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Short Communication

Acellular dermal matrix based nipple reconstruction: A modified technique☆

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ABSTRACT

Nipple areolar reconstruction (NAR) has evolved with the advancement in breast reconstruction and can improve self-esteem and, consequently, patient satisfaction. Although a variety of reconstruction techniques have been described in the literature varying from nipple sharing, local flaps to alloplastic and allograft augmentation, over time, loss of nipple projection remains a major problem. Acellular dermal matrices (ADM) have revolutionised breast reconstruction more recently. We discuss the use of ADM to act as a base plate and strut to give support to the base and offer nipple bulk and projection in a primary procedure of NAR with a local clover shaped dermal flap in 5 breasts (4 patients). We used 5-point Likert scales (1 = highly unsatisfied, 5 = highly satisfied) to assess patient satisfaction. Median age was 46 years (range: 38–55 years). Nipple projection of 8 mm, 7 mm, and 7 mms were achieved in the unilateral cases and 6 mm in the bilateral case over a median 18 month period. All patients reported at least a 4 on the Likert scale. We had no post-operative complications. It seems that nipple areolar reconstruction [NAR] using ADM can achieve nipple projection which is considered aesthetically pleasing for patients.

Abbreviation: ADM, acellular dermal matrix.

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Introduction

Nipple areolar reconstruction (NAR) has evolved alongside the advances in breast reconstruction; it is often undertaken towards the end of the reconstructive process with expectations of the reconstructed nipple to closely resemble a natural one. Certainly, Nipple areolar reconstruction (NAR) has been shown to improve patient satisfaction, suggesting an improvement in body image and so, body confidence. Moreover, a lack of nipple projection has been shown to be a cause for patient dissatisfaction.[1] Although a variety of materials are used[2] there is no ideal material available for nipple reconstruction and a lack of high quality evidence.[3]

Acellular dermal allografts have revolutionised breast reconstruction over the last decade and has created a shift in the practice and technique of breast surgery.[4,5] With greater understanding of acellular dermal matrices (ADM), their applications for breast procedures, such as Nipple areolar reconstruction (NAR), have increased.[6] The advancement in techniques and availability of new materials may provide the ideal technique with optimal outcome.[7]

Despite their growing practice and general success in many situations, their use comes with a learning curve. Although use of ADM in nipple reconstruction has been described earlier,[8,9] we describe a modified technique with our experience for NAR reconstruction using an ADM as a base plate and strut to give support to the base and offer nipple bulk and projection with a C-V flap that maintained nipple projection, in the hope that our results are reproducible and predictable.

Methods

All NAR were done as delayed procedures and the mean time frame to NAR reconstruction was 6 months (range 4–12 months).

Our technique is outlined below.

1. The concept is based on placing the ADM between the opposing vascularised C–V flap.
2. A C–V flap was delineated on the planned NAC site and the incision site was infiltrated with 5 mls of 1% lignocaine with adrenaline.
3. The C–V flap was incised and dissected using tenotomy scissors and flap elevation, was done in the subcutaneous plane (Figure 1).
4. The ADM was hydrated in warm saline for 5 min with gentle agitation.
5. The ADM was cut into two 1 × 1 cm pieces.
6. The first 1 cm piece of ADM was used as a plate to secure to the base of the C–V flap using 2–0 vicryl.

Figure 1. The C–V flap was incised and dissected using tenotomy scissors and flap elevation, was done in the subcutaneous plane.