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Abbe's Flap for Lip Reconstruction –Report of 2 Cases

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ABSTRACT
Lip is special to the face in its morphology and position. This tissue is not found anywhere else in the body, thus making the repair of its lost structure that much more difficult to the operating surgeon. Upper lip defect caused by trauma can result in facial and functional compromise. Apart from the esthetic value, lips are also important for oral competence, emotional communication, deglutition and speech. Lip defects with more than two third involvement requires a thorough pre operative planning and pre surgical technical knowhow. Goals of the reconstruction are the maintenance of oral opening, oral competence, restoration of normal anatomic functions and cosmesis. Here we present two cases of upper lip defects where more than two third of the lip was lost and these were surgically reconstructed by Abbe's flaps.

INTRODUCTION

Lips play an important role in the personality of an individual as well as facial esthetics. The major etiologies resulting in lip deformities are trauma, oncologic excision, congenital deformities, animal bites, etc.

Far back in 1000 B.C., Sanskrit writings of Sushruta as well as in 3000 B.C. writings of first evidence of lip reconstruction was noted[(1).] First tissue transfer techniques were performed by Tagliacozzi in late 16th century. In 1834, Diefenbach first described the cheek advancement flap technique based on an inferior lateral pedicle. In 1838, Sabattini first described the cross lip flap transfer of a lower lip midline wedge to a philtral defect[(2)]. This technique was further modified in 19th century by Sabbattini, Abbe and Estlander [(3)]. All cases of reconstruction should be attempted by flaps from the remaining lip as this tissue is unique in the body. Here we present two patients who had reported to our department and had lost more than two third of their upper lip in road traffic accident. Both were treated by Abbe's flaps.

CASE REPORT

A 21 year old male patient reported to the Department of Oral and Maxillofacial Surgery, Sri Aurobindo College Of Dentistry, Indore with a history of road traffic accident. The patient suffered facial injury involving his upper lip. History revealed trauma a day back for which primary treatment was given at a district hospital. When the patient reported to our department, the upper lip was covered with dressing and signs of necrosis were noted. Gross edema was present over the middle third of face. Clinically no bony injuries were appreciated. Approximately 2/3rd of the upper lip was necrosed. Intraorally occlusion was normal.

Intra operatively, the necrosed part of the upper lip was removed[Fig I]. The defect was thoroughly debrided and the size of the defect was reduced by approximating the orbicularis oris muscle from either side of the defect. A part of philtrum was primarily repaired with suture. Abbe's flap was taken from the central part of the lower lip and was elevated and rotated to the upper lip defect [Fig II].

The flap was maintained in situ for 21 days and then a second stage surgery was planned. In the second stage surgery the two lips were separated and sutured restoring the symmetry and volume of upper and lower lips.

The patient was followed –up for a period of one month, there was no complication or wound healing defect and the lips maintained an intact sensory function along with good esthetic outcome [Fig III].

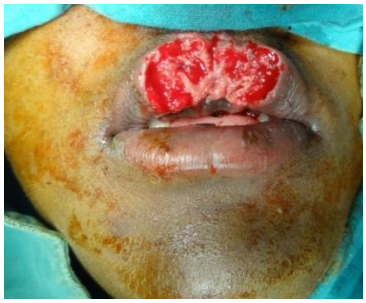

FIG. I Raw area after debridement

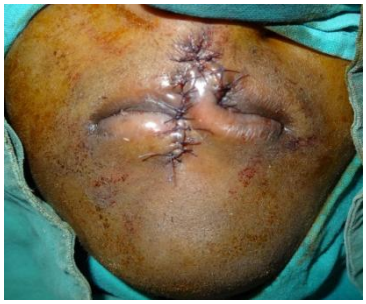

FIG. II Abbe's flap in situ

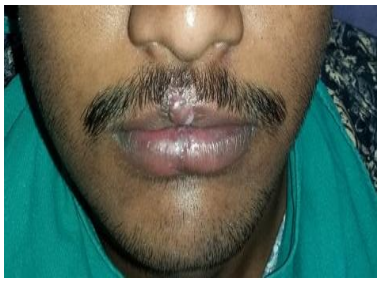

FIG. III Complete upper and lower lip

CASE 2

A 36 year old male patient reported to the Department of Oral and Maxillofacial Surgery, Sri Aurobindo College Of Dentistry,Indore with a history of road traffic accident with facial injury. History revealed primary treatment taken at a nearby hospital. On examination multiple abrasions were present over face. There was complete loss of the central portion of the upper lip. No bony injuries were present and occlusion was normal.

In this case too, there was a complete loss of the central portion of the upper lip and the wound was infected. The wound was treated by tertiary healing [Fig IV]. The reconstruction was planned with Abbes flap as the lower lip was not injured.

Intra operatively a full thickness flap was raised with underlying muscle and pedicled on the left labial artery. The flap was rotated over the defect and with careful dissection closure was achieved at the recipient site.

The flap was maintained in situ for 21 days. After this period, division of the flap was done under local anesthesia. Late post operative result after 1 month of surgery demonstrated good anatomy of Cupid's bow and vermillion border[Fig V].

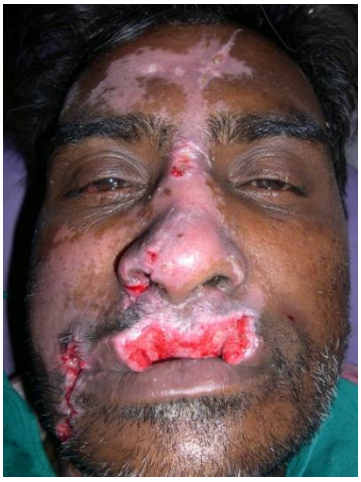

FIG. IV Raw area after debridement

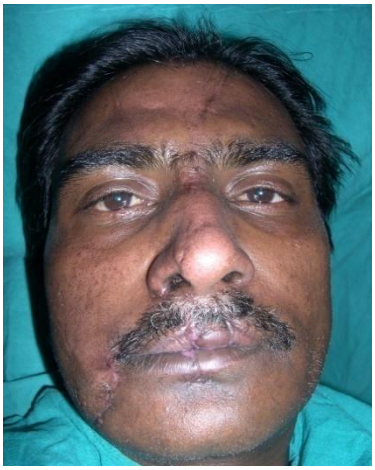

FIG. V Post-op result

DISCUSSION

The aim of the lip reconstruction is to maintain functional and esthetic role of the lips which includes the symmetry, normal anatomy, normal oral commisure and continuity of white roll. Lips cannot be matched by the distant flaps due to their color, texture and elasticity therefore, it is always advisable to use local flaps for better results [(4)]. Primary closure can be achieved when the defect of the lip is approximately one fourth to one-third where as in cases involving two thirds of the lip, they should be managed by local flaps [(5).] In these cases, Abbes' flap, Karapandzic flap, nasolabial flap and their modifications can be used.

The choice of method depends on the extent of the defect. Cases with larger defects where more than two third of the lip is involved posses a major challenge to the surgeon[(6)]. If the size of the defect is up to 70-80% of the lip, it can usually be repaired by decreasing the defect size and then using the other lip. In case of larger defects additional tissue is required. When the lip reconstruction is performed by a lip tissue, it is esthetic as it replaces the lost lip with the same quality of tissue and also has some senses of neurotization so it will give a natural appearance during conversation and at rest[(7)].

The Abbe's flap is a full thickness flap which has its base on the labial artery. It is an excellent option for philtral reconstructions. Abbe's flap gives a normal commisure as it uses lip switch technique[(8)]. It has a distinct advantage of providing tightening of the donor lip.

In our cases, the extent of upper lip defect was approximately involving more than 2/3rd of the upper lip. Abbe's flap again proved itself to be the workhorse of lip reconstruction options. The success of this flap can be attributed to the rich vascularity and therefore, its use is highly recommended.

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