

Revascularization of Upper Lip Following Avulsion Injury

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Lip injuries due to accidents, assault, and bite (animal/human) are relatively common but avulsion/amputation of lip by electrical machines is uncommon. These injuries have a considerable impact functionally, aesthetically, and psychologically. Since lip is one of the presenting features of the face, scar deformity is easily visible; functioning upper lip is important for speech and oral competence and hence, a meticulous and good repair is important.

Considering the anatomy of the lip, reconstruction of any loss of lip tissue, especially upper lip, is difficult due to lack of similar tissue elsewhere in the body. Therefore, in cases with lip injuries involving labial artery, microvascular revascularization becomes the first choice.

A 28-year-old male laborer presented with history of accidental avulsion injury of upper lip while working with cutter

machine. On examination, there were multiple lacerated wounds over both upper and lower lip. A segment involving central and right third upper lip was completely avulsed except bridge of soft tissue in gingivolabial sulcus. This segment was dusky and ischemic. Two other lacerations were present near the left commissure. Right commissure was intact (►**Fig. 1A, B**). The columella and the nose were spared. There were no other injuries anywhere else in the body. Patient had no facial fractures or dental injuries. Patient underwent emergency exploration under general anesthesia with nasal intubation, the wound was cleaned and debrided and the left superior labial artery was found divided at two levels in the two wounds near the left commissure. The stumps of the severed artery were isolated and prepared for anastomosis. Two microvascular anastomoses were done with no. 9-0 nylon (►**Fig. 2**). No veins were found in wound for anastomosis. After anastomosis, the



Fig. 1 (A) Upper lip multiple lacerated wounds. (B) Upper lip lacerated wound with dusky appearance of mucosa of the avulsed upper lip segment.

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Fig. 2 Microanastomosis of the left superior labial artery done at two levels.



Fig. 3 Closure of the wound done in layers.

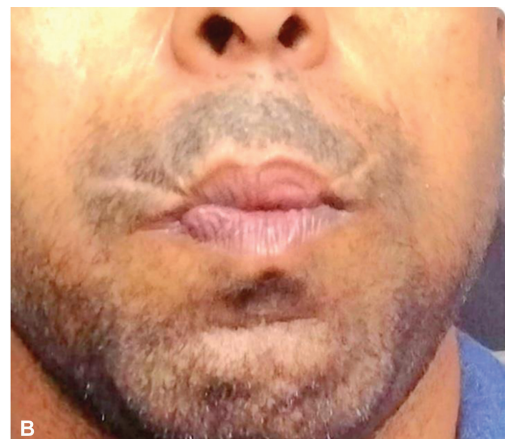


Fig. 4 (A) Long-term follow-up of the patient. The scar is well settled with no deformity of lip. (B) Lip continence—function of lip recovered.

central avulsed part was pink and showed normal vascularity. The ragged edges of the wound were debrided and the wound was repaired in layers (► **Fig. 3**).

Postoperative course was uneventful. Ryle's tube feeding was done initially. Oral liquids were allowed after 5 days. Oral hygiene was maintained. Twenty-four months postoperatively, the aesthetic results are satisfactory in terms of form, skin color, scar, vermilion match, and the function—lip continence (► **Fig. 4A, B**).

Lip avulsion injuries with vascular compromise can have severe consequences. Other methods of reconstruction include: split-thickness skin graft/full-thickness skin graft if the wound is not full thickness and local/pedicled flap. Small amputated segments (< 1.5 cm) can survive as composite grafts.¹ However, with larger segments the chance for survival of a composite graft is unpredictable.² There are several options for reconstruction of lip but preserving the vital lip

tissue gives the best result cosmetically and functionally. Hence, microvascular repair of the injured vessel is the best option whenever possible.

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Conflict of Interest

None declared.

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