

Upper lip reconstruction with local myocutaneous flap: case report and review

Introduction

Lower and upper lips are the most important aesthetic and functional structures of the lower segment of the face. The lips are a focus of facial beauty, impact in patient self image and their central location does not permit concealment of unsightly scars.¹ Reconstruction of lip defects represents a challenge to plastic surgeons because these anatomical structures have complex functions like speech, facial expressions, oral competence and chewing.² Because their prominent location, lips are at risk for traumatic injuries and cutaneous malignancy that represents the principal causes of lips defects, other causes are infections and congenital abnormalities.³ We present the case of a male patient of 12 years of age whose upper lip was reconstructed after a dog bite.

Case report

The patient is a 12-year-old male patient who does not have an allergic history, no surgical history or a chronic degenerative history. Current condition begins 12 hours prior to hospital admission suffering bite of his own dog in the face, presenting a wound in the upper lip. Initial management is given by intravenous solutions, analgesic, and antibiotic with amoxicillin clavulanic acid. Laboratory tests and epidemiological assessment are requested. The patient goes to the operating room, performing surgical cleaning and debridement, leaving a resulting full-thickness wound area of the upper lip, with absence of skin, orbicular muscle and oral mucosa, and affection of the philtral groove aesthetic subunit, right lateral subunit, vermillion subunit, and involvement of the Cupid's bow. Posterior reconstruction of the upper lip is performed using ABBE flap based on the contralateral labial artery without complications. The patient presents adequate postoperative evolution, leaving the hospital on the third day. Follow-up has been carried out by the outpatient clinic and one month after the surgery, the patient presents an adequate evolution, maintaining the functions of the lip in Figure 1, Figure 2.



Figure 1 Large defect of the upper lip.

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Figure 2 Upper lip reconstructed.

Discussion

The upper and lower lips are formed by a three-layer structure of skin, muscle, and mucosa. The outer border is formed by the vermillion, referred to as the red lip. The outer anatomy of the lip consists of Cupid's bow, a philtrum, a central tubercle, and a fullness in the lower lip. The underlying musculature is defined by the orbicularis. The depressor muscles of the lips are the anguli oris, the labii inferioris, and the platysma. The levator labii superioris, zygomaticus, risorius, and mentalis muscles elevate the lip. The sensory supply to the upper lip is from the infraorbital branch of the trigeminal nerve, whereas the mental branch of the trigeminal nerve supplies sensory innervation to the lower lip. The buccal and mandibular branches of the facial nerve

supply motor innervation to the musculature of the lips. Blood supply is through the facial artery, which branches to form the superior and inferior labial arteries.⁴

Lip defects are characterized as small, medium, or large. Defects considered small are those involving less than or equal to one horizontal third of the upper or lower lip. Those considered medium are defects involving 30% to 60% of the horizontal lip, and large defects involve greater than 60%. Another subclass of defects is that involving only the vermillion of the upper or lower lip. An ideal esthetic result requires adherence to the subunit principle whereby the complete subunit is reconstructed if greater than 50% of the subunit is affected.⁵ There have been reported many surgical techniques for reconstruction of the lips, each of them having its own merits and demerits. Most of these techniques restore lip continuity, but compromise mouth opening causing microstomia, or sphincter function like poor continence, also cause significant perioral scarring and poor aesthetic outcome.⁶ Local flaps that are used for extensive lip defects are mainly the Gillies fan flap, ABBE flap, Karapandzic flap, McGregor flap, Nakajima flap, nasolabial flaps and the Webster-Bernard flap.⁷⁻⁹ Reconstruction of the lip vermillion is an important step in lip reconstruction. There have been reported several techniques for lip vermillion reconstruction, including mucosal flaps or grafts, vermillion cross-lip flaps, and vermillion advancement flaps.¹⁰ Kolhe & Leonard¹¹ described myomucosal advancement flaps for post lip-shave procedures for several lesions.

Microvascular reconstruction may be necessary when there is no remaining lip. Radial forearm is the most used free flap is the, and is usually transferred along with the palmaris longus tendon for lip support.¹² Gracilis free flap is another microvascular option, fascia lata may be used as a supportive tendon.¹³ The main complications in lip reconstruction are functional alterations and microstomia. Commissuroplasty can be carried out in a second surgery to improve the lip's symmetry and as management of microstomia.¹⁴

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Conflict of interest

The author declares there is no conflict of interest.

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