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Bilateral Superficial Temporal Artery Pediculated Flap - A Non Microsurgical Alternative For Total Reconstruction Of The Upper Lip

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Abstract

Introduction

The reconstruction with the superficial temporary pediculated flap is always a perfectly viable solution with a high success rate for total upper lip reconstruction [1,2]. Its use derived from a good choice and selection of the patient by the surgeon and from a delicate treatment for the flap [3,4], especially when the temporal flaps moves from its bed as an independent unit, never exceeding the point or fulcrum of its pivot or rotation at the level of the infratemporal space. Thanks to its anatomical proximity to the mid-facial region and its easy transfer, this flap becomes an excellent choice for the reconstruction after excision of tumors in these region ns, with many advantages compared to others currently affected.

Material and Methods

We present the case of a 40 -year-old male patient diagnosed with mucosalephiteloid malignant melanoma in the upper lip. A subtotal extended resection of the upper lip was performed and a bilateral superficial temporary pediculated flap was used for the reconstruction of the created defect. The patient has been under clinical follow-up for one and a half year, has not relapsed, is under control of his disease and maintains a good aesthetic appearance. This reinforces the great versatility of this flap within the reconstructive arsenal.

Conclusion

The great versatility of this flap and its great capacity for secondary epithelialization make it optimal, especially in patients where several reoperations are necessary to offer adequate reconstruction, thus covering a torpid path to complete recovery. For all these reasons, it should be a regular part of the surgical-reconstructive arsenal in facial skin tumors.

Keywords

Upper lip reconstruction; Superficial temporal artery flap; Squamous cell carcinoma; Melanoma; Non- microsurgical technique

Introduction

This is a surgical reconstruction technique of the upper lip from a man using a pediculatetemporal superficial artery flap. We demonstrate that pediculate flaps are more manageable than free flaps for the reconstruction of upper lip partial defects.

The superficial temporal artery flap is usually used on men patients due to the hair-composed flap. It is a non-common flap for the lip reconstruction being displaced by the new free flap techniques. The temporal superficial artery flap can be used to do reconstruction con the eyebrow lesions and chin. It also demonstrates a good cosmetic and functional result for the 50% complete lesion of the upper lip.

Pedicle flaps of the superficial temporal vessels are versatile in the reconstruction of the facial region [5-7]. The flap has a flexible pivot points with long pedicles that allow them a good length of receiving area.Matching color and texture is good for cosmetics. Morbidity in the donor site is usually minimal, and it can be primarily closed. The drainage is through concomitant veins. And the delay is 14 day course before it can be harvest to the final stage procedure.

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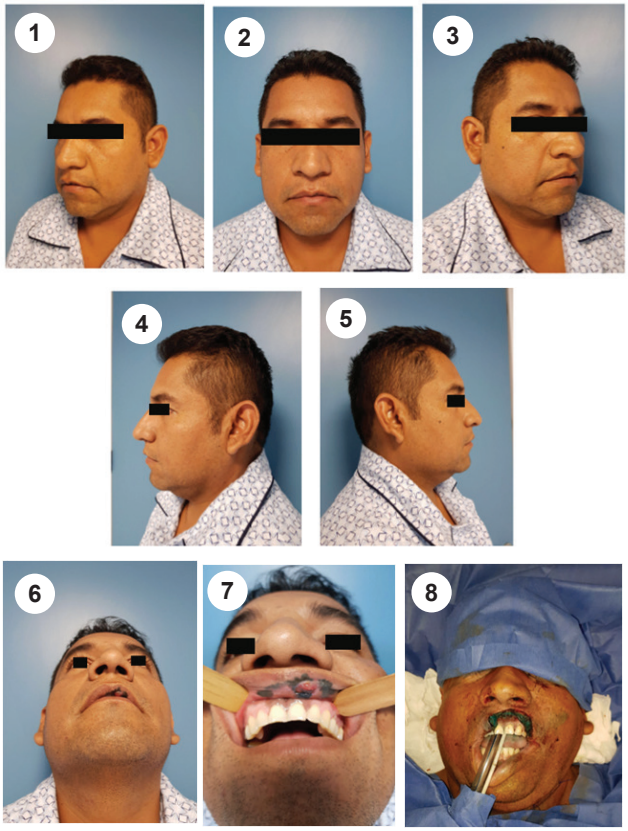
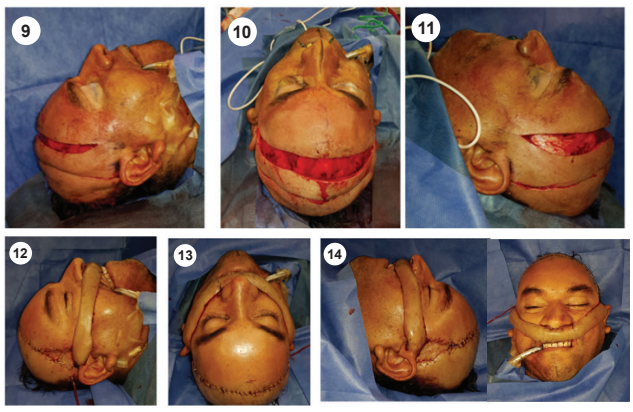


Figure 1-8*:* This is a 40 year old man previously diagnosed with epithelioid malignant melanoma. Figure 8 shows that theoncology department resected 1 cm margin extending from the upper lip up to the nasal base



Figures 9-11: Incision and dissection over the doppler-marked site

Figures 12-14: Ventral rotation of the bilateral superficial temporal artery flap

This is a 40 year old man previously diagnosed with epithelioid malignant melanoma Figures 1-7. The oncology department resected 1 cm margin extending from the upper lip up to the nasal base Figure 8. Then the Aesthetic and Reconstructive Surgery Department was consulted for the reconstruction of the surgical defect. We offered to the patient an antebraquial radial free flap as a mean for total reconstruction of the upper lip, however he rejected this option due to potential functional loss of the upper extremity. This is why we proposed an appropriate alternative involving bilateral superficial temporal artery hair-bearing flap. We present full-consent images of the patient´s evolution.

Through linear doppler we first delimited bilaterally the superficial temporal artery, leaving out a 3 cm margin from the base all the way up. Using a scalpel we incised over the marked site. Then we dissected plane by plane down to the loose connective tissue, made sure of hemostasis, and then rotated ventrally the flap. A full thickness graft with intraoral exposure dimensions is collocated on the flap base for coverage using nylon 4-0 stitches Figures 9-14. Blood perfusion is verified through linear doppler and bleeding through punctioning. After one month we clamped bilaterally the flap in order to harvest a greater volume of tissue through vascular delay Figure 15. Ten days later, the clamps were removed, the upper lip surgical defect was repaired Figure 16, and bilateral remnants of the flap were reallocated to the flap´s base Figure 17.

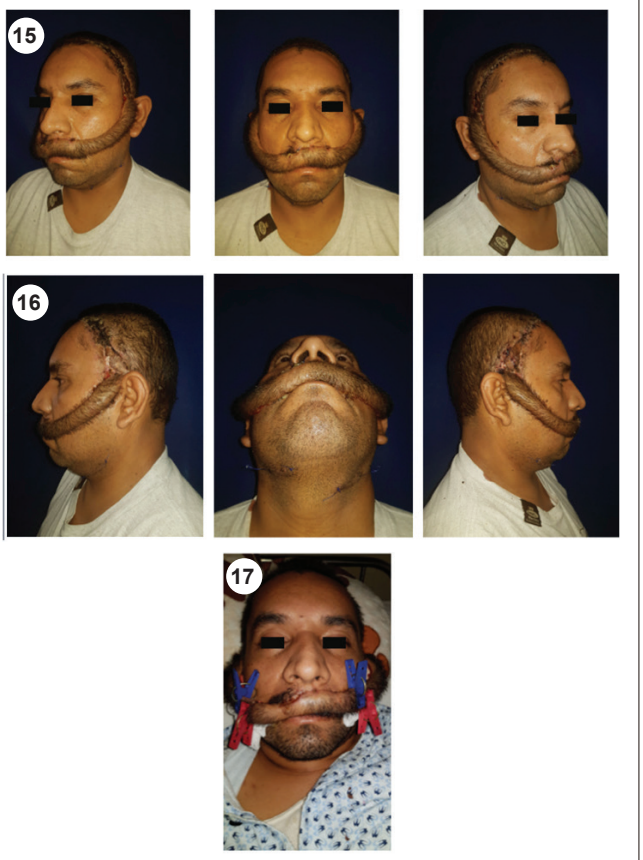


Figure 15: Bilateral clamping as a vascular delay procedure in order to harvest a greater volume of tissue through neovascularization

Figure 16: Donation of the flap to repair the defect of the upper lip

Figure 17: Temporal reallocation of bilateral remnants of the flap

Discussion

The superficial temporal artery pediculatedflap [8,9]is commonly used for eyebrow, chin, and upper lip reconstruction. Free flaps have often been used for upper lip total defect repair. In this case report, we demonstrate adequate aesthetic and functional results of bilateral superficial temporal artery pediculated flaps as an alternative for total reconstruction of the upper lip. However, some considerations must be taken into account, for instance: it involves two surgical procedures, linear doppler must be used in order to identify the blood vessels, the flap must be long enough to be properly rotated, and hair growth direction should also match downwards with that of the beard.

Conclusions

We show that the pedicle flap is much simpler than the free flap and is suitable for the reconstruction of partial defects of the upper lip. We also demonstrate a good cosmetic and functional result; and highlight several technical points to ensure a satisfactory result [9-14].

Acknowledgement

The authors declare that they have no conflict of interest.

"All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards."

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