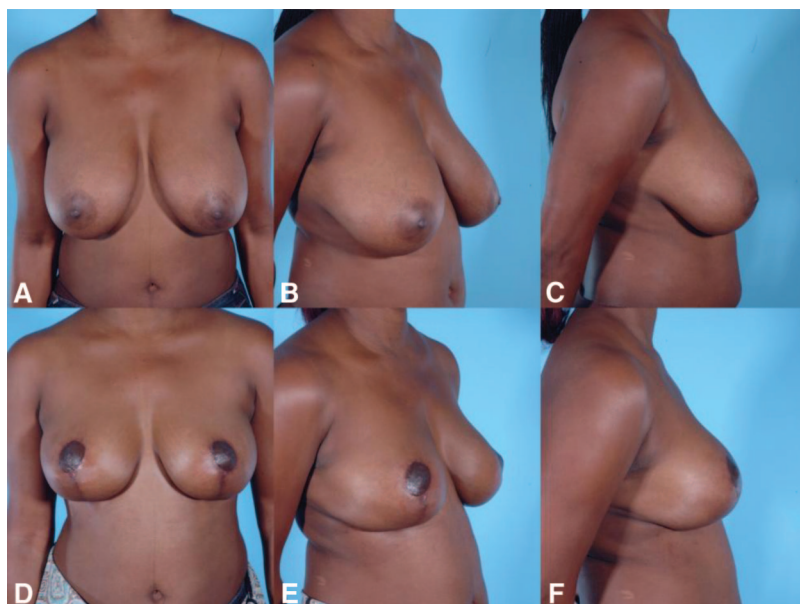


FIGURE 22. Preoperative (A–C) and postoperative (D–F) views of a 39-year-old patient at 9 months follow-up. 500 g were removed and 200 mL aspirated by liposuction of the axillary tail per breast.

1. Ptosis without hypertrophy or even mild mammary hypoplasia. The use of the LBIP flap acts as an “auto-prosthesis” and adds volume avoiding the need for a mammary implant. In mastopexies, we use the same method of glandular reshaping in a spiral manner described by Tessier many decades ago. Differences compared with the Tessier’s techniques are the deepithelialization of the pedicle, the absence of the skin undermining, and generally a superior (for NAC descent of less than 5 cm) or superomedial pedicle (>5 cm). As described in the surgical technique section, the LBIP flap is inset under the 2 pillars before the pillars suture to give volume and projection to the mammary cone (Figs. 21A–D).
2. Moderate and Severe hypertrophy. The Yin Yang technique has shown to be versatile for both moderate and severe breast hypertrophies with better results obtained in younger patients with good skin quality (Figs. 22A–F, Figs. 23A–D).

The technique differs in some aspects from the Tessier procedure. We gave the name of “Yin-Yang technique” because 2 dermoglandular flaps (SMP for the nipple and the LBIP) embrace each other to reshape and support the gland. The imbrications of the flaps will form the 2 components of the

Yin-Yang symbol. Another difference with the Tessier method is that the Yin-Yang technique tries to minimize scars, recruiting more skin around the nipple. We do believe that starting with a vertical pattern of skin resection and remodeling the gland leaves no tension on the skin closure. Furthermore, if the vertical scar is too long, a small inverted T can be added at the end of the procedure without tension on the skin edges. Results show resection ranged between 250 and 1250 g with a mean resection weight of 450 g; 20% of patients had over 700 g removed. The nipple transposition ranged from 3 to 13 cm with a mean NAC transposition of 7 cm. The patients’ satisfaction questionnaire showed that 95% were pleased with their outcomes in terms of breast size and shape, nipple sensation, appearance of scar, and feeling more active after surgery.

3. Combined Mastopexy and Augmentation

The technique details are the same of the mastopexy alone while the implant can be placed in a subglandular or subpectoral pocket. In both cases, the LBIP dermoglandular sling is sutured at the IMF and thus prevents lower pole ptosis (subglandular) and double bubble deformity (subpectoral) (Figs. 24A, B, Figs. 25A–F).

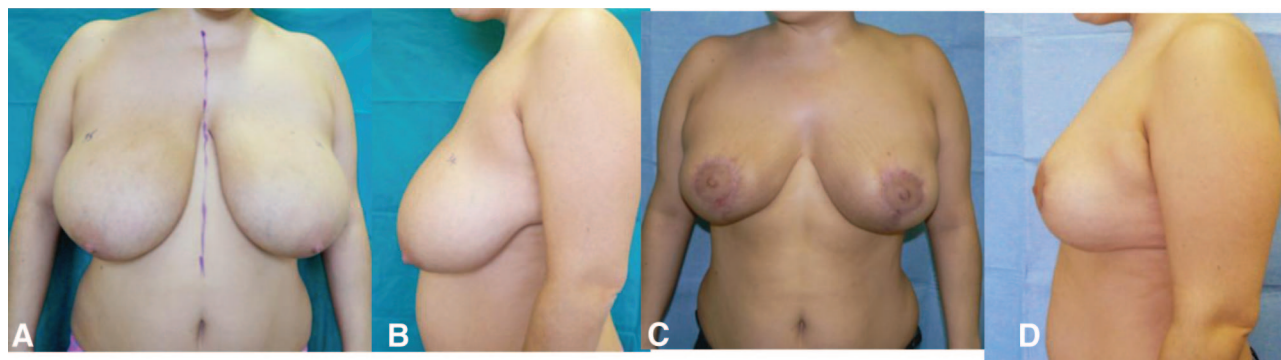


FIGURE 23. Preoperative (A, B) and postoperative (C, D) result at 12 months of a 30-year-old who underwent resection of 1000 g and liposuction of 200 mL per breast.

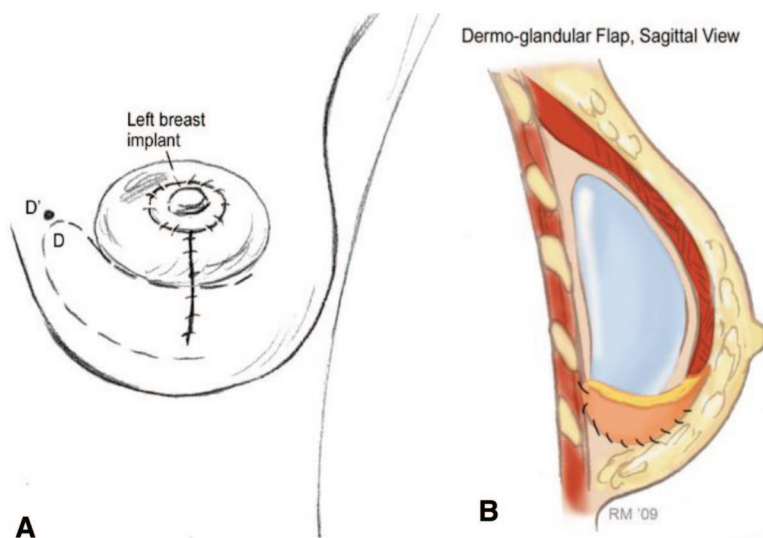


FIGURE 24. Drawings of subglandular (A) and submuscular (B) placement of the implant. The LBIP flap is sutured medially and to the IMF and acts as a sling preventing descent and double bubble deformity.

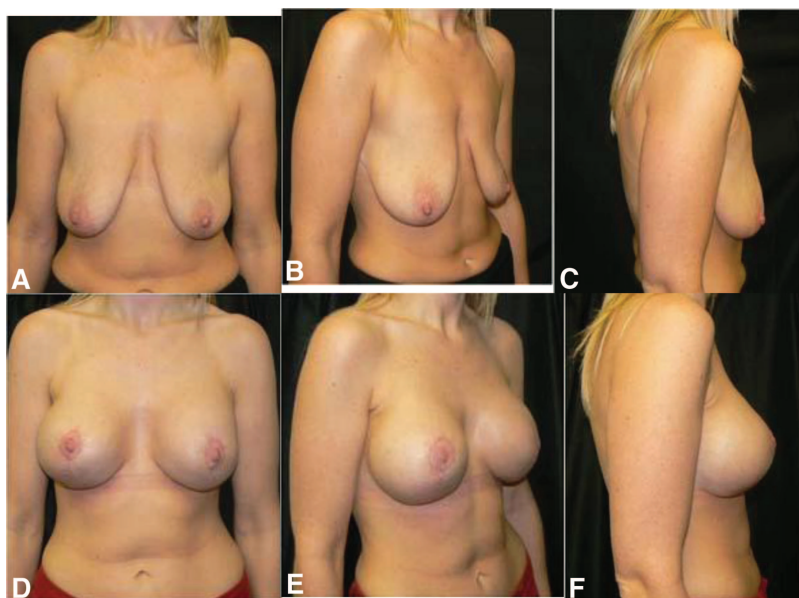


FIGURE 25. Preoperative (A–C) and postoperative (D–F) views at 12 months after submuscular augmentation with 300 mL round implant and support of the lower pole with The Yin-Yang technique.



FIGURE 26. A–D, The Yin-Yang technique performed on the left breast can adjust mammary base width and IMF level according to the measurements of the reconstructed breast.

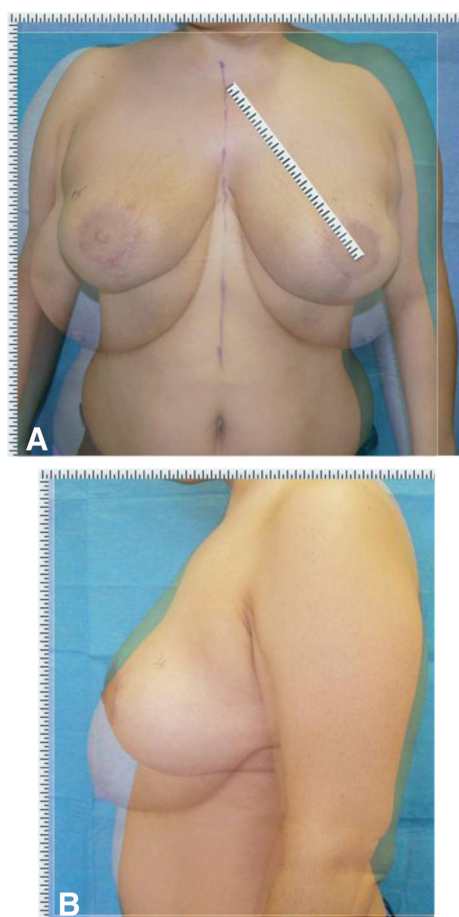


FIGURE 27. A, B, The pre- and postoperative superimposed images show how the mammary base, lateral slope, and lower pole are modified by the Yin-Yang technique.

4. In breast asymmetries the technique has shown to be versatile in breast reconstruction cases (Figs. 26A–D).

COMPLICATIONS

Results analysis showed the following complications: 3 partial necrosis of the nipple (2.37%), 6 delayed healing at the areola-vertical junction (5.74%), 2 hematoma/seromas (1.58%), and 2 asymmetries (1.58%) resulted when 2 surgeons performed the pro-

cedure simultaneously. The reoperation rate was 1.58% and was for 1 asymmetry and 1 hematoma.

DISCUSSION

Breast reduction surgery continues to evolve and is being refined constantly. In 1930, Schwarzmann²³ modified the Biesenberger technique in an attempt to improve its safety. He preserved the superficial blood supply to the areola by deepithelializing the skin around the areola before creating the flaps. Tessier adopted this technique and felt that to obtain good breast shape some further modifications were required. He was the first to foresee that the pathology underlying breast ptosis/hypertrophy is the lateral slope of the gland and needs to be addressed using dermoglandular flaps.

The pathophysiology of breast hypertrophy starts as an abnormal end-organ response to circulating estrogens which determine primarily the enlargement of fibrous tissue and fat, while the glandular elements remain quite small.²⁵ During the late stages of breast hypertrophy, the heavy breast stretches the Cooper ligaments and the underlying fascia system producing lateral slope and prolapse of the lower pole.^{26,27}

The ideal breast reduction technique should aim to correct these pathologic anatomic features, such as widened base and lateral slope to achieve a pleasant shape with minimal scar remnants.^{28,29}

Multiple modifications have been added to the vertical scar technique^{14–18} aimed to improve shape and this suggests that the term “vertical scar” is somewhat of a misnomer, as it implies that the scar is the major benefit, whereas in fact it is the gland resection and remodeling concept that produces better breast shape with longer lasting results.¹

Tessier first^{19–21} and then Escoffier^{19,30} introduced the concept of “gland suspension” with dermoglandular flaps to wrap and sustain the mammary cone. Recently, other types of dermoglandular flaps have been used to improve outcomes and decreased complication rates.^{15–18}

The Yin-Yang technique represents a new method of gland suspension and uses 2 dermoglandular flap (SMP and LBIP) that embrace one each other to reconstitute the Yin-Yang symbol. This allows to narrow the mammary base, to correct the lateral slope, and give support to the lower pole over time (Figs. 27A, B).

At the same time, vertical scar shortening is obtained by a new concept of skin reshaping that allows tension-less distribution of the excess of skin around the nipple.

CONCLUSIONS

The achievement of good aesthetic results in reduction mammoplasties requires good long-lasting outcomes and reduced scars.

Glandular tissues and skin envelope reshaping should be performed at the same time to obtain an ideal result.

Tessier's technique and the Yin-Yang technique have in common the concept of "gland suspension" using dermoglandular flaps that embrace the gland tissues. Both techniques aim to correct the lateral slope, narrow the mammary base, and give stability to the inferior pole with long-lasting results.

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