

## Nasolabial flap used in management of oral submucous fibrosis: A case-report

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### Introduction

Oral submucous fibrosis is an insidious, chronic, disabling disease of unknown etiology that affects the whole of oral cavity, pharynx and sometimes larynx.<sup>(1)</sup> Schwartz coined the term “atrophica idiopathica mucosa oris” to describe oral fibrosing disease.<sup>(2)</sup> Later the term “oral submucous fibrosis” was coined by Joshi.<sup>(3)</sup> It is characterized by stiffening and blanching of the oral mucosa, which causes progressive limitation of mouth opening and burning sensation on taking hot and spicy food. It is always associated with juxta-epithelial inflammatory reaction followed by fibroelastic changes of the lamina propria with epithelial atrophy leading to stiffness of the oral mucosa.<sup>(4)</sup> It is an established precancerous condition with increased number of cases in Indian population and is widely common in all age groups and across all the socioeconomic strata in India. Most of the patients report with malignant transformation as a slow growing Squamous cell carcinoma which is a serious threat to the patient.<sup>(5)</sup>

The etiology is still unclear and hence there is no definitive treatment. The treatment aims to achieve proper mouth opening, relieve the burning mouth symptoms and prevent the condition from transforming into cancer.

Surgical treatment releases the fibrous bands followed by placement of grafts to reconstruct the defect so as to prevent the relapse. Split skin grafts are not preferred. A mucosal graft is one of the ideal graft for Oral submucous fibrosis.<sup>(6)</sup> Various soft tissue local flaps that are used for reconstruction after surgical excision of fibrous bands in Oral submucous fibrosis are buccal fat pad, tongue flaps, and island palatal flaps etc.

Out of all the grafts, Nasolabial flap is a versatile, reliable, relapse free and economic option for the patients.<sup>(7)</sup> It is raised from the tip of nasolabial fold to the inferior border of mandible in the plane of superficial aponeurotic system. The nasolabial flap is an axial pattern local flap and is based on angular artery branch of facial artery. The best advantage of nasolabial flap is its close proximity to the defect, easy closure and that it can be rotated superiorly as well as inferiorly. Dieffenbach rotated a nasolabial flap superiorly for the first time in 1830 to reconstruct nasal alae. Nose was reconstructed for the first time using nasolabial flap by Von Langenback.<sup>(8)</sup> Inferiorly based nasolabial flap is

more of a reliable option for management of Oral Submucous Fibrosis. It was first stated by Esser in 1921 to close the palatal fistulae.<sup>(7)</sup>

### Case Report

A 28years old male reported in Vyas Dental College and Hospital, Jodhpur with complaint of restricted mouth opening since 4-5years, and burning sensation in the mucosa of mouth. Interincisal mouth opening was recorded 10mm. fibrotic bands were palpated in the buccal mucosa and labial mucosa. Patient was informed about it being a premalignant condition and the importance of surgery in the treatment of the lesion.

Nasolabial flap was planned for surgical mouth opening. Incisional biopsy after surgical mouth opening was done to rule out malignant changes. Nasolabial flaps from the tip of nasolabial fold to mouth corner were raised bilaterally in the superficial aponeurotic plane after marking. The flap was transposed intraorally through a small transbuccal tunnel near the mouth opening. The caudal base of the flap was inferiorly based and was deepithelized in a triangle shape according to the length of transbuccal tunnel. Transbuccal tunnel was covered by the flap. The extraoral defect was closed primarily in layers to prevent tension across the incision line.

Patient was advised mouth-opening exercises from the 5<sup>th</sup> postoperative day to prevent relapse of trismus. Even 5months postoperatively the mouth opening of 35mm was recorded with no evidence of relapse and excellent healing of the extraoral as well as intraoral defect.



**Fig. 1: Interincisal opening of 10mm recorded preoperatively**



**Fig. 2: Raising of nasolabial flap**



**Fig. 3: Transpositioning of nasolabial flap through transbuccal tunnel**



**Fig. 4: Postoperative image - Closure achieved with scar**



**Fig. 5: Mouth opening achieved adequately**



**Fig. 6: Adequate mouth opening achieved postoperatively**

**Discussion**

Oral submucous fibrosis in most of the cases is an unsatisfactorily treated disease and the treatment is mainly symptomatic because of no clear etiology known.<sup>(9)</sup> Conservative treatment includes cessation of chewing of areca nut, gutka etc. followed by vitamins, iron supplements, intralesional injections of placental extracts, steroids and hyaluronidase. Medical treatment is indicated at an early stage but mostly patients approach for medical help in moderate or severe form of the disease.<sup>(10)</sup> In some cases, submucosal injections have produced symptomatic relief which is temporary in most of the cases.<sup>(7)</sup>

Surgery comprises of excision of the fibrous bands and split thickness skin grafting which has high recurrence due to contracture and higher failure rates<sup>(6)</sup> as fibrotic areas have less vascular supply. Khanna et al threw some light on the limitations of the use of island palatal flaps based on greater palatine artery as a limited donor tissue with limited reach of the flap and the need for extraction of maxillary second molars to cover the defect. The stability of tongue flaps are not certain and cause dysphagia in patients.<sup>(11)</sup> Tongue flaps also have the disadvantage of being bulky and when

used bilaterally results in disarticulation and increased cases of tongue aspiration.<sup>(12)</sup>

Buccal fat pad are easily accessible but undergo severe atrophy in chronic patients. Moreover, the raw area left anterior to cuspids, where buccal fat pad is inadequate, heals by secondary intention and undergoes fibrosis leading to relapse of trismus.<sup>(13)</sup> Bilateral radial forearm have a drawback of being hairy.<sup>(14)</sup> Temporal myotomy or coronoidectomy was recommended by Canniff and Harvey<sup>(15)</sup> to release severe trismus. Use of bilateral bipaddled radial forearm flaps for reconstruction of buccal flaps is also technique-sensitive and time-consuming.

The nasolabial flap being easily accessible and modifiable can be used to reconstruct large defects intraorally. Only complication is resultant intraoral hair growth and loss of nasomaxillary crease. Another minor complication of nasolabial flap is creation of a bulky flap.<sup>(16)</sup> Still the results in the management of Oral Submucous Fibrosis - induced trismus are brilliant.<sup>(7,16,17)</sup> In our case also, the patient was satisfied with the treatment other than the minor problem of surgical scar which got camouflaged with beard after few days.

### Conclusion

Nasolabial flap is one of the easily accessible, versatile and relapse-free flap used to treat Oral Submucous Fibrosis induced trismus and reconstruct large defects resulting from excision of fibrous bands in Oral Submucous fibrosis.

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