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Our experience of nipple reconstruction using the C-V flap technique: 1 year evaluation

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KEYWORDS
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Summary There are several procedures available for nipple and areola reconstruction after radical mastectomy, many of them providing good results. This study presents a 1 year evaluation of nipple and areola reconstruction, using the C-V flap technique and areola tattooing. Twenty-nine patients who underwent breast reconstruction with implants in our department, between January 2006 and January 2007, were evaluated and asked to return to conduct a follow-up control. They all completed a questionnaire focusing on patient satisfaction using a 1—10 point visual scale. Nipple measurements were taken with a calliper: the average nipple projection of the reconstructed nipple after 1 year was 3.52 mm, compared to 4.96 mm for the native nipple. The fading of colour of the tattooed areola and the match with the native areola were estimated with computer software (Adobe® Photoshop®). The technique results were simple, reliable and safe; overall patient satisfaction with the procedure was good.

The reconstruction of the nipple-areola complex represents the final step in breast reconstruction in women who underwent radical mastectomy after breast cancer. This procedure has both physical and psychological implications and needs therefore to be easy, painless and reliable.

There are several methods available for this procedure[1—8]; nipple projection and areola pigmentation are critical elements of a successful reconstruction and good patient satisfaction.[9]

Our experience is based on the C-V flap technique, giving an easy procedure performed in the outpatient clinic, using local tissue.[10]

Although tattooing the areola does not allow texture and projection to be re-gained, it is quick and effective and eliminates the creation of additional donor and recipient incisions from skin grafting.[11,12]

The purpose of this study was to evaluate both the objective final result (projection of the nipple and colour of the areola) and the subjective patient's satisfaction, after 1 year.

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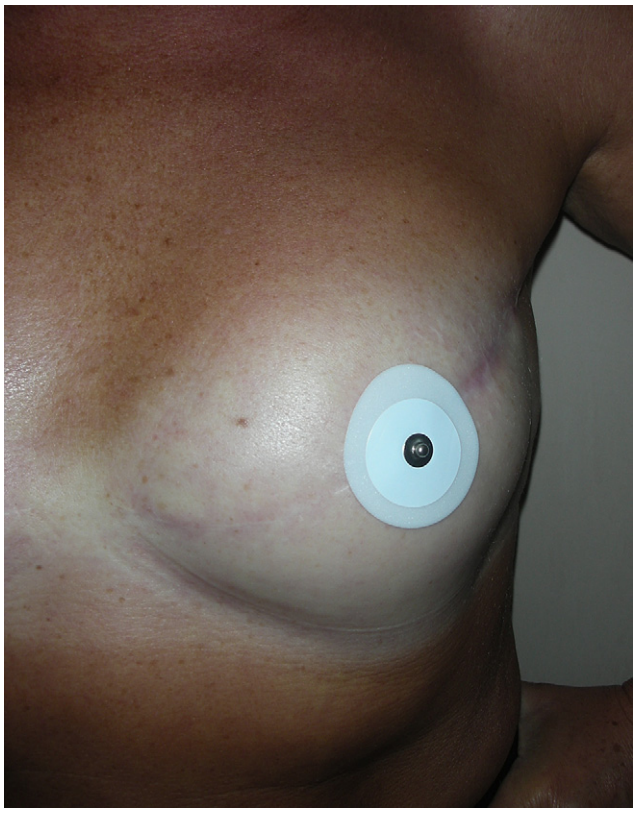

Figure 1 Electrocardiogram disposable foam electrode positioned on the reconstructed breast (frontal view).

Patients and methods

Patients who underwent breast reconstruction with implants in our department, at Circolo Hospital, between January 2006 and January 2007, were evaluated. A retrospective review was performed contacting each patient and arranging a follow-up visit. There were no exclusion criteria.

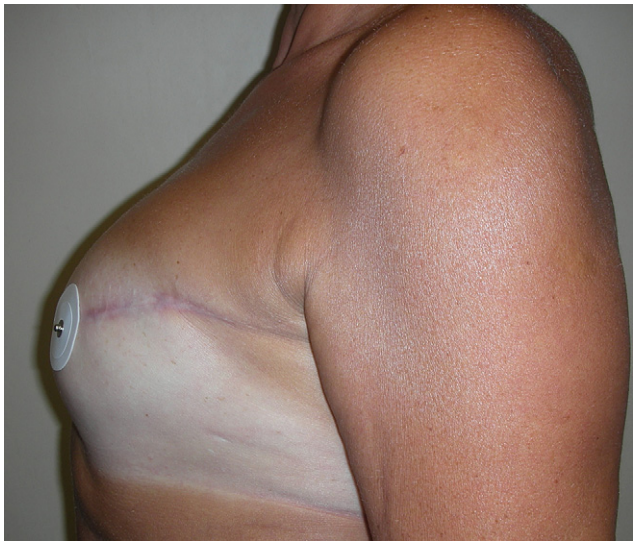

Figure 2 Electrocardiogram disposable foam electrode positioned on the reconstructed breast (lateral view).

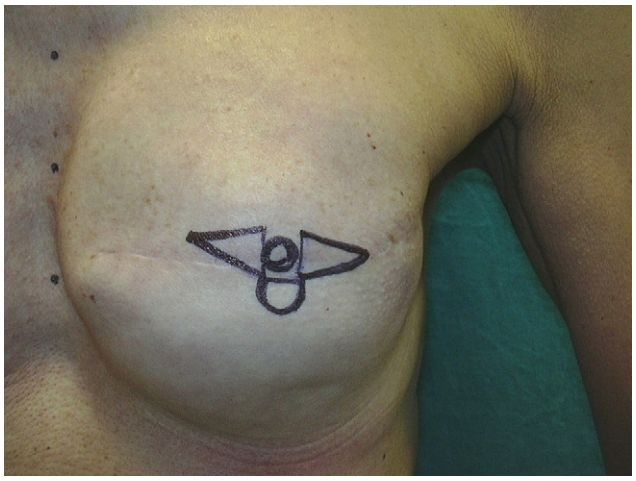

Figure 3 Preoperative marks of the C-V flap (frontal view).

Measurements of the both the reconstructed and the native breast were taken with a calliper, focusing on the nipple diameter and projection. We thus calculated the nipple volume and statistically evaluated the patterns of the reconstructed nipple compared with the native one.

Pictures were taken both in the immediate postoperative time and after 1 year. All the shots were taken using the same digital camera and under the same lighting conditions. Assessments were made by using computer software (Adobe® Photoshop®), to estimate the fading of colour of the tattooed areola and the match with the native areola. We evaluated the colour intensity using the HSB model (hue-saturation-brightness).[13]

In an attempt to estimate their satisfaction, patients were then asked to complete a questionnaire, considering different parameters (nipple projection, sensation, pigmentation, position and symmetry) with a 1—10 point visual scale.[14]

This allowed an evaluation of 29 nipple-areola reconstructions after 1 year. The average age of the patients was 56, ranging from 37 to 68 years.

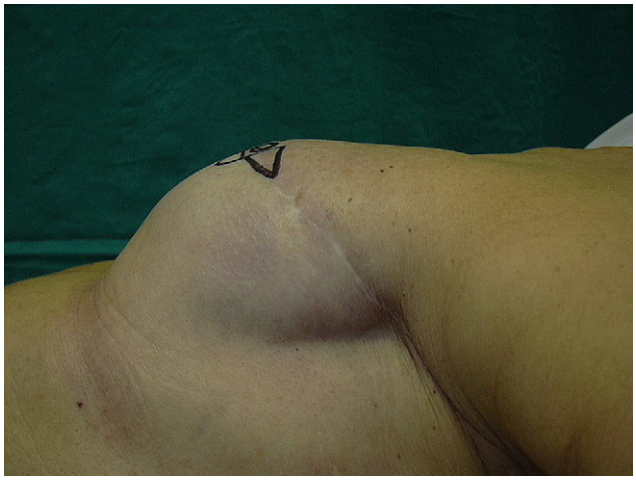

Figure 4 Preoperative marks of the C-V flap (lateral view).