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Lower lip reconstruction with nasolabial flap: A case report

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Abstract
Cancer of lower lip is the most common malignant tumour affecting head and neck. Reconstruction of lower lip is a challenging task for the surgeons in view of functional and cosmetic reasons. Nasolabial flap is a local (random) pedicled flap with excellent vascularity and good option for lower lip reconstruction with excellent cosmetic and functional outcome without causing much morbidity to the donor site.

Keywords: nasolabial flap, squamous cell carcinoma, pedicled flap

Introduction
Head and neck cancers are one of the most common cancers worldwide. With 77,000 cases diagnosed per year. Head and neck cancers are the second most common cancer in the Indian population [1].
Cancer of lower lip is the most common malignant tumour affecting head and neck [2]. Lower lip is the preferred location for squamous cell carcinoma mainly due to UV exposure. Other predisposing factors include tobacco use, HPV infection and immunosuppression [3].
There are many techniques for lip repair which have evolved since 19th century. Choice of flap for reconstructing defect depends on site and size of lesion. Flaps like karapandzic flap, Gillies fan flap, Webster flap and free flaps are available.
We have used Nasolabial flap, an under recognized option for the reconstruction of the lower lip.

Case report
A 45yr old male with history of hypothyroidism and hypertension since 10 yrs presented with a non-healing ulceroproliferative lesion from 3 months measuring 3.5 x 1.5 cm involving lower lip extending from left of midline medially to just short of oral commissure laterally. On inner surface of lower lip, it is 2 cm away from gingivolabial sulcus and externally involve skin for 5 mm, uprolled edges with slough present at floor, induration present over base and margins (fig 1) there were no palpable neck nodes (cT3N0MX).
Punch biopsy confirmed moderately differentiated squamous cell carcinoma.
Cect scan neck and chest report showed homogenously enhancing irregular marginated soft tissue thickening measuring approx. 3.8 x1 cm on left side of lower lip with a focal skin ulceration. The underlying mandibular bone appears intact.
Multiple subcentimetric submental, bilateral submandibular, level 2,3,5 and right level 4 lymph nodes are noted (non-specific).
No abnormal mass or abnormality seen in bilateral lung fields.
Patient planned for wide local excision with supraomohyoid neck dissection (facial artery ligation) with nasolabial flap used for reconstruction.
Wide local excision with safe 1.5 cm free margins of primary tumour done which resulted in 50 percent of lower lip defect involving left oral commissure (fig 2). We designed an inferiorly based nasolabial flap following nasolabial crease of 6x3.5 cm. It was raised above superficial musculoaponeurotic system from top to bottom and transposed transversely to reconstruct the defect. Donor site was closed primarily and flap was sutured (fig 3). We kept the inner surface of flap bare to granulate and mucosalize.
In Post op period, patient was given nasogastric tube feeding for 15 days followed by oral feeds, first on clear fluids, then subsequently on semi solids food with good oral rinses till flap inner surface get mucosalize.
Sutures were removed on 8th day and patient was discharged (fig 4) Patient was followed after 15 day, 1 month and 2 month. (Fig 5 & 6)
Final Histopathology report was GI p T2N2BMX LVI – PNI -, therefore patient referred for chemoradiotherapy.

Fig 1: Preoperative Photo of patient showing ulceroproliferative growth involving lower lip.

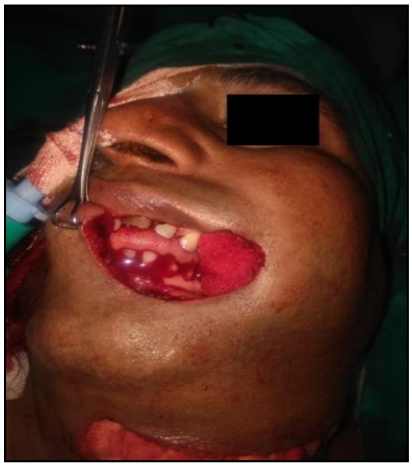

Fig 2: Intraoperative photo showing defect (50 percent of lower lip along with oral commissure) after wide local excision of primary tumour.

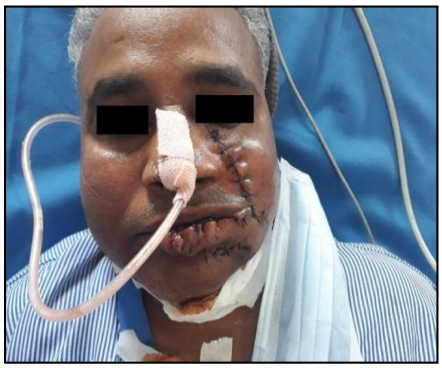

Fig 3: Immediate post-operative photo of patient with reconstruction of lower lip with nasolabial flap.

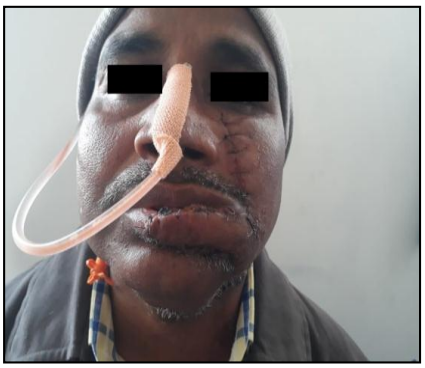

Fig 4: postoperative pic (10th day) after suture removal.

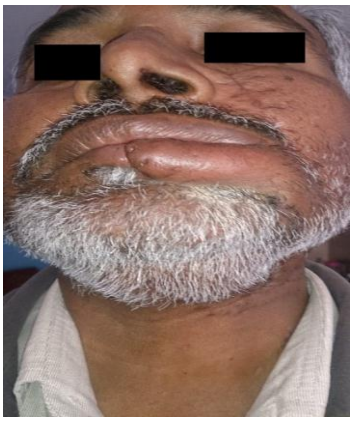

Fig 5: Postoperative pic (1 month) showing excellent cosmetic outcome (external part of flap)

Fig 6: postoperative pic (1 month) showing well mucosalized inner part of flap with good oral commissure formation.

Discussion

The versatility and usefulness of the nasolabial flap is a well-known [4]. Flap has a good vascular supply hence survival is high. An abundant blood supply allows for a length to breadth ratio of 3:1. Flap is good for small and intermediate (T1 to T3) intraoral defects [5]. The fact that this flap withstands radiotherapy signifies its excellent vascularity.

It is flap which is easy to learn as compared to free flaps which need a much more time to expertise.

Possible post reconstruction complication can be flap necrosis due to haematoma, infection or tension on the suture line, where further surgery may be required [6].

Furthermore especially in men, if a flap is taken from hair bearing skin to reconstruct a surgical defect, then the area of tissue will continue to grow hair, this can be prevented by outlining the flap [7].

Conclusion

The nasolabial flap constitutes a simple, effective, easy to learn and safe alternative for repairing intermediate defects of lower lip. The procedure can be performed with minimal complication in post irradiated patients.

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