

Surgical Management of Oral Submucous Fibrosis with Reconstruction Using Tongue Flap

Abstract:

This is a case report of successful surgical management of a 25-year-old male patient diagnosed with moderately advanced oral submucous fibrosis (OSMF). The patient presented with chief complaints of reduced mouth opening and a history of gutka chewing for seven years. Clinical examination revealed a decreased mouth opening, palpable fibrous bands in the buccal mucosa, and reduced elasticity bilaterally. Following a diagnosis of grade III OSMF, the patient underwent surgical treatment with grafting using a tongue flap, with the additional recommendation to quit tobacco chewing. Under general anesthesia, fibrous bands were excised from the buccal mucosa, and a tongue flap was raised to fill the resulting mucosal defect. Closure was achieved using sutures, and a buccal fat pad was utilized to close the mucosal defect on the opposite side. Follow-up evaluations demonstrated stable mouth opening, along with satisfactory healing and absence of complications. This case highlights the effectiveness of surgical intervention, particularly the use of tongue flap grafting, in achieving favorable outcomes for OSMF management, underscoring its role as a valuable treatment modality in cases of advanced OSMF.

Key-words: Tongue flap, Grade III OSMF, Buccal fat pad, OSMF management.

Introduction:

Oral submucous fibrosis is an insidious chronic disease affecting various part of the oral cavity quite often extend to pharynx, characterized by formation of vesicles along with juxta-epithelial inflammatory reaction and fibroelastic changes in lamina propria with atrophy leading to stiffness of oral mucosa, formation of fibrotic bands in cheek leading to trismus, burning sensation of oral mucosa and inability to eat hot and spicy food.[1,2]

The first mention of this disease in literature dates back to the time of "Sushruta" as "Vidari" in India. Later Schwartz in 1952 first described it as 'atrophica idiopathica mucosae oris'. The disease shows a high predisposition in the population of south east Asia with high risk of malignant transformation i.e. 3-7.6%.[2,3,4]

Pindborg et al classified OSMF in 1966 on basis of histological findings as very early stage, early stage, moderately advanced stage and advanced stage. Whereas Mathur et al graded OSMF as grade I (incipient stage), grade II (mild stage), grade III (moderate stage), grade IV (severe stage)[5,6]

Khanna and Andrade classified OSMF in 1995 based on both clinical and histopathological findings as grade I (very early cases), grade II (early cases), grade III (moderately advanced cases), grade IV-A (advanced cases), grade IV-B (advanced cases with malignant changes).[5,6]

¹SOBIA AFREEN, ²RASHMI AGARWAL,

³SONU YADAV

¹⁻²Babu Banarasi Das College of Dental Sciences, Lucknow

³Private Practitioner

Address for Correspondence: Dr. Sobia Afreen

Senior Lecturer

Babu Banarasi Das College of Dental Sciences, Lucknow

Email: docafreen90@gmail.com

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The treatment of OSMF can be grouped; into as non surgical and surgical treatment .

Amongst surgical management the various modalities include surgical excision of fibrous band without grafting and surgical excision with grafting. Various grafts that can be employed are buccal fat pad, tongueflap, temporalis muscle flap, split skin, nasolabial fold flap and palatal island flap each of which have their own advantages and disadvantages.[7]

Case report:

A twenty five year old male patient came to a private hospital with chief complaint of reduced mouth opening. Patient gave the history of chewing gutka since seven years and had no relevant medical history.

On examination the patient presented with decreased mouth opening measuring about 15mm inter incisal distance, palpable fibrous band in the buccal mucosa, reduced elasticity of buccal mucosa on both right and left side. The patient was diagnosed as moderately advanced grade III OSMF case and was advised surgical treatment with grafting using tongue flap and counselled to quit the habit of tobacco chewing.

All necessary blood investigations and viral markers were done. Patient was taken under general anesthesia. The fibrous bands in the buccal mucosa were palpated and incised with BP blade no. 15 from the angle of mouth uptill the retromolar region at the occlusal level. Heister was used to achieve a mouth opening of 30 mm intraoperatively. After this a flap was designed on the lateral tongue area of adequate length and width in order to fill the defect caused by removal of fibrous band on the buccal mucosa. The incision was given along the margins of the marked flap upto the connective tissue making sure of the intact base of flap. Blunt dissection was done and the flap was raised and used to fill the mucosal defect without tension following this 4-0 vicryl suture was used to suture the flap to the margins of the mucosal defect. Later the epithelium of the donor site of the tongue was undermined and closure was done using 4-0 vicryl.[8]

On the opposite site the mucosal defect of the buccal mucosa was closed using a buccal fat pad followed by placing pressure dressing of chlorehexidine to ensure close adaptation of flap to the mucosal defect. Ryle's tube was placed for feeding during the healing period which was approximately 15 dyas. GA revesal drug was given, Patient was extubated and patient was shifted to post operative ward for further care.

Post operative mouth opening excercises were advised to the patient. Followup was done uptil 6 months for mouth opening, pain, swelling, infection and acceptable outcome was obtained with acceptable postoperative mouth opening of around 29mm at 6months followup.

Discussion :

As defined by khanna and Andrade OSMF is a chronic progressive premalignant condition with juxta epithelial deposition of fibrotic tissue followed by muscular degeneration and limitation in mouth opening. There are mainly two modalities of treatment of OMFS first that is through non surgical methods and secondly surgical method involving surgical excision of the fibrous bands from the buccal mucosa with or without grafting. Medical management of OSMF can be done in early cases but in advanced cases surgical removal of the fibrous bands becomes inevitable. Various modalities of surgical intervention include fibrotomy, laser surgery, excision of fibrous band along with coronoidectomy and soft tissue grafting.

The use of tongue flap following fibrous band excision is one such technique where transfer of a portion of healthy tissue from the tongue to reconstruct the mucosal defect in the buccal mucosa is done thereby ensuring increased mouth opening. Other than this tongue flap can also be used in reconstruction of defects of lip, cheeks, floor, palate and closure of large fistula[9]

In our case a stable mouth opening with inter incisal distance of 29 mm was achieved within 6 month follow-up. There was no relapse seen and the patent felt no pain after 4th week. The swelling decreased significantly on the 2nd day post operatively and subsided completely after 4th week, our findings were consistent with findings of Ramadass et al^[8]

There was no instance of infection at the donor site or at the recipient site, and both the surgical sites healed uneventfully, Vasishta. S et al also found the same result in their study [9]

As mentioned by Ceran et al tongue flap has an advantage of providing excellent source of mucosal lining for reconstruction, having close relation to the intraoral structure and having similar color and texture match to other intraoral tissue while having no complication , Despite the advantage, tongue flap is bulky and it can cause dysphagia if used on both the sides along with disarticulation, and risk of postoperative aspiration and it requires two stage surgeries.[10,]

Conclusion :

OSMF is the mostly prevalent in individuals habituated to use of tobacco and areca nut. Severe case involving grade III stages require surgical intervention for treatment. Soft tissue flap can be used for mucosal defect repair. Tongue flap has proved to be versatile flap for reconstruction of the defect created after excision of fibrous band thereby achieving stable mouth opening without any complications or relapse.

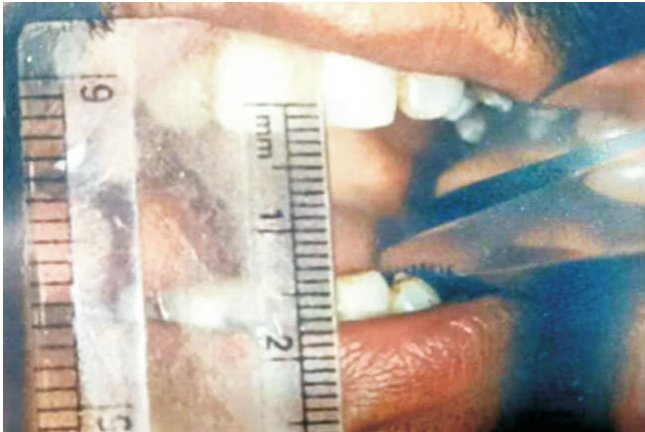


Figure 1: Pre- Op Mouth Opening



Figure 2: Resection of Fibrous Band



Figure 3: Raising Tongue Fla



Figure 4: Suturing Of Tongue Flap

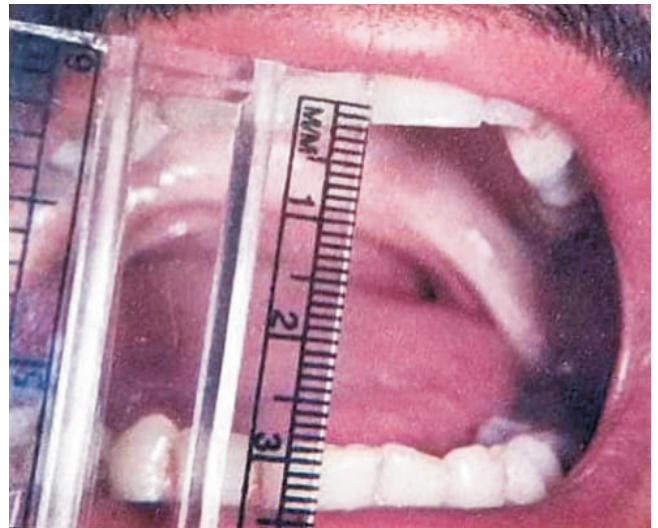


Figure 5: 6 month Follow U

References:

1. Rajendran R. Oral submucous fibrosis: Etiology, pathogenesis, and future research. *Bull World Health Organ.* 1994;72:985–96. [PMC free article] [PubMed] [Google Scholar]
2. Gupta MK, Mhaske S, Ragavendra S, Imtiyaz N. Review article: Oral submucous fibrosis-Current concepts in etiopathogenesis. *People's J Sci Res.* 2008;40:39–44. [Google Scholar]
3. Rajendran R. Oral submucous fibrosis. *J Oral Maxillofac Pathol.* 2003;7:1–4. [PMC free article] [PubMed] [Google Scholar] Retracted
4. Pundir S, Saxena S, Aggrawal P. Oral submucous fibrosis: A disease with malignant potential-Report of two cases. *J Clin Exp Dent.* 2010;2: e215–8. [Google Scholar]

5. Rangnathan K, Gauri Mishra. An overview of classification schemes for oral submucous fibrosis. *Journal of Oral and Maxillofacial Pathology*, 2006 Jul-Dec;10(2):55-58
6. More, C., Gupta, S., Joshi, J., & Verma, S. N. (2012). Classification System for Oral Submucous Fibrosis. *Indian Academy of Oral Medicine and Radiology*, 24(1), 24-29.
7. Kamath VV. Surgical Interventions in Oral Submucous Fibrosis: A Systematic Analysis of the Literature. *J Maxillofac Oral Surg*. 2015 Sep;14(3):521-31. doi: 10.1007/s12663-014-0639-3. Epub 2014 Dec 25. PMID: 26225039; PMCID: PMC4 510093.
8. Ramadass T, Manokaran G, Pushpala SM, Narayanan N, Kulkarni GN. Oral submucous fibrosis-New dimensions in surgery. *Indian J Otolaryngol Head Neck Surg*. 2005 Apr;57(2):99-102. doi: 10.1007/BF02907659. PMID: 23120141; PMCID: PMC3450968.
9. Vasishta S, Krishnan G, Rai Y, Desai A. The Versatility of the Tongue Flap in the Closure of Palatal Fistula. *Craniofac Trauma Reconstr*. 2012;05(03):14560.
10. Ceran C, Demirseren M, Sarici M, Durgun M, Tekin F. Tongue Flap as a Reconstructive Option in Intraoral Defects. *J Craniofac Surg*. 2013;24(3):972-74.