Journal of Plastic, Reconstructive & Aesthetic Surgery (2016) 69, 617—622

JPRAS
An International Journal of Surgical Reconstruction
www.JPRASurg.com

Nipple reconstruction after implant-based breast reconstruction in radiated patients: A new safe dermal flap

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Received 9 October 2015; accepted 31 December 2015

KEYWORDS
Breast cancer;
Breast reconstruction;
Implant-based breast reconstruction;
Radiotherapy;
Nipple reconstruction

Summary *Introduction:* After implant-based breast reconstruction, the nipple reconstruction technique must be carefully chosen, especially in patients with a history of radiotherapy. When the contralateral nipple is not available, using a classical dermal-fat local flap may lead to the implant exposure, and consequently, removal. We describe here a simple nipple reconstruction technique, using a strictly dermal local flap and evaluate its complication rate.
Patients and methods: All patients who underwent our technique for nipple reconstruction between January 2012 and April 2015 were included in this retrospective study. We described our surgical technique and noted the occurrence of postoperative complications.
Results: Forty-nine nipples, in 47 patients with a history of radiotherapy, were reconstructed with our technique. The mean age was 53 years old (range 27—78 years old). The average time between radiotherapy and nipple reconstruction was 42.5 months (range from 4.6 to 274.8 months). The mean follow-up was 30.9 months (range from 6 to 47 months). No implant exposure occurred. Regarding the nipple flap, two partial flap loss and one infection occurred, the whole complication rate was 6.1%. Regarding nipple projection, it was quite low (between 2 and 5 mm) after 6 months, but remained stable.
Conclusion: Our strictly dermal local flap technique for nipple reconstruction is a safe procedure and represents a good alternative to composite contralateral nipple graft in irradiated patients with an implant-based reconstructed breast.

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http://dx.doi.org/10.1016/j.bjps.2015.12.022

Introduction

The nipple-areola complex (NAC) reconstruction, being the usual final step of a breast reconstruction after mastectomy, represents for the patient the completion of her breast reconstruction. It transforms indeed a reconstructed breast mound in a natural looking breast. Whatever the breast reconstruction technique, the NAC reconstruction must not be neglected, as an unsatisfactory result can spoil the whole aspect of the breast. Even worse, in case of implant-based breast reconstruction, any complication regarding the nipple reconstruction may lead to an implant exposure, and therefore to its removal. As described by Momeni et al. and Draper et al., when using a local flap for nipple reconstruction, the threat to the implant-based breast reconstruction is increased in patients who underwent chest-wall irradiation.[1—3] Consequently, in those patients, it seems more reasonable to use a contralateral nipple graft, but there are very few described alternatives when this technique cannot be performed (none or too small contralateral nipple, or patient's refusal). In order to avoid implant exposure in previously irradiated patients, we describe here a strictly dermal local flap technique of nipple reconstruction, inspired from Little's skate dermal-fat flap,[4] and evaluate its complication rate.

Patients and methods

In this retrospective study, all previously irradiated patients who underwent a nipple reconstruction with our strictly dermal local flap technique after implant-based breast reconstruction, in our department, between January 2012 and April 2015, were included. In these patients, the contralateral nipple could not be used as a donor site (absence, smallness or patient's refusal). The follow-up consultations took place 1 months, 3 months, 6 months, 1 year and 2 years after surgery. The occurrence of complication was noted from the patients' medical record. We also measured the projection of the nipple and evaluated the patients' satisfaction (not satisfied, satisfied, or very satisfied).

Surgical technique

The nipple reconstruction was performed either as an independent procedure, under local or general anesthesia, or

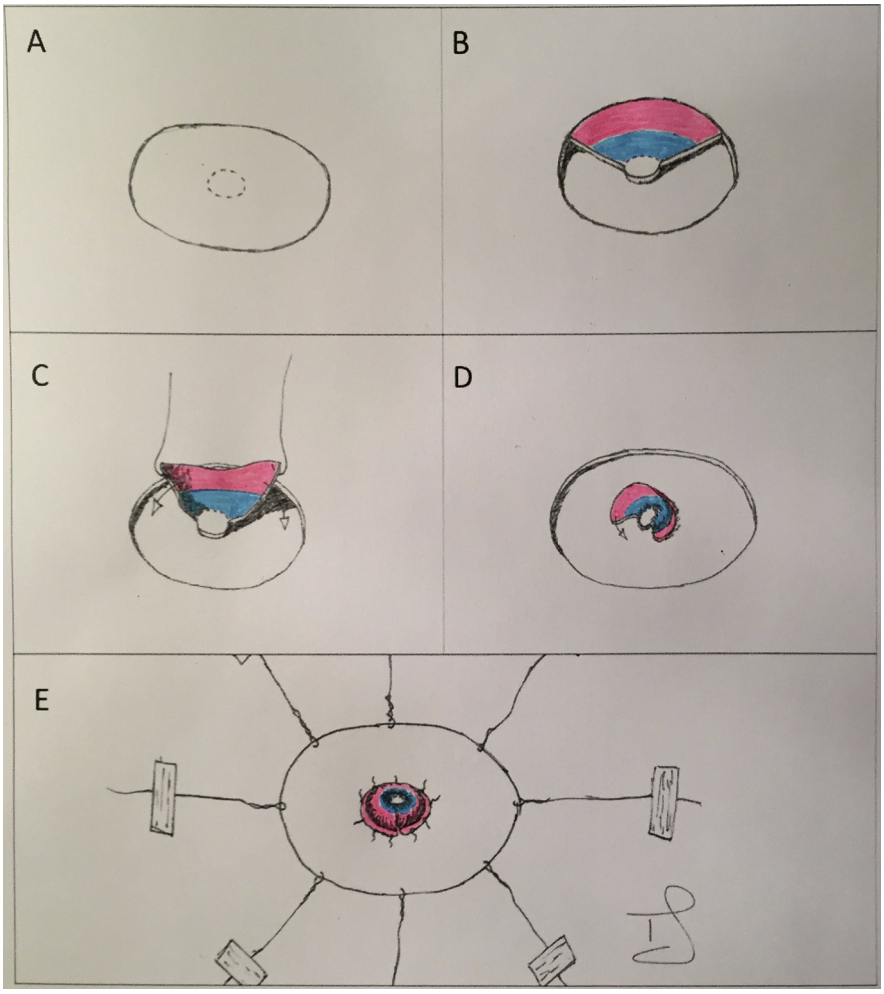

Figure 1 A—B: drawing of the inferiorly pedicled dermal flap, C: the flap is harvested as a thick split-thickness skin graft, preserving the center of the NAC, D: the flap is longitudinally folded and rounded up downwards, E: the new nipple is sutured at the center of the areolar skin graft.