

Salvage of Mastectomy Flap Necrosis by Skin Graft Harvested from Contralateral Breast

Michiko Nomori, MD*; Koichi Tomita, MD, PhD*; Mifue Taminato, MD*; Kenji Yano, MD, PhD*†; Tateki Kubo, MD, PhD*

Sir,

The frequency of mastectomy flap necrosis following surgery for breast cancer is reported to be 5%–30%.¹ In cases with large necrotic areas, for which epithelialization cannot be anticipated with conservative treatment, local flaps or skin grafts become necessary. While local flaps such as lateral intercostal artery and thoracodorsal artery perforator flaps² are superior in terms of skin color and texture match, one disadvantage is that new scars increase in the area near the breast and are sometimes not suitable for reconstruction of shallow defects. While skin grafts can address wide areas of skin loss, they not only leave scars on the donor site but also become problematic in terms of skin color and texture match. In the present study, we present a case in which we suffered a large area of necrosis due to the mastectomy flap loss following an immediate autologous breast reconstruction with a deep inferior epigastric artery perforator (DIEP) flap. We attempted to cover the defect using a skin graft harvested from the contralateral breast when the mastopexy was made, and the results were satisfactory.

A 56-year-old woman with breast cancer on the left side underwent immediate reconstruction using a DIEP flap following nipple-sparing mastectomy using lateral and hemi-periareolar incisions (specimen weight: 940 g) along with a sentinel node biopsy. The patient had no comorbidities such as diabetes, had no smoking history, and had no neoadjuvant chemotherapy. Following surgery, the buried DIEP flap was successful, but the mastectomy flap suffered a partial necrosis across a wide area requiring coverage (15 × 13 cm, Fig. 1), which is partly due to the fact that indocyanine green fluorescence imaging was not covered

by insurance in Japan at the time of surgery. While salvaging this through a full-thickness skin graft from the bilateral inguinal region or split-thickness skin graft was considered, we were concerned that the skin color and texture match would not be favorable. Given that the contralateral breast showed Renault's Grade II ptosis, at 2 weeks after the initial surgery, we performed full-thickness skin grafting using excess skin tissue generated during the inverted-T mastopexy for the contralateral breast (Fig. 1, small panel). The skin graft showed successful engraftment with no issues, and the postoperative course was uneventful. Following this, we performed a nipple-areola complex reconstruction using a skate flap and skin graft from the upper inner thigh. Four years after the surgery, the reconstruction remained cosmetically favorable (Fig. 2).

Several studies have reported on salvage methods for cases in which mastectomy flap necrosis develops following immediate breast reconstruction. Verstappen et al³ attempted in situ skin banking during immediate autologous breast reconstruction after skin-sparing mastectomy, using the former when necrosis developed. If necrosis did not develop, their plan was to remove this under local anesthesia around 7 days after the surgery; infections and other complications were not found to be reported. One issue with this method is that the area of mastectomy flap loss is difficult to estimate, and 2 surgeries are required in all cases. Singh et al⁴ also published a highly interesting case report, noting that when the dermal bed of the underlying de-epithelialized skin paddle of the free flap was exposed to air, it demonstrated

From the *Department of Plastic and Reconstructive Surgery, Graduate School of Medicine, Osaka University, Osaka, Japan; and †Department of Plastic and Reconstructive Surgery, Osaka Breast Clinic, Osaka, Japan.

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This study was approved by the Ethics Committee of Osaka University, and informed written consent to publish personal and medical information was obtained from the patient.

Statement of Conformity: The authors state that all procedures conformed to the Declaration of Helsinki.

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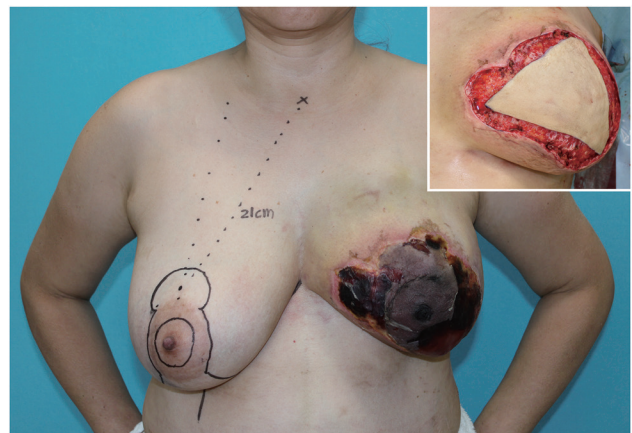


Fig. 1. At 2 weeks postoperatively, mastectomy flap necrosis over a wide area was confirmed for the reconstructed left breast. Debridement of the necrotic skin and mastopexy for the contralateral breast were planned. Small panel: skin grafting using extra skin tissue from the mastopexy was performed.



Fig. 2. Four-year postoperative outcome.

self-epithelialization potential. Further studies from this group are anticipated.

When local flaps or other methods cannot be used to address mastectomy flap necrosis due to reasons such as previous scars, technical issues, or patient preferences, skin grafting becomes an option. From the perspective of skin color and texture match, it is desirable to use skin harvested

from around the breasts. As reported by Dutra et al,⁵ some methods use skin grafts harvested from the contralateral inframammary fold, but the harvestable area is limited for this method. In cases with mastectomy flap loss, the breast size is often large and is often accompanied by ptosis. In these instances, by secondarily adding mastopexy for the contralateral breast, skin color and texture matching can be achieved through a large skin graft, enabling a salvage breast reconstruction with favorable cosmetic results.

Koichi Tomita, MD, PhD

Department of Plastic and Reconstructive Surgery
Graduate School of Medicine
Osaka University
2-2 Yamadaoka Suita
Osaka 5650871, Japan
E-mail: ktomita9@hotmail.co.jp

DISCLOSURE

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