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RECONSTRUCTION OF TOTAL OR NEAR-TOTAL LOWER LIP: SINGLE CENTRE STUDY

Parveen Mendiratta	Mch resident, Surgical Oncology, Gujarat Cancer Research Institute, Ahmedabad.
Ramesh Kumar	Mch resident, Surgical Oncology, Gujarat Cancer Research Institute, Ahmedabad.
Amit Kumar	Mch resident, Surgical Oncology, Gujarat Cancer Research Institute, Ahmedabad.
Vikas Warikoo	Associate Professor, Surgical Oncology, Gujarat Cancer Research Institute, Ahmedabad.
Shashank Pandya	Professor and Head of department, Surgical Oncology, Gujarat Cancer Research Institute, Ahmedabad.

ABSTRACT

There are lots of reconstruction options for lower lip defect, but if defect is either total or near-total then it pauses a challenge to oncosurgeon as well as plastic surgeon. The aim of present study is to discuss the selection of techniques and their outcomes for total or near-total lower lip reconstruction. In a period of 2 years from September 2014 to September 2016, a total of 20 patients underwent total or near-total lower lip reconstruction. 5 patients underwent bilateral Naso-labial flap, while unilateral Naso-Labial flap were used in 10 patients. 5 patients underwent Karapandzic flap. We observed patients for drooling, aesthetic outcome and oral competency. There was no flap necrosis or failure. Out of 5 Karapandzic flap, 3 patients developed microstomia and 1 patient had wound dehiscence. 3 patients presented with drooling of saliva in Naso-Labial flap categories (2 in bilateral and 1 in unilateral). Aesthetic results were satisfactory in Naso-Labial flap as compared with Karapandzic flap. Based on our experience we recommend Bilateral or unilateral Naso-Labial flap instead of Karapandzic flap for total or near-total lower lip reconstruction.

KEYWORDS lower lip, Naso-Labial, Karapandzic.

Introduction: There are lots of reconstruction options for lower lip defect, but if defect is either total or near-total then it pauses a challenge to oncosurgeon as well as plastic surgeon. The lips are the dynamic center of the lower third of the face. Their role in aesthetic balance, facial expression, speech, and deglutination is not replicated by any other tissue substitute. Various techniques has been described in literature, but the choice depends on the extent of the defect in addition to the expertise of the surgeon in the procedure. The local flaps that are used for extensive lower lip defects (near-total or total) are mainly the Gillies fan flap, Karapandzic flap, McGregor and Nakajima flap, and the Webster-Bernard flap[1,2]. Nasolabial flaps and their modifications have also been used for this purpose[3]. In our study we used Nasolabial flaps and Karapandzic flap for lower lip defect reconstruction.

Aim and Objectives: The aim of present study is to discuss the selection of techniques and their outcomes for total or near-total lower lip reconstruction. The ultimate aim is to achieve a balance between adequate mouth opening and competent mouth closure that is functional and aesthetic outcome.

Material and Methods: In a period of 2 years from September 2014 to September 2016, a total of 20 patients underwent total or near-total lower lip reconstruction. All patients were operated for squamous cell carcinoma of lower lip which was proved on punch biopsy. All patients were T3/T4 lesion and tumor resection with lip defects of 70-100%.

Results: All patients tolerated the procedure well. All patients regained normal speech and diet after operation. Age groups of patients were ranged from 39 years to 75 years. Majorities of the patients were male. Out of 20 patients, 5 patients underwent bilateral Nasolabial flap, while unilateral Nasolabial flap were used in 10 patients and 5 patients underwent Karapandzic flap. We observed patients for drooling, aesthetic outcome and oral competency.

Table no 1: showing type of procedures

PROCEDURE	NUMBER OF PATIENTS
Nasolabial-unilateral flap	5
Nasolabial-bilateral flap	10
Karapandzic flap	5
Total	20

Out of 5 Karapandzic flap, 3 patients developed microstomia and 1 patient had wound dehiscence. 3 patients presented with drooling of saliva in Nasolabial flap categories (2 in bilateral and 1 in unilateral). Aesthetic results were satisfactory in Nasolabial flap as compared with Karapandzic flap. Out of 20 patients 5 patients underwent postoperative radiotherapy 66-70 Gy in divided doses and 2 patients underwent concurrent chemoradiotheray in the form of paclitaxel and carboplatin. All patients are on regular follow up and doing well.

Table no 2 showing complications.

PROCEDURE	MICROSTOMIA	WOUND DEHISCENCE	FLAP NECROSIS	DROOLING OF SALIVA
Nasolabial-unilateral flap	-	-	-	1
Nasolabial-bilateral flap	-	-	-	2
Karapandzic flap	3	1	-	-

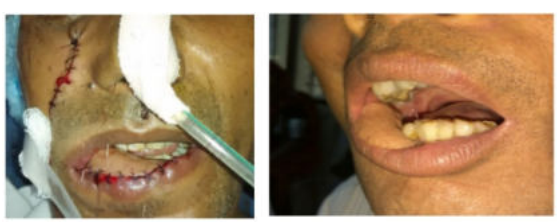

Figure 1: Unilateral nasolabial flap and patient after 6 months

follow up

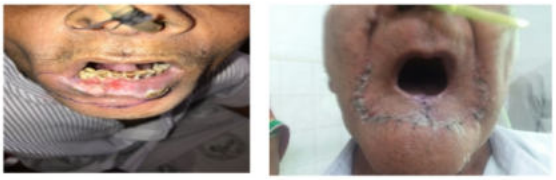

Figure 2: defect closure with Karapandzic flap

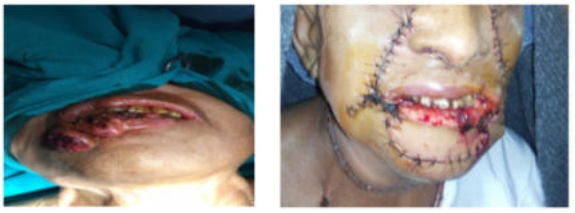

Figure 3: lower lip defect closure with bilateral nasolabial flap.

Discussion: The goals of lip reconstruction are both functional and aesthetic[4,5]. The aesthetic goals of lip reconstruction are to provide adequate replacement of external skin while maintaining the aesthetic balance of the vermilio-cutaneous junction and lip aesthetic units. The functional goals of lip reconstruction are to maintain intraoral mucosal lining and to preserve the surface area of the oral aperture. The competence of the orbicularis muscle sphincter must also be maintained, as this is critical to achieving a functional recovery. Ideally, cutaneous sensation is preserved or reestablished to provide proprioceptive feedback for speech, animation, and management of secretions.

Local flaps are the mainstays for reconstruction of lip defects, although free flaps may also be used for more extensive defects. The Karapandzic flap can achieve a functional lip with preserved sensation and competence, but reconstruction of large defects inevitably results in microstomia, necessitating secondary commissuroplasty[6]. The McGregor and Nakajima flaps pivot around the commissure, thus maintaining intercommissure distance, but new vermillion is required and muscle fibre direction is altered. The Webster-Bernard procedure using cheek advancement flaps can produce good lip reconstruction but involves a large amount of perioral tissue loss, resulting in a tight lower lip and significant perioral scarring with contour deformity. Nasolabial flaps either unilateral or bilateral used for reconstruction provide excellent vascularity and good aesthetic outcome[3]. In Bilateral Nasolabial flap, both side of islands are used in sandwich-like manner, providing both the inner and outer lining of lower lip as well as achieving good lower lip vertical height and thickness. The two Nasolabial flaps align each other and provide good aesthetic outcome.

Conclusion: As the procedure is single staged, speech and competency is maintained, mouth opening is adequate, no showing of teeth, good lower lip vertical height, minimal morbidity, minimal scarring, excellent vermillon quality and good functional outcome, so we recommend Bilateral or unilateral Nasolabial flap instead of Karapandzic flap for total or near-total lower lip reconstruction.

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