

Aesthetic Subunit Reconstruction Facilitated with V-Y Island Advancement Flaps on the Face: A Case Report

Jaime Eduardo Pachón
Suárez, MD*

Parviz Lionel Sadigh, MB ChB*
Seng-Feng Jeng, MD†

Summary: The reconstruction of complex facial soft-tissue defects is a challenge that is often encountered by the plastic surgeon. Careful planning and knowledge of the aesthetic subunits that border the defect are paramount to achieve optimal results. We present a case of a 56-year-old woman who underwent excision of a large disfiguring chronic xanthelasma that extended from canthus to canthus across the nasal bridge. An aesthetic outcome was achieved by use of bilateral V-Y nasolabial flaps combined with a V-Y glabella advancement, which allowed for a tension-free like-for-like subunit reconstruction. (*Plast Reconstr Surg Glob Open* 2014;2:e148; doi: 10.1097/GOX.000000000000107; Published online 15 May 2014.)

CASE REPORT

A 56-year-old woman presented with a 1-year history of a raised erythematous lesion that extended from canthus to canthus across her nasal bridge (Fig. 1). She had a history of hypercholesterolaemia but was otherwise fit and well. An incision biopsy was arranged which revealed changes consistent with chronic inflammation on a background of xanthelasma. Despite this benign diagnosis, the patient insisted upon surgical excision as she had become extremely conscious of the lesion to the extent that she would avoid leaving the house. After appropriate patient counseling with regard to the possible complications of surgical management, the patient was scheduled for marginal excision and immediate reconstruction. Under general anesthesia, the lesion

was excised en bloc and sent to histology. Bilateral nasolabial V-Y island flaps were raised and advanced cephalad and a glabella V-Y island flap was raised and advanced caudal to complete the 'like-for-like' subunit reconstruction (Figs. 2, 3). In this case, it was not necessary to skeletonise the perforators of the angular artery that supplied the nasolabial flaps to achieve the desired advancement; however, when required to do so, we never hesitate to skeletonise these perforators. The donor scars were camouflaged within the nasolabial folds and vertical wrinkle lines of the glabella region, no complications were encountered, and an aesthetic result was observed at 12 months follow-up (Fig. 4). Histology confirmed xanthelasma.

DISCUSSION

Many techniques have been described for the reconstruction of facial soft-tissue defects. An early description of the subunit reconstructive concept was in 1965 when Gonzalez-Ulloa et al¹ reported on the use of regional aesthetic subunits in the successful reconstruction of nasal and forehead defects. Since this time, many authors have refined and modified various techniques based on the subunit concept in the search for optimal aesthetic results in facial reconstruction. In particular, in

From the *E-Da Hospital, Kaohsiung, Taiwan; and †Department of Plastic Surgery, E-Da Hospital, Kaohsiung, Taiwan.

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Fig. 1. Chronic xanthelasma marked for marginal excision.



Fig. 3. Immediate postoperative result.



Fig. 2. Bilateral V-Y nasolabial island and glabella flaps marked.



Fig. 4. Result at 12 months follow-up.

1985, Burget and Menick² popularized the subunit principle with regard to possibly the most complex aesthetic facial structure of them all, the nose. By dividing the nose into nine specific subunits, they demonstrated that the best cosmetic results were achieved through reconstructive techniques that respected the individuality of these parts. Moreover, in a histological study carried out in Australia in 2010, Rahman et al³ demonstrated that based on pilosebaceous unit density and dermal/epidermal thickness, the best histological match for a given facial defect is likely to come from an adjacent subunit. This is not a new concept, indeed Gillies and Millard⁴ were well aware of this in the 1950s when they stated that “the next nearest skin is the next best skin.” Indeed, the marriage of old and new concepts often achieves the best results, and with this in mind, we feel that the combination of the aesthetic subunit principle and the perforator concept⁵ can help in achieving optimal aesthetic outcomes when dealing with facial reconstruction. Moreover, based on the perforator principle,⁶ one can safely and confidently skeletonise the perforators of the angular artery when raising a nasolabial flap and thereby facilitate tension-free advancement of the nasolabial tissue. This approach avoids the transfer of tension onto the surrounding aesthetic subunits and prevents any distortion of these parts. Indeed, the disadvantages of many of the classically described local flaps used in facial reconstruction are a limited arch of rotation and the transfer of tension onto adjacent subunits.

CONCLUSIONS

In summary, by respecting the aesthetic subunits of the face along with an awareness of the perforator concept, a very favorable one-stage aesthetic result was achieved in this case.

Seng-Feng Jeng, MD, FACS,
 Department of Plastic Surgery
 E-Da Hospital No. 1
 Yi-Da Road Jiao-Su Village
 Yan-Chao District
 Kaohsiung 824
 Taiwan
 E-mail: jengfamily@hotmail.com

PATIENT CONSENT

The patient provided written consent for the use of her image.

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