Managing Complications in Vertical Mammaplasty

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KEYWORDS

• Vertical scar mammaplasty • Superior pedicle breast reduction • Lejour technique
• Breast reduction complications

KEY POINTS

- A precise examination of patient is necessary for the choice of the surgical technique.
- Medical history and patient habits are important prognostic factors of any complications.
- Mastering a surgical technique and examining the results of its application is the starting point to improve the technique and reduce complications.

INTRODUCTION

In 1989, Professor Lejour introduced a new technique of vertical scar breast reduction,[1] which immediately gained popularity and nowadays represents a standard technique worldwide. The most innovative aspect of her technique was the vertical-only scar, which had a double purpose: a more aesthetic outcome, thanks to the reduced scar length, and fewer scar-related complications.[2–4]

In our center, where Professor Lejour is the former chief of the Plastic and Reconstructive Surgery Department, we immediately adopted the technique and over the years we have modified it by reducing vertical pillars skin undermining, avoiding systematic liposuction, using a superomedial pedicle in large breasts, and adding a horizontal skin resection at the end of the procedure if necessary.[5]

Recently, we analyzed all breast reduction procedures performed between 1991 and 2013 in our center, and we were able to evaluate complications and their management, and we have improved our technique to make it reproducible for all trainees. We share herein our experience and focus on the management of complications of the vertical scar mammaplasty.

PATIENTS AND TECHNIQUE SELECTION

Breast reduction has become a very common surgical procedure. It represents nowadays the most performed operation in our institution among general plastic surgery procedures. A good clinical history and physical examination are the key points to a successful breast reduction. Anamnesis has its critical points: history of smoking, diabetes, and a high body mass index (BMI) being the main negative factors affecting wound healing. Age is an important factor in choosing the surgical technique, as well as previous pregnancies. In the vast majority of cases, we use a superior areolar pedicle and vertical scar technique. When faced with a larger breast with high BMI and severe ptosis, we are moving to a superomedial areolar pedicle and a short submammary scar or nipple–areola complex graft.

THE MODIFIED LEJOUR TECHNIQUE

The Lejour technique is based on a superior pedicle, on which the blood supply of the areola relies and a central glandular resection, with central suturing of the medial and lateral pillars. The skin is undermined on the vertical scar and the excess skin at the bottom of the scar is sutured

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by rippling the skin to reduce vertical length.[1] In addition, liposuction has been integrated into the procedure, to better shape the breast, performed for the first time in this kind of surgery.[2]

Since its original description, the technique of superior pedicle vertical scar mammaplasty has been modified, allowing plastic surgeons to benefit from the advantages of this technique while avoiding some associated unfavorable results.[4] The modifications that were brought to the technique were essentially a reduction of the skin undermining, limiting or avoiding liposuction, avoiding tight glandular stitches, and adding a small horizontal scar for very large breasts at the end of the operation.[6,7]

TECHNIQUE, MATERIALS, AND METHODS

We recently carried on a review on the evolution of the technique, complications and outcomes comparing 3 periods: 1991 to 1996, 1996 to 2007[8] and 2008 to 2013. This cohort includes a series of 1030 consecutive patients who underwent operations at the University Hospital Brugmann, Brussels. The study consisted of a review of the medical charts. The modified Lejour technique with only a vertical scar was used in 57% of our patients and a short horizontal scar was added in 43% of the patients operated between 2008 and 2013.

Patient characteristics (age and BMI) and factors possibly associated with an increased risk of postoperative complications such as diabetes and smoking, were recorded. The weight of the resection for each breast (in grams), the elevation of the nipple–areola complex, and the experience of the surgeon (senior: graduated plastic surgeon, junior: surgeon in training) were recorded.

During the operation, all patients were given a dose of antibiotics (amoxicillin and clavulanic acid or cephazolin), which was continued for 24 hours postoperatively. A suction drain was inserted through the scar or through a separated incision in the anterior axillary line. The wound dressing was changed 48 hours after the surgery and the drains were removed when it collected less than 30 mL/d. After leaving the hospital, all patients were seen in consultation every week during the first month and then after 3, 6, 12, 24, and 36 months. The stitches were removed at 3 weeks postoperatively.

COMPLICATIONS

Postoperative complications were divided into 2 groups: minor and major. Superficial wound dehiscence, inferior skin and fat excess, hematoma, seroma partial areolar necrosis, inverted, nipple and loss of sensation were considered minor complications. Glandular infection, total areolar necrosis, and glandular necrosis were considered major complications. During the study period, the overall rate of complications decreased from 45% to 26%. The need for secondary correction decreased from 22% to 16%. The main risk factors for major complications were greater BMI and the amount of glandular resection. For minor complications, smoking and the experience of the surgeon were significant.[5]

Minor Complications

The main complications observed in our series were superficial would dehiscence (**Fig. 1**) and skin and fat excess. Superficial would dehiscence is a common complication in all breast reduction techniques.[8] It is strongly associated with skin undermining of excessive tension, but also with patient characteristics, especially of factor affecting wound healing as well as a high BMI. It is well-known that a history of tobacco smoking can affect wound healing; this is owing to alterations in the microcirculation of the sutured skin edges. To avoid this problem, we currently ask people to stop smoking, or at least reduce tobacco consumption, at least 3 weeks before surgery. Diabetes is another important factor compromising skin healing and increasing the risk of infection. For these patients, a prolonged administration of antibiotic prophylaxis sometimes is recommended.

From a technical point of view, we now limit the skin undermining along the vertical scar and avoid a massive puckering of the skin by a tight suture. Hematomas and seromas are nonspecific complications of the vertical scar mammaplasty. However, in the original technique, a large liposuction of the breast led to 30% of postoperative seromas and 12% of hematomas. A more gentle handling of the breast tissue and limiting the liposuction to small areas of the lower pole at the end of the operation reduced the incidence of seroma to 2% and hematomas to 3%.

In some large resections of soft fatty breasts, an inverted nipple has been observed in rare cases. This complication was always owing to an excessive anchoring of the areolar pedicle to the pectoral muscle at the upper pole of the breast. This outcome could be avoided by a careful suture of the glandular pillars only starting at the deep upper pole of the gland.

Excess skin and fat is an unfavorable result strongly related to the surgical technique.[9] In our series, we noticed that the incidence of this complication was substantially reduced with the insertion