

Case Report

Salvage Local Fasciocutaneous Flap for T-junction Tissue Defect in Inverted T-scar Reduction Mammoplasty

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ABSTRACT

Macromastia can cause serious psychological problems in women as well as psychosocial problems due to esthetic appearances. For this reason, proper technique in breast reduction surgery yields a dramatic physical and psychological improvement for the patient. Inverted T-scar breast reduction using the inferior pedicle technique is the most commonly used breast reduction method. The most common complication in this technique regards wound healing at the T-junction area. There are no literature reports citing the use of local flaps for the repair of tissue defects in the T-junction area following reduction mammoplasty. In this study, we present a case of using a salvaged local, Limberg-like fasciocutaneous flap for tissue defect repair at the T-junction area after the inverted T-scar reduction mammoplasty using an inferior pedicle.

KEYWORDS: Breast reduction, fasciocutaneous flap, inverted T-scar, limberg flap, local flap

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INTRODUCTION

Macromastia is a common problem among women seeking breast reduction surgery to address physical concerns like pain in the neck and back, intertriginous infection, and extremity radiculopathy. Breast reduction surgery can also address psychological concerns related to esthetics. Georgiade's inferior pedicle technique offers the best means to preserve nipple sensation, wherein skin incision is planned as an inverted T-scar.^[1] Common complications for this technique are wound healing problems at the T-junction area (e.g., superficial skin defects or full-thickness necrosis of the skin or subcutaneous tissue).^[2] While superficial defects can be treated with wound dressing, full-thickness defects must be repaired with skin grafts or flaps. To our knowledge, no published studies exist in the literature that document the use of a fasciocutaneous flap to repair a tissue defect at the T-junction area following an inverted T-scar reduction mammoplasty.

We present a case of local Limberg-like fasciocutaneous flap used to repair a tissue defect due to necrosis at the T-junction with dehiscence in the vertical incision of the inverted T-scar breast reduction using the inferior pedicle.

CASE REPORT

A 44-year-old woman presented with macromastia causing severe neck and back pain and inframammary dermatitis. Informed consent for the publication has been obtained from the patient. Her body mass index was 30 kg/m². The sternal notch-nipple distance was 36.5 cm and the sternal-notch-inframammary fold was 25 cm [Figure 1]. When the patient was informed of the risks and complications of breast reduction techniques, she requested a technique to minimize the risk of losing nipple sensation. We planned an inverted T-scar reduction with inferior pedicle given her macromastia. All markings and measurements were done while she was in a standing position. A mark was placed 24 cm from the sternal notch along the breast meridian to represent the new nipple location. Incisions were done according to the markings. The skin flap was elevated with a 2-cm thickness following the deepithelialization

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Figure 1: Patient view before reduction mammoplasty



Figure 2: Tissue defect appearance following the necrosis debridement on the right breast T-junction and vertical incision



Figure 3: The local Limberg-like fasciocutaneous flap planned for the defect area



Figure 4: Postoperative one-month view of local fasciocutaneous flap repair

of the inferior pedicle. The pedicle was skeletonized by excision through the lateral and medial sides of the pedicle. We removed 1000 g of glandular tissue and fat from the right breast and 950 g from the left breast. A suction drain was placed on each breast and removed on the third postoperative visit. The patient was discharged after confirmation of good nipple circulation and no problems along the suture lines.

She presented to our clinic on postoperative day 20 with dehiscence and leakage at the T junction and along the vertical suture line of the right breast. We observed necrosis at the T-junction and dehiscence was seen along the vertical suture line. The necrotic tissue was surgically debrided under local anesthesia [Figure 2] and wound dressing was performed for 9 days. The width and length of the defect were measured and the tissue defect at the T-junction area and the vertical line was repaired by a subsequent operation. A Limberg-like

fasciocutaneous flap was designed along the inframammary fold [Figure 3]. The base of the flap was planned to be approximately half the length of the defect with a flap length equal to the length of the defect. The flap was harvested as a fasciocutaneous flap and transposed to the defect site. The flap base was fixed to the inframammary fold to preserve the inframammary crease. We performed a primary closure of the donor site [Figure 4]. The patient had no wound healing problems in the postoperative follow-up evaluations and no hypertrophic scarring in the suture lines after 30 days [Figure 4].

DISCUSSION

The goals of breast reduction are relieving symptoms associated with macromastia and achieving satisfactory esthetic/cosmetic results. Once the pain and physical discomforts associated with macromastia have been

alleviated, patients are concerned with breast shape and scar formation.^[3] The vertical scar breast reduction developed as an alternative to the inverted T-scar technique eliminates scarring in the inframammaria sulcus and helps reduce complications in wound healing (e.g., dehiscence). While we may assume this would yield improved wound healing and fewer complications compared to the inverted T-scar approach (in which 3 skin flaps converge at a single point), no significant difference in wound healing complications between techniques was noted.^[4] Hoşnüter *et al.* found significantly higher wound dehiscence in the no-vertical-scar technique compared to the inverted T-scar technique.^[5] The most serious complication of the inverted T-scar reduction is tissue necrosis, which might develop at the T-junction area. Complications (e.g., wound dehiscence and full/partial thickness tissue necrosis) will increase the scarring. In inverted T-scar reduction mammoplasties, wound healing problems occur at the T-junction in 15.7–27% of cases^[2,6-8] due to smoking, comorbid diseases such as diabetes or hypertension, cortisol or non-steroid antiinflammatory drug use, and obesity.^[9]

Limited studies discuss the techniques for addressing repair tissue defects at the T-junction. While small defects with partial tissue necrosis can be repaired primarily, using primary repair at large tissue defects is not appropriate since it may change the position of the nipple and cause poor aesthetics. Also, large and full-thickness tissue defects left to heal by secondary intention may lead to unacceptable scar formation. One study reported using a split-thickness skin graft application to treat a tissue defect at the T-junction area after the skin-reducing mastectomy,^[6] but this technique is only appropriate for superficial tissue necrosis. Yazar *et al.*^[10] described the use of a Limberg-like rectangular flap for the necrosis at the T-junction area to salvage the implant and for the reconstruction in skin-reducing inverted-T mastectomies. However, using of this flap for the tissue defects at the T-junction area following reduction mammoplasty has not been recorded yet in the literature. By adjusting this flap according to the defect at the T-junction area, this method preserved the existing breast shape and achieved symmetry with the contralateral breast afterward. She returned to her normal daily life within a relatively short period. This method protects the esthetic of the breast by preparing the flap in conjunction with the donor site incision scar left along the inframammary fold.

The local fasciocutaneous flap is a salvage flap easily applied in the tissue defects at the T-junction area. The flap is modifiable to address the defect area, is less

likely to cause donor site morbidity, and helps preserve the esthetic appearance. However, local flap use has not been reported in the literature to address T-junction defects following reduction mammoplasties; therefore, we hope this report presents a salvage option for plastic surgeons.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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