Letter to the Editor

Aesthetic Refinements in C-V Flap: Raising a Perfect Cylinder

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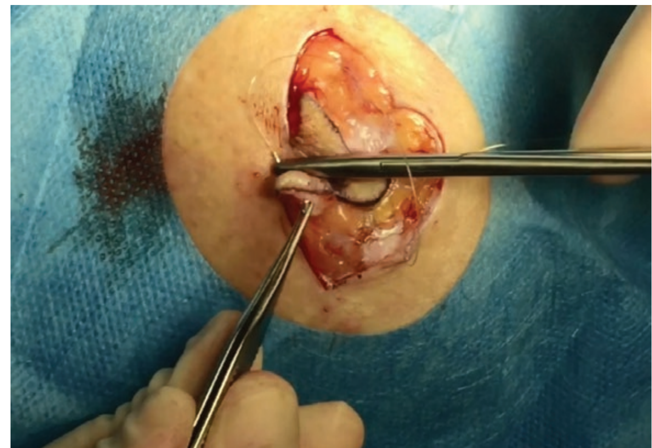
Nipple reconstruction is the keystone procedure to complete an aesthetically satisfying postmastectomy breast reconstruction. Positioning the nipple at the edge of the breast cone and achieving symmetry with the contralateral side (native or reconstructed nipple) are critical in completing a pleasing result. Furthermore, patient expectations are always higher; aesthetics becomes of paramount concern after having gone through the feelings connected with the disease.

In our series, 70% of patients decide to undergo nipple reconstruction, our simple procedure under local anesthesia. It is performed from three to twelve months after autologous or prosthetic breast reconstruction.

The C-V flap, one of the most common techniques to reconstruct the nipple, is composed of a central C flap, the distal cap, and two V flaps, the wall of a cylinder, with a horizontal axis.[1] During postoperative follow ups, we noticed that the flap folding was not completely natural and tension free, probably due to the triangular V flaps wrapping. The two V flaps, being equal and specular, binding toward each other, do not find the more natural alignment between them and, consequently, with the C flap. Our modifications in drawing a C-V flap to ensure the best folding of a geometrical cylinder is presented.

Between May 2014 and May 2015, we reviewed 21 consecutive nipple reconstructions on reconstructed breasts of 20 patients (one patient had bilateral nipple reconstruction). Mean age of the population was 54 years (range, 39-71 years), mean body mass index was 25 kg/m^2 (range, 22.1-28.5 kg/m^2), and the mean follow-up period was 21 months (range, 19-24 months). Preoperative markings are performed in an upright position with respect to symmetry and patient's expectation about nipple size (bilateral reconstruction). The V flaps drawing is done in a nonsymmetrical way along the skin tension lines. The height and the base width is still equal, but the branches are oriented in a new fashion.

The C flap is drawn to the site of the new nipple. Then V flap is marked; the first branch is perpendicular to the C flap, the other branch is drawn at about 45 degrees, the second V flap is drawn in opposite and mirror mode as shown in Figure 1.



Video 1. Watch now at https://academic.oup.com/asj/article-lookup/doi/10.1093/asj/sjx195

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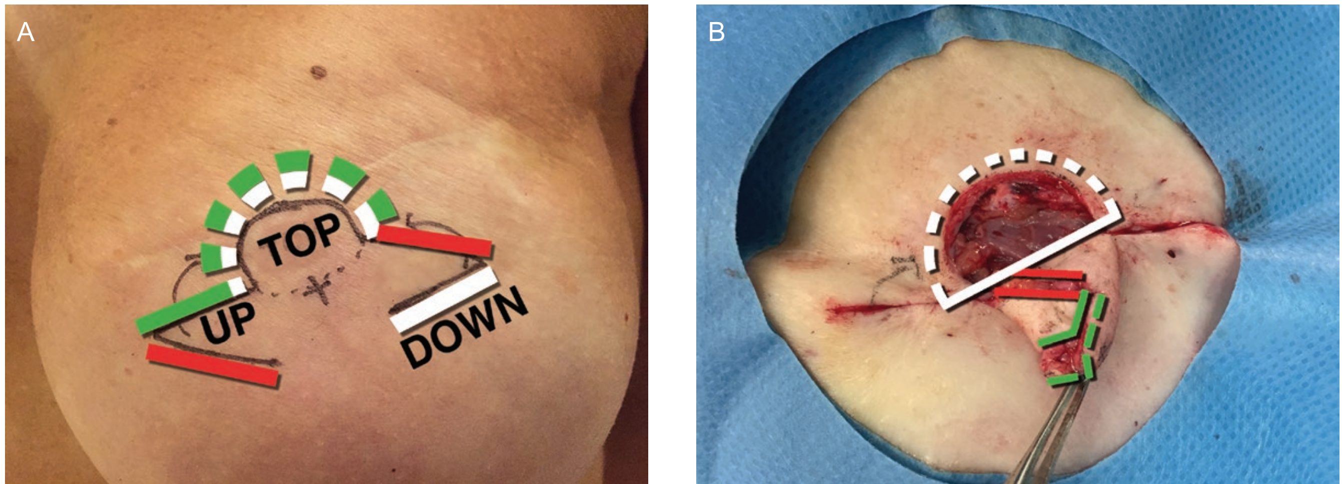

Figure 1. (A) Preoperative photograph of a 71-year-old woman, showing how triangular V flaps are designed in a nonsymmetrical fashion, specular and inverted. (B) The skin is incised according to the preoperative drawing, up to the subcutaneous tissue, and the flap is wrapped. Once the flap is harvested, the donor site is closed primarily and the red lines (medial and lateral triangular shape flaps) are then sutured together. The green lines are sutured first, followed by the white lines, and the flap is completed.

A

B

C

Figure 2. This 44-year-old woman affected by pectus excavatum underwent bilateral skin-reducing mastectomy and reconstruction with breast implants. Six months later we performed bilateral nipple reconstruction. (A) Preoperative photograph. (B) Six-month postoperative photograph. Bilateral skin reducing mastectomy and breast reconstruction were performed. (C) Twelve-month postoperative photograph. Bilateral C-V flap nipple reconstruction was performed, and both areolae were made by a professional tattoo artist.

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Local anesthetic is administered and, following the preoperative markings, the nipple is simply harvested and sutured in a cylinder shape (Video, available as Supplementary Material online at www.aestheticsurgeryjournal.com). The flap pedicle is obviously placed opposite to the mastectomy scar. Postoperative splinting for 4 weeks is mandatory.

Our geometrical refinement addresses the issue of the loss of projection and overall nipple volume decrease following surgery. Tremp et al,[2] performing a classic skate flap reconstruction, achieved an asymmetry of approximately 90% compared to the intact nipple (3-dimensional laser scan analysis performed). Their retrospective study proposed that the method of reconstruction after non-skin-sparing mastectomy, either expander-based or autologous, does not influence the final nipple volume.

The volume resorption rate is the greatest challenge for nipple reconstructive surgery, further ideas and refinements are needed. Triangular V flaps are drawn in a non-symmetrical fashion, specular and inverted, leading to an absolute peculiarity. During the scar maturation stages, the geometrical structure is not twisting or bending.

We think the more natural wrapping of V flaps under the cap is preventing the unpredictable results of flap distortion and overall volume involution rate. It avoids the usual kinking of the conventional procedure; post-folding subcutaneous flap microischemia and skin tension could be the factors triggering of the cascade.

C-V flap is worth a leading place in nipple reconstruction for the ease and reliability of the technique, our customization is a geometrical pearl, we achieved very pleasing and playable results in terms of resorption rate and symmetry (bilateral reconstruction) (Figure 2).

Supplementary Material

This article contains supplementary material located online at www.aestheticsurgeryjournal.com.

Disclosures

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