

Use of linked mucosal flap for lower lip reconstruction after human bite injury

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Abstract

Aim: An alternative method of reconstruction of a lower lip defect is presented, using a mucosal flap taken from the upper lip. This approach leaves the skin intact and therefore avoids skin scarring, with its associated unpredictable healing. The upper lip mucosal flap applied to reconstruct the lower lip injury was identical to the injured tissue type.

Result: The results were functionally and aesthetically excellent (as illustrated).

Conclusion: This technique represents an excellent alternative to reconstruction of a damaged lip, with the benefits of minimal scar tissue formation and excellent aesthetic result.

Key words: Lip; Bites; Plastic Surgery; Surgical Flaps

Introduction

Bite injuries of the lower lip are frequently encountered by plastic and reconstructive surgeons.^{1–4} Repairs can be performed in numerous ways.^{5–8} Based on previous experience, we present a case managed with an alternative reconstruction technique that utilised a linked mucosal flap comprising only the mucosal part of the lip. This method differs from those using a cutaneous plus mucosal flap, usually applied in combination because such injuries usually affect both cutaneous and mucosal tissue.⁹ Our approach was to apply a mucosal flap from the upper lip to the mucosal damage of the lower lip. This technique therefore ensured preservation of tissue quality, and also avoided scarring of the donor spot (desirable as mucosal scars are aesthetically much more acceptable).

Case report

A 35-year-old man suffered an injury to his lower lip after a human bite. The patient received antitetanus protection in the emergency room, and antibiotic prophylaxis was commenced using clindamycin (300 mg orally, thrice daily for two weeks). The injury to the lower lip measured 2.2 × 1.2 cm and spanned the left half of the lower lip, from the mid-line to the corner of the lip, which remained intact (Figure 1).

Reconstructive surgery was initiated six hours after the injury, after extensive cleaning of the wound. Surgery was performed under local anaesthesia (using lidocaine with adrenaline). Reconstruction employed a mucosal linked (two-stage) flap from the upper lip. The flap was elevated from the interior of the upper lip, with its stem set down towards the lip's free edge (i.e. distally). The flap was sutured in at the edges of the lower lip defect. We then sutured the donor site defect of the upper lip (Figure 2).



FIG. 1
Lower lip injury.

Three weeks after the first procedure, a second operation was performed in which the flap stem was resected. In the interval, the patient ate mainly liquids and mashed foods and thus lost 5.5 kg of body weight. The final results of surgery were both aesthetically and functionally excellent (Figure 3).

Discussion

A range of flaps may be used for lip injury reconstruction. Here, we present one possibility, which is based on two principles. First, the mucosal flap applied to reconstruct the patient's lip injury was identical to the tissue type (i.e. mucosa) which needed to be covered. Second, this

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FIG. 2
Linked mucosal flap.



FIG. 3
Final result after flap stem resection.

approach left the skin intact and therefore avoided any skin scarring, the healing of which is always unpredictable. Furthermore, mucosal healing results in much less scar tissue formation than does skin healing. On these bases, we recommend the use of this type of flap as a very successful method for reconstruction of certain lip injuries.

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