A Modified Single-Step Method to Repair a Central Defect of the Upper Lip

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Received: 2 November 2015 / Accepted: 17 March 2016 / Published online: 17 May 2016
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Abstract

Introduction Defects in the central region of the upper lip are difficult to repair.

Discussion Several techniques have been described, many of them requiring a second surgical procedure to obtain acceptable aesthetic results.

Case Report A patient with a soft defect in the central region of the upper lip following aggression by human bite is presented. To repair the defect, the principles described by Goldstein for lateral lip defects were used (Goldstein in *Plast Reconstr Surg* 85(3):446–452, 1990; Robotti et al. in *J Plast Reconstr Aesthet Surg* 63:431–439, 2010).

Conclusion In this particular case, two full-thickness advancing miomucosal flaps from the vermilion of the upper lip were used with predictable aesthetic results.

Keywords Human bite · Central defect of upper lip · Method to repair

Introduction

Facial defects can significantly alter patients' quality of life, specially if placed in the central region of the face. Here the distortion of facial appearance can negatively affect self-perception and social life. Several techniques for repairing defects of the upper lip have been described, many of them requiring a second surgical time to restore its natural contour. A modified single-step technique for soft tissue reconstruction in the central region of the upper lip following the Goldstein's technique with preservation of both labial arteries is presented [1–5].

Case Report

A 24-year-old woman presented with a soft defect in the central region of the upper lip following aggression by female human bite secondary to jealous rage (Fig. 1). Under troncular anesthesia of both infraorbital nerves, a careful debris of the wound was performed. Later two full-thickness advancing miomucosal flaps from the upper vermilion pedicled in both superior labial arteries were harvested (Fig. 2a, b). After verifying an adequate vascularization, both flaps were sutured in the midline (Fig. 3). Excellent aesthetic and functional results were observed as early as 30 days post-operatively not requiring any additional surgical procedure during the follow-up (Fig. 4). The patient has also completely recovered upper lip sensitivity.

Disclaimer The authors do not have any financial interests, either directly or indirectly, in the products or information listed in the paper.

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Fig. 1 A defect in the central region of the upper lip following aggression by female human bite secondary to jealous rage

Discussion

Defects in the central region of the upper lip are difficult to repair. Several techniques have been described, many of them requiring a second surgical time to obtain acceptable results regarding aesthetics and function. The lower lip is considered as a single subunit, being the upper lip is divided into two subunits with the philtrum at the midline. Following the classical principles of facial reconstruction based on aesthetic subunits, each subunit should be reconstructed as a whole, except for small defects in which direct suture may be a reasonable option. In the lip, it is essential to keep the border between the vermilion and the normal skin, also named line of Klein. An alteration in this line generates a significant disfigurement causing an appreciable alteration in patient's self-image and social relationships [6–15].

This technique was described in 1990 by Goldstein (elastic flap for repairing lip defects) and is based on the

Fig. 3 Both flaps were sutured in the midline

Fig. 4 Excellent aesthetic and functional results were observed as early as 30 days post-operatively, not requiring any additional surgical procedure during the follow-up

elasticity of the lip vermilion and the principles of vascularization of local pedicle flaps [1–3]. Goldstein described it as an unilateral flap for repairing lateral defects of the

Fig. 2 Two full-thickness advancing miomucosal flaps from the upper vermilion pedicled in both superior labial arteries were harvested

upper and lower lips. In our patient, we harvested two full-thickness advancing miomucosal flaps from the vermilion of the upper lip to reconstruct a central defect of the upper lip. In our opinion, several advantages may be obtained with this approach: (1) it is an easy surgical technique available for most surgeons; (2) it can be performed under local anesthesia; (3) it comprises a single-surgical step not requiring additional surgical procedures; and (4) excellent results in terms of aesthetics and function are achievable.

Conclusion

We present a modified single-step technique for soft tissue reconstruction in the central region of the vermilion in the upper lip, with preservation of both labial arteries according to Goldstein's principles. Excellent aesthetic and functional results are obtained.

Compliance with Ethical Standards

Conflict of interest None.

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