



Reduction Mammoplasty: McKissock's Technique, a Personal Approach

26

Emília Silva Klein and Joel Araújo Silva

26.1 Introduction

In the twentieth century, many surgeons initiate different approaches to the existing surgery techniques. These approaches would now prioritize physiology, shape, aesthetics, and lasting results. Among the many possible types of mammoplasty, the reduction of hypertrophy and gigantomastia is the most complex. The previously available techniques were difficult to execute and led to some unsatisfactory results. Among the unpleasant characteristics related to those techniques are the difficult positioning of the nipple–areola complex (NAC), the resulting breast shape, and postoperative complications. When employing Strömbeck's, Pitanguy's, Skoog's and Weiner's techniques. I was introduced to McKissock's technique (1972) in 1978. This technique introduced the bipedicle bridge flap and it proved to be safer for cases of mild and moderate mammary hypertrophy and for those of ptosis, providing similar results to the previously adopted techniques. Nevertheless, for

the patients with severe hypertrophy whose first option would be to employ Thorek's technique (1942), the results achieved were unsatisfactory. Thorek's technique, once used in young patients, led to some unfavorable aspects such as loss of nipple–areolar sensitivity and sectioning of galactophore ducts, and these complications undermined its use. The experience acquired by employing McKissock's technique encouraged us to propose adaptations to it and to use it for cases of major hypertrophy. Dr. Liacyr Ribeiro's (1969–1971) description and classification of the mammary pedicles with regard to vascularization, structure, and usage constituted major facilitators to the comprehension in addition to a stimulus to the introduced tactic. This tactic may be manipulated on a case by case basis.

Breasts not only play an important role in women's femininity, but also in women's psychological and physical wellbeing. Shape, size, and body harmony constitute a great challenge for the surgeon. Treating severe mammary hypertrophy, where large skin, fat, and glandular resection is needed, nipple–areola repositioning at a more elevated spot, and smaller and more aesthetic scars are still reasons for study and there is still a lot to find out.

The surgical tactic addressed here employed in larger resections preserves the T-shape scar,

E.S. Klein, M.D. (✉) • J. Araújo Silva, M.D.
Hospital Belo Horizonte, Av. Pres. Antônio Carlos,
1694, Belo Horizonte, MG, Brazil
e-mail: emilia.klein@gmail.com

as this one offers greater reliability in the postoperative period. This chapter discusses aspects regarding the modification of McKissock's flat vertical bipedicle as an option in the surgical treatment of cases of large and severe mammary hypertrophy.

26.2 Method

Various modifications to the original McKissock's technique have been introduced. In our hands, the bipedicle vertical flap described by McKissock is modified. The original 3.0-cm thickness (Fig. 26.1) bridge flap is transformed in a continuous or partially continuous massive block. If it is completely fixed to the pectoralis major muscle the result is a continuous block. It may also be fixed at three-quarters distally, resulting in a partially continuous massive block. In cases in which a partially continuous block is used, parenchyma is removed to form a keel shape, similar to Pitanguy's technique, to better accommodate the flap, thus avoiding the folding effect observed in the original technique, which could lead to postoperative complications. The

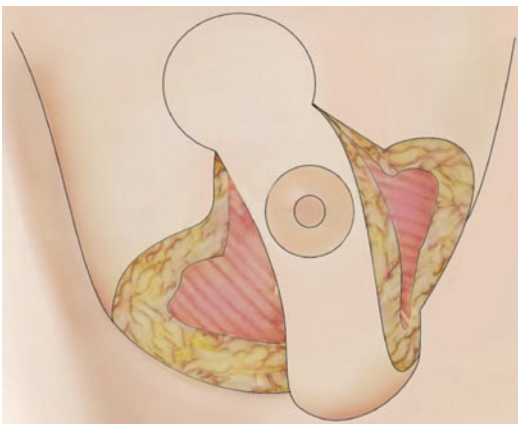


Fig. 26.1 McKissock's original bridge flap

upper portion of the flap receives blood supply from the dermal plexus. The distal portion receives blood supply from the subdermal plexus, from the fourth and fifth intercostal arteries, and the intercostal veins. Along all its extension, the flap is supplied by intercostal trunks, thus its great reliability. We have been using this modified dermal flap not only for treating patients with severe mammary hypertrophy, but also at all degrees of hypertrophy and flaccid and/or ptotic breasts when the patient refuses mammary implants.

Inverted T-shaped scars are our most frequent result, but we do not exclude the possibility of inverted L-shaped, J-shaped or comma-shaped scars in smaller breasts with no skin excess.

Preoperative marking is key for a good execution. The parameters used for preoperative marking are the usual ones. Wise's pattern may be used or we may draw it hands-free. Marking begins with the patient in a full upright position. A midsternal line is drawn and the inframammary fold is marked. From the furculum's midpoint a 5.0–7.0 cm distant point is marked at the clavicle. The next point is marked by drawing an imaginary horizontal line passing through the midsternal line toward the nipple. The point is marked 9.0–10 cm from the midsternal line. Then, a line is drawn uniting the last two points described and down to the inframammary fold. This line does not necessarily cross the nipple. Point A is found using a middle finger's projection at the inframammary fold (Fig. 26.2a). Points B and C are marked by using a bidigital pinch maneuver measuring 5.0–5.5 cm downward from the base of the new NAC location. Points B and C are then united to the new inframammary fold, which is drawn 0.5–1.0 cm upward from the original one (Fig. 26.2c). The bipedicle vertical flap is then drawn beginning at the point where the line descending from the clavicle crosses the new inframammary fold. From this

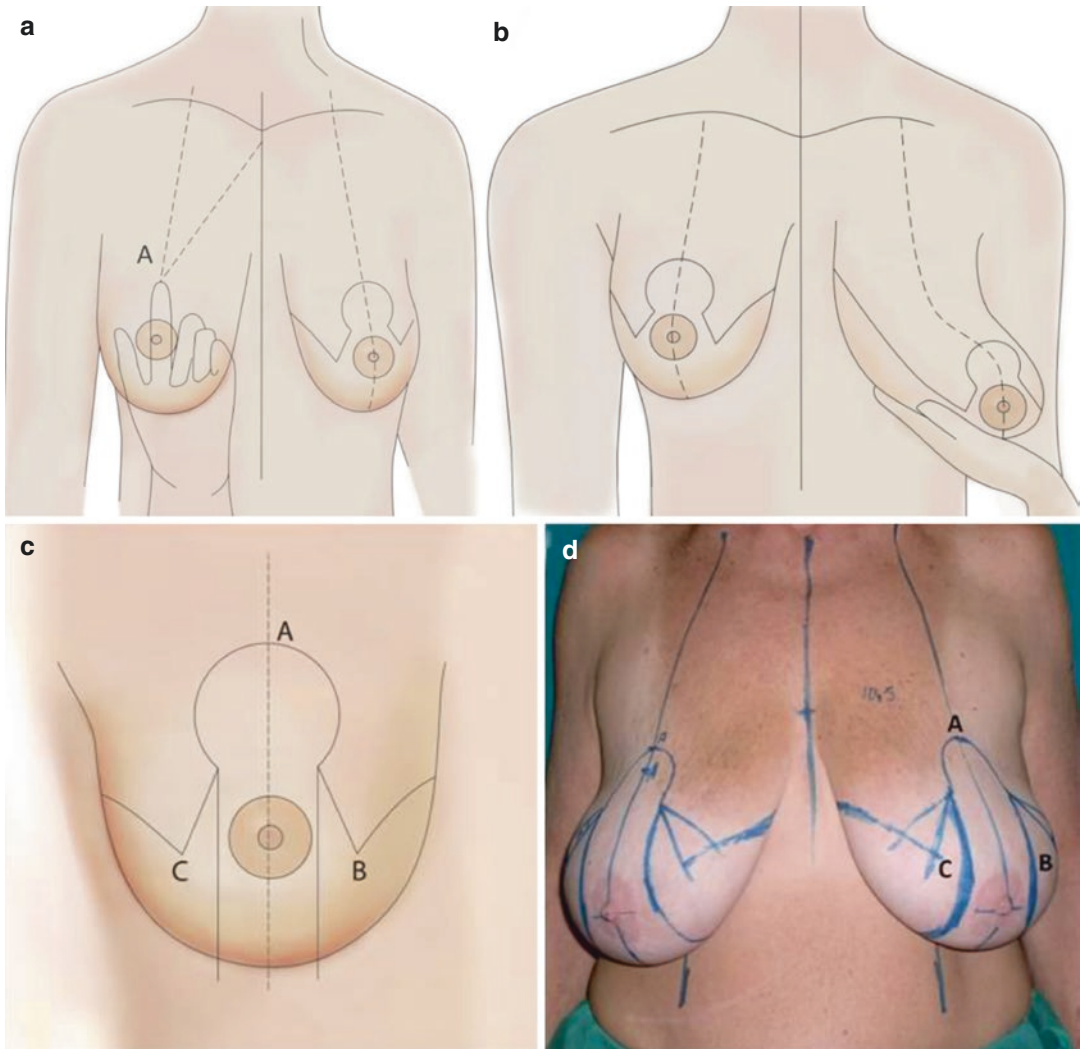


Fig. 26.2 Planning. (a) Point A marking. (b, c) Points B and C and vertical bipedicle flap marking. (d) Standard pre-operative markings

point, two points are marked laterally and medially 4.0–5.0 cm in each direction. From the base of the nipple two other points are marked laterally and medially 1.5 cm in each direction. The end points are found at the lateral and medial base of the new NAC site. Last, the three points laterally and medially should be united (Fig. 26.2b, d).

26.2.1 Operative Technique

Surgery follows the previous markings. The areola is determined by using areola markers with a diameter of 3.5–4.0 cm. Flap decortication is carried out according to the previously made markings. Incisions should be carefully made through its medial and lateral margins.

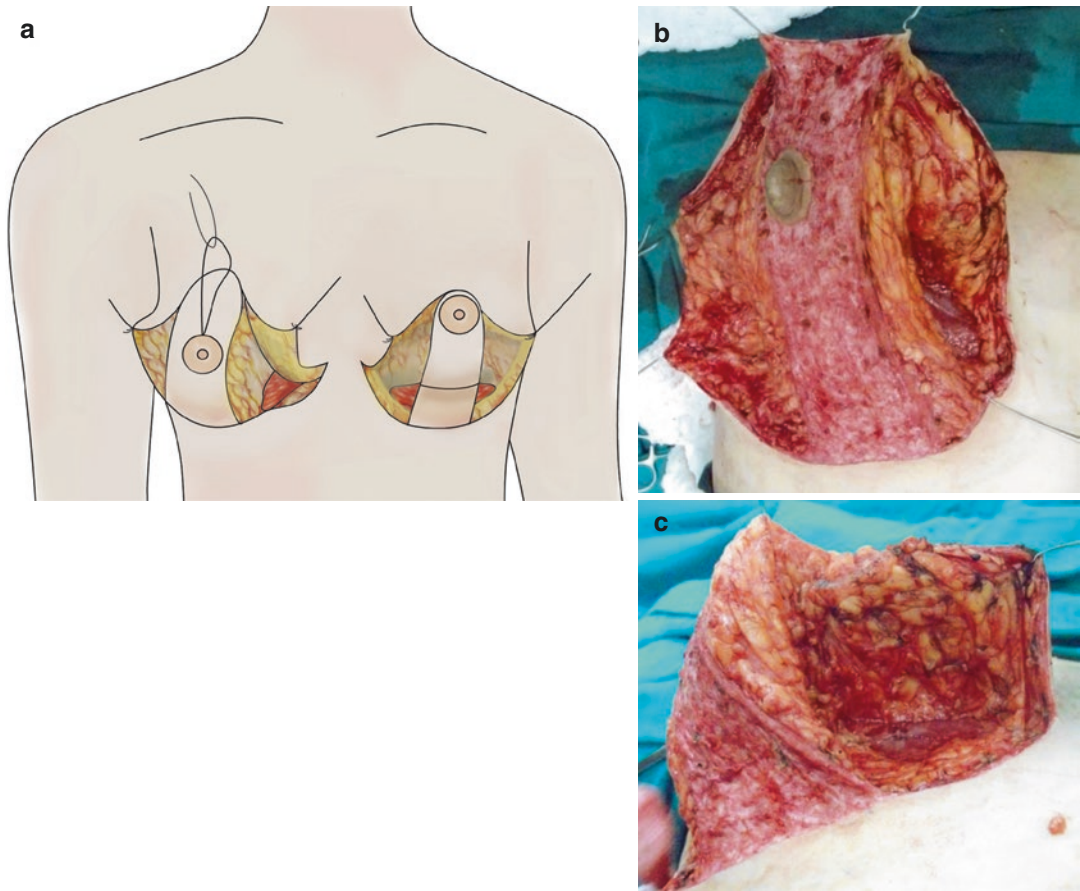
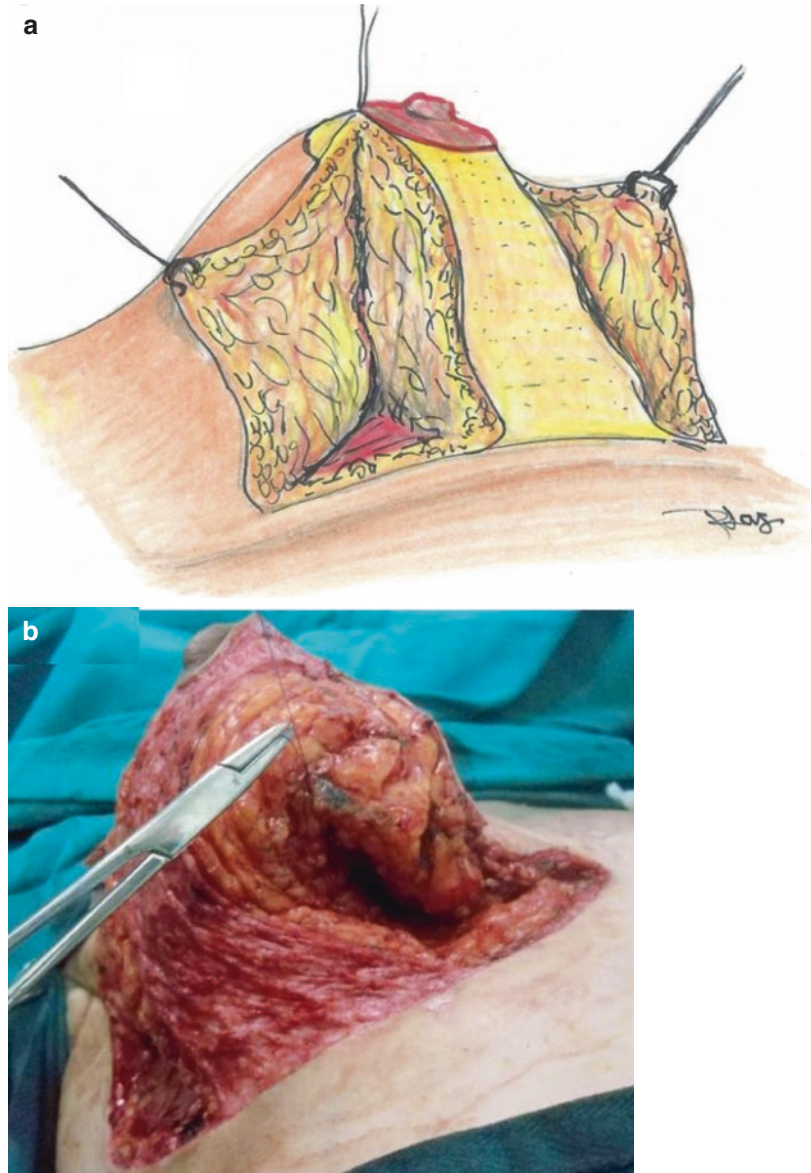


Fig. 26.3 Modified bipedicular vertical flap—the block is fully attached to the pectoralis major muscle

The dermal flap is tailored and kept completely or partially fixed to the pectoralis major muscle (Fig. 26.3). Excess parenchyma is resected laterally and medially. For better accommodation of the flap or when the flap length exceeds 50 cm, additional resection should extend to the lateral and medial quadrants. Occasionally, keel-shaped resection, as proposed by Pitanguy may be employed. Following hemostasis, closure begins by fixing the areola to point A using a slow absorbable suture. Then, the breast should be elevated to allow the identification of the breast conus. Once identified,

non-absorbable 2-0 sutures should be employed to join the lateral and medial pillars to the base of the bipedicle flap, forming the breast conus (Fig. 26.4). Points B and C are then approximated and sutured with slow absorbing 3-0 suture. For greater breast projection, a second stitch with either absorbable or non-absorbable 3-0 suture is inserted approximately 1.0 cm away from the B and C union points. The flap may be kept in its position or it may be shifted and medially fixed for around 3.0 cm of its lower implantation for better definition of the breast's medial contour. Closure of the

Fig. 26.4 Breast closure. Fixing the lateral and medial pillars to the base of the bipedicle flap forming the breast conus



bleeding areas including the areolar area is carried out in layers with slow absorbing 3-0 sutures. At the lower bleeding area, closure is performed from its lateral and medial extremity toward the vertical line of the inverted

T-shaped scar (Fig. 26.5). The skin is closed with intradermal slow absorbing 4-0 sutures. Dry gauze and Micropore tape are applied as dressing, and a bra is immediately put on (Figs. 26.6 and 26.7).

Fig.26.5 Final aspect of the sutured breasts. Immediately postoperatively

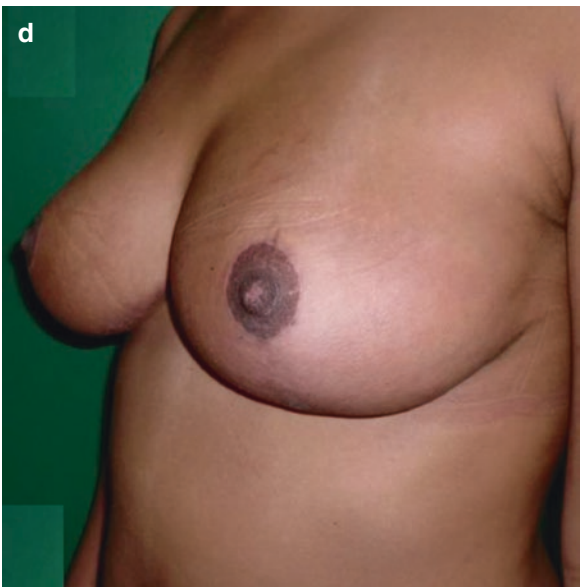
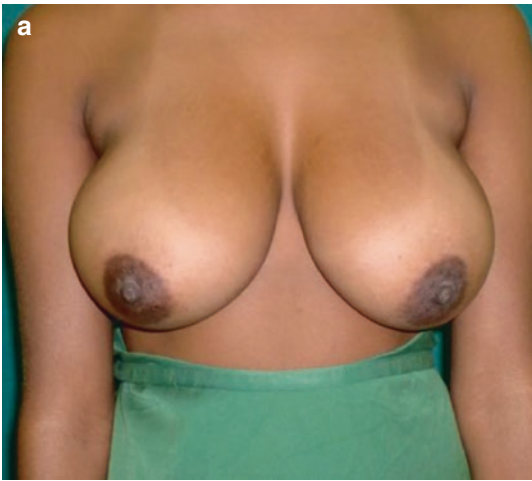


Fig.26.6 A 34-year-old patient. (a, b) Preoperative views. (c, d) Six months postoperatively



Fig. 26.7 A 27-year-old patient. (a, b) Preoperative views. (c, d) Three months postoperative views. Wound dehiscence may be observed in an inverted T-shaped scar close to the areola

26.3 Discussion

Seeking harmonious and long lasting results, many techniques have been approached by authors. McKissock's original technique applied to small and moderate hypertrophy yields similar results once compared with other techniques. Unfavorable factors regarding McKissock's technique are usually noted to be flap elbowing, epidermolysis, areolar depigmentation, and partial or total necrosis of the NAC. Long-term inadequate breast projection is also noted.

For severe hypertrophy, Thorek's technique presents well-accepted results. It allows greater parenchymal resection and reduced surgery duration. Remarkable unfavorable factors regarding Thorek's technique are the loss of nipple sensation once the NAC has been grafted and the sectioning of the galactophore ducts, especially in young patients. Preservation of NAC sensation is also important as an erogenous stimulus. Therefore, employing a bipedicular dermal flap attached to the pectoralis major muscle as a massive block allows a greater blood supply, reduced flap elbowing,

reliable and immediate results, satisfactory breast projection, a sensitive NAC, preserved galactophore ducts, and finally a lower complication rate compared with the original technique. The unfavorable factors of this approach remain related to the amount of surgeon's experience and the patients' demand for sensitivity, steeper learning curve and the need for the surgeon to have experience in other techniques so as to better adapt the shape of the flap according to the patient's biotype. Size and shape asymmetries need to be corrected in a new surgery (usually 4 months' postoperatively). Gigantomasty, in some cases needed to be treated in a two-step surgery with 6- to 12-month intervals.

Patients who have undergone reduction mammoplasty employing block or partial block flaps reported a sensitive NAC and satisfactory mammary consistency compared with breast implants. Long-lasting results with good breast projection have also been noted. This modification to McKissock's technique has been proved feasible and its results were satisfactory.

26.4 Complications

I have been using this approach for 25 years. I have treated around 500 cases of severe mammary hypertrophy and the most frequent complications arose from the junction of the vertical portion of the inverted T-shaped scar and the inframammary fold scar and from the junction of the vertical portion of the T-shaped scar and the areola. These complications were more frequent in smokers and were usually

characterized by small areas of dehiscence (Fig. 26.7) or necrosis. Dehiscence healed by secondary intention. Discrete epidermolysis at the areolar border was infrequent and upon healing could lead to depigmentation. In such cases, we indicated micropigmentation at the sites. A rare complication was breast asymmetry, which was corrected thereafter. Owing to the racial mixing observed in Brazilian women, keloids were frequent, but healed with the use of triamcinolone (20 mg). For the most severe keloids, resection and radiotherapy were required.

Conclusion

The reduction mammoplasty demands imaginative thinking to adapt the technique to each specific breast size and shape, and to the patient's expectations. There is no one ideal technique. Plastic surgeons are constantly seeking constantly harmonious and long-lasting results, smaller scars and fewer complications. The vertical bipedicle flap, totally or partially fixed to the pectoralis major muscle, affords a desirable vascular supply, which aids in preventing avascular complications and better breast shaping. This technique resulted in a better and safer postoperative period, firm and well-projected breasts, and patients reported a high level of satisfaction.

References

- McKissock PK (1972) Reduction mammoplasty with a vertical dermal flap. *Plast Reconstr Surg* 3(49):245