

COMPLICATIONS FOLLOWING AUTOLOGOUS LATISSIMUS FLAP BREAST RECONSTRUCTION

MUFID BURGIC^{*1}, CATHRINE BRUANT-RODIER², ASTRID WILK²,
FRÉDÉRIC BODIN², ADI RIFATBEGOVIĆ¹, EMIR HALILBAŠIĆ¹,
MUSFAHA BURGIC¹, ELDAR BRKIĆ¹, HARUN AVDAGIĆ³

¹ Clinic for Plastic-Maxillofacial surgery, University Clinical Center Tuzla,
Trnovac bb, 75000 Tuzla, Bosnia and Herzegovina

² Maxillofacial-plastic and reconstructive surgery clinic, Hôpital Civil 1,
place de l'Hôpital, 67091 Strasbourg cedex, France

³ Clinic for Cardiovascular Diseases, University Clinical Center Tuzla,
Trnovac bb, 75000 Tuzla, Bosnia and Herzegovina

* Corresponding author

ABSTRACT

Use of an autologous latissimus flap in breast reconstruction accounts for a supple and natural look of reconstructed breast. Most common postoperative complication, seroma, became more of a rule than an exception when it comes to postoperative evaluation of the patients who underwent this reconstructive procedure. A retrospective study analysing and evaluating different complication rates in 20 patients who underwent breast reconstruction by autologous latissimus flap, was conducted. All patients included in the study were operated at the Department of plastic surgery of Hôpital Civil in Strasbourg, France, between 1996 and 2008. The complication rates were noted as follows: seroma in 19 of our 20 patients (95%), late hypertrophic scarring in 3 patients (15%), postoperative surgical site hematoma in 3 patients (15%), and 2 patients (10%) presented postoperative chronic back pain. Different options used in seroma treatment and prevention (subcutaneous-fascia anchor sutures of donor site, application of corticosteroids by injection into donor site postoperatively, passive drainage) can reduce seroma formation and thus overall complication rates, leading to much faster patient's recovery time and return to normal daily activities.

KEY WORDS: autologous latissimus flap, breast reconstruction, complications, seroma

INTRODUCTION

The latissimus myocutaneous flap was first used by Italian, Tansini, in 1896 for closure of postmastectomy defect (1). The flap allows for a flexible and natural look of reconstructed breast. By its use, the asymmetry between reconstructed and contralateral breast (usually seen as ptosis of the latter), as well as the need for tissue expanders and breast implants, can

be avoided (2). The latissimus dorsi flap can be used for breast reconstruction with or without a breast implant. In women with very small breasts, the latissimus dorsi flap may provide enough bulk and size without the need for an implant. However, in most patients, it is necessary to include an implant at the time of the reconstruction (3). Different complications (hematoma, seroma, skin necrosis, infection, hypertrophic scarring, postoperative back pain), as well as their occurrence, linked to this type of breast reconstruction, were analysed during this study. The most common complication in latissimus autologous breast reconstruction is seroma formation. It is a difficult problem to treat and prevent. Most times, this fluid will reabsorb on its own. However, it occasionally may need to be additionally drained using a syringe. There are also other options that can help in seroma prevention, such as subcutaneous-fascia sutures used to obliterate the acquired free space in donor site region. The aim of this study was to determine different complications rates in patients who underwent autologous latissimus flap breast reconstruction.

MATERIALS AND METHODS

A retrospective study which included patients who underwent autologous latissimus breast reconstruction during thirteen-year period (1996 - 2008) at the department of plastic surgery of Hôpital Civil in Strasbourg, France, was conducted. The study involved 20 patients who underwent immediate or delayed breast reconstruction after radical mastectomy. Basic methods of descriptive statistics were used in data analysis.

Patients' records with relevant data were obtained. Different postoperative complications were analysed using basic statistical tests. Following complications were submitted to analysis: presence of seroma and the number of puncture-evacuations, quantity of evacuated

liquid content, late hypertrophic scarring, skin necrosis, signs of postoperative infection, hematoma and pain.

RESULTS

The study included twenty patients with the age range of 44 to 74. The average age of patients who underwent postmastectomy breast reconstruction using the latissimus myocutaneous flap was 58 (Figure 1).

Some patients had received additional postoperative treatment prior to breast reconstruction:

-Radiation therapy: 14 patients (43, 7%)

-Chemotherapy: 13 patients (40, 6%)

-Hormonal therapy: 5 patients (15, 6%)

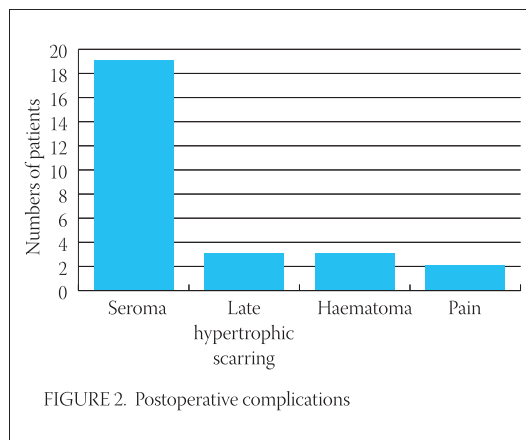
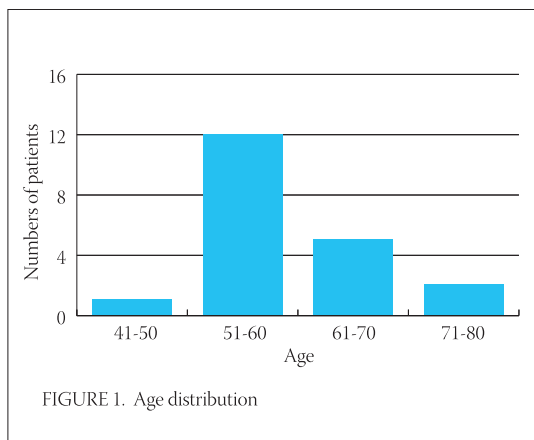
Five patients underwent immediate breast reconstruction (25%) while delayed breast reconstruction was performed in other 15 (75%).

The most common complication was seroma in 19 of our 20 patients (95%), followed by late hypertrophic scarring in 3 patients (15%), postoperative surgical site hematoma in 3 patients (15%) who required subsequent surgical re-intervention, and 2 patients (10%) presented postoperative chronic back pain (Figure 2).

Evidence of postoperative infection as well as flap and donor site necrosis were not found. The number of seroma punctures varied from 1 to 15 punctures per patient. The average number of punctures per patient was 6, 52. The volume of evacuated content also varied from 3 to 120 ml per patient with the average of 36, 3 ml. The average duration of seroma persistence was 5, 73 days.

DISCUSSION

Surgical treatment of breast cancer causes yet another problem in women already psychologically affected by the grave diagnosis - an aesthetic one. A satisfactory aesthetic result, for women who underwent a radical



surgical procedure such as mastectomy, is made possible by reconstructive breast surgery. For women not suitable for DIEP (deep inferior epigastric perforator) or TRAM (transferze rectus abdominus myocutaneous) flap, the autologous latissimus flap is a very good alternative. Breast reconstruction with the use of TRAM flap carries greater risk of necrosis at the donor site (30%), risk of acquiring postoperative abdominal hernia, the cicatrization process last longer, and the return to regular life activities is delayed (4). Seroma formation is a difficult problem to treat and prevent. Its sequelae include wound infection, dehiscence, and skin-flap necrosis. Serous fluid collection (seroma) may occur in the donor area of the back, after the drains have been removed. Most of the time, this fluid will reabsorb on its own. However, it occasionally may need to be drained using a syringe. In our study the most common complication was seroma, in 19 of our 20 patients (95%). Compared with study of Delay (3) and the study of Rouzier (5) with the complication rate of donor site seroma after autologous latissimus flap breast reconstruction of 70% and 72% respectively, our study showed even higher rate of seroma formation making this an invariable postoperative finding. There are, however, different options when it comes to seroma treatment and prevention. During the closure of the donor site, applying subcutaneous-fascia sutures will obliterate the acquired free space, and thus reduce the quantity of seroma formed in the area from where the flap was

harvested. Repetitive application of corticosteroids (Kenakort® 80 mg) in the region of donor site should reduce seroma formation. Another possibility for minimizing this complication is placing a passive drainage. In his study, Delay (3) found the rate of postoperative surgical site hematoma to be 5%, and late hypertrophic scarring to be 28%. This data is more-less in correlation with complication rates observed in our study which were found to be 15% for hematoma and 15% for hypertrophic scarring. Infections occur rarely, but are possible. Antibiotics should suffice in the treatment of almost all the infection cases, but a surgical drainage of the infected area may be required in some instances. Although partial or total loss of the flap is possible, the latissimus dorsi flap is highly reliable and flap necrosis rarely occurs. Some women may experience minor back muscle weakness, which affects the upper arm when it is lifted above the head. Finally, if a breast implant is used in combination with the flap, the complication palette is enriched by those ones associated to implant breast surgery. These include leaks or implant rupture, migration of the implant, and capsular contracture (6, 7). Recovery time, the latissimus dorsi operation takes between 2 to 4 hours to complete. Most patients will stay in hospital for 3 to 4 days. Patients may experience pain to varying degrees in the back area and under the arm for about 2 to 6 weeks. This is usually adequately treated with analgesics. Most times, it takes approximately 3 to 6 weeks to recover and resume normal activities (8).

CONCLUSION

The technique for autologous latissimus flap breast reconstruction is well known, simple and fast. It requires the transposition of a large back muscle, but causes little functional problems for the patient. It should be noted that the main complication is the postoperative seroma at the donor site, as presented in 95% of our patients, and it usually requires repetitive evacuation punctures. Different options in treatment and prevention of seroma formation will minimize the overall complication rate and thus improve and hasten the postoperative patient's recovery.

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