

Bilateral Nasolabial Flap for Reconstruction in OSMF Patient: A Case Report

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Abstract

Pindborg defined oral submucous fibrosis (OSMF) as 'an insidious chronic disease affecting any part of the oral cavity and sometimes the pharynx, it is always associated with juxta-epithelial inflammatory reaction, followed by a fibroblastic change in the lamina propria, with epithelial atrophy, leading to stiffness of the oral mucosa and causing trismus. It is a severe disease which may cause restriction of mouth opening and may lead to dysplastic changes and even progress to malignancy. Hence, early management of this condition along with reconstruction remains the mainstay of the treatment.

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I. Introduction

OSMF or Oral Submucous fibrosis (Joshi, 1953) has been called by a variety of names which include 'Atropica idiopathica mucosae oris' (term coined by Schwartz in 1952), 'diffuse oral submucous fibrosis', 'idiopathic scleroderma of the mouth', 'idiopathic palatal fibrosis' and 'sclerosing stomatitis'¹. In 1956, Pindborg defined oral submucous fibrosis (OSMF) as 'an insidious chronic disease affecting any part of the oral cavity and sometimes the pharynx, it is always associated with juxta-epithelial inflammatory reaction, followed by a fibroblastic change in the lamina propria, with epithelial atrophy, leading to stiffness of the oral mucosa and causing trismus'². Many modalities have been described for the treatment of this condition (according to the grades of the disease) of which Surgical treatment remains the major focus or mainstay. The surgical treatment includes Excision of the fibrotic bands (fibrotomy), Coronoidectomy and reconstruction with local or regional flaps which include Buccal fat pad, Nasolabial flap, Platysma myocutaneous flap etc. Here, we describe a case of bilateral OSMF occurring in a 28 year old male and its reconstruction intraoperatively with Bilateral Nasolabial flap.

II. Case Report

A 28 year old male patient reported to the department of Oral and Maxillofacial Surgery with a chief complaint of inability to open his mouth wide which gradually worsened since 1 year. The patient gave history of a heavy use of areca nut chewing since 15 years, around 10 packets per day divided throughout the day. There was no relevant medical, family or personal history.

On examination, preoperative mouth opening was 16 mm and fibrotic bands were palpable from the corner of mouth till the faucial pillars bilaterally alongwith fixity of the uvula. According to these findings, we diagnosed the condition as "Group III OSMF" (according to the classification of Khanna JN and Andrade NN,1995) and a plan to treat this condition by bilateral fibrotomy and coronoidectomy followed by

reconstruction with bilateral nasolabial flaps. All preoperative investigations were performed and after getting the anaesthetic clearance, the surgery was planned under general anaesthesia.

SURGICAL TECHNIQUE

Induction with general anaesthesia was done followed by nasotracheal intubation using fiberoptic bronchoscope. Pre-operative inter-incisal distance recorded was 16 mm. Local anaesthesia (Lignocaine) mixed with adrenaline (1:2,00,000) was administered at the surgical site. An intra-oral incision was given 1 cm posterior to the corner of mouth extending up to the faucial pillars. Care was taken to place the incision below the level of Parotid duct. Bilateral release of fibrous bands was performed with the help of surgical blade and cautery. Extraction of third molars in all quadrants were done to increase the mouth opening. Bilateral coronoidectomy was performed and an intraoperative opening of 40 mm was achieved.

Bilateral Nasolabial flap were outlined slightly lateral to the nasolabial fold extending from the alar-facial groove to the lower border of mandible. The average length of the flap was 7–9 cm while width was 2.5–4cm. The flap was raised in a supra-muscular plane as an axial flap. The flap was raised in a superior to inferior direction leaving a 1.5-2 cm soft tissue pedicle at corner of the mouth. A medial tunnel was then prepared and the flap was rotated and sutured it into the fibrotomy defect using vicryl resorbable sutures. After thorough irrigation, haemostasis was achieved and the donor site was carefully closed layerwise.



Fig 1 and 2 : Pre-operative photographs of the patient showing no extraoral findings and mouth opening of 16mm.



Fig 3 and 4 : Post operative(1 year after the surgery) photographs

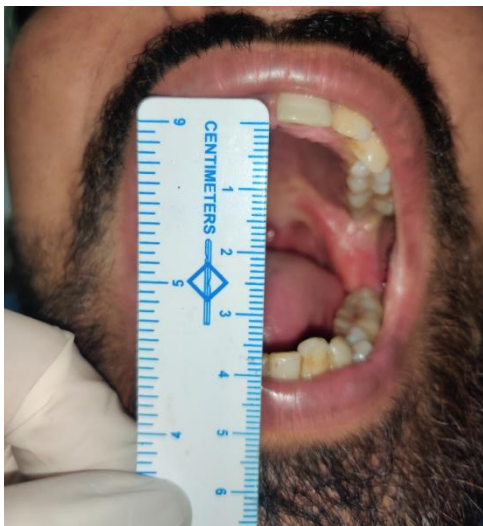


Fig 5 : Adequate mouth opening after 1 year follow-up

III. Discussion

Pindborg defined Oral submucous fibrosis in 1966 as ‘an insidious, chronic disease that affects any part of oral cavity and sometimes pharynx. It is associated with a juxtaepithelial inflammatory reaction which is followed by fibroelastic change of lamina propria and epithelial atrophy leading to stiffness of oral mucosa, causing trismus and difficulty in food intake’.

The incidence of OSMF in India ranges from 1.2 to 4.6% in females and 0.2 to 2.3% in males. [1,2] It is seen among a wide age range of 10 to 60 years. The etiology of OSMF has been thought to be multifactorial but areca nut chewing is considered as the main agent.¹² Other risk factors include smokeless tobacco, high level of copper in food, vitamin deficiencies, excessive chilli intake, malnutrition and genetic predisposition. The signs and symptoms of this condition include burning sensation in the concerned areas progressing to the entire oral cavity, pain, ulceration, progressive restriction in mouth opening, blanching of mucosa, depapillation of tongue and loss of pigmentation.⁹ In advance cases, difficulty in swallowing, disarticulation and hearing impairment due to occlusion of eustachian tube may be seen.³⁻⁵ Oral submucous fibrosis is also considered a precancerous condition causing atrophy of oral mucosa making it vulnerable to action of carcinogens, eventually leading to carcinoma.^{3,4}

Khanna and Andrade in 1995, classified patients of OSMF into various groups in which the clinical(mouth opening) and histopathological variables were taken into account. Along with other variables they classified the patients on the basis of mouth opening. Group-1 (very early) cases in which there were no reduction of mouth opening. Group-2 (Early) cases where the patients had interincisal openings of 26-35 mm. In Group-3 (Moderately advanced) cases, trismus was evident with an interincisal opening of 15-25mm and Group-4 (4a and 4b – Advanced) cases had a mouth opening of 2-15mm.¹¹

In our case, the patient was a known tobacco chewer since his childhood and was graded as Group-3 OSMF. Various methods of treatment have been adopted for treatment of OSMF such as medicinal treatment and surgical approaches. Medical management is seen to be effective in the management of Grade I and II OSMF and severe cases are managed by surgical intervention.⁷⁻¹⁰ Karemore and Motwani in their study concluded that ingestion of 8g QID of lycopene for 3 months was effective in reducing the burning mouth and improved the mouth opening in Grade I OSMF patients⁴. Hazarey et al demonstrated that sucking 2g QID of Curcumin lozenges alongwith physiotherapy for three months showed significant improvement in both mouth opening and alleviating the burning sensation. Goel et al. concluded that 4mg/ml injections two times a week(biweekly) of Betamethasone diluted in 1.0ml of 2% xylocaine for 6 months in buccal mucosa bilaterally using a short syringe(insulin syringe), with half a dose on each side showed significant improvement in mouth opening and reduction in burning sensation in stage II and stage III OSMF.⁴

Surgical management is the only option available for advanced stages of OSMF. Various interpositional materials have been used with different results for the coverage of intraoral raw defect created after fibrosis release. These include local flaps, such as the Buccal fat pad, tongue flaps , platysma flap , nasolabial flap and distant flaps, which include split skin graft, free radial artery forearm flap, collagen, and amniotic membrane.

Due to its dual blood supply, Nasolabial flap is the most commonly used flap and assures successful take up post-surgery. Also, harvesting the flap is simple and its proximity to the defect makes it a reliable tool for reconstruction of defects in the oral cavity. The dimensions of nasolabial flap are also adequate to cover the

defect fully. The best part is that the post-operative scars are hidden in the nasolabial folds thus it becomes aesthetically acceptable.^[3,4,5] Due to its advantages over the other flaps and the patient preference, the same flap was selected for reconstruction after the fibrotomy defect.

IV. Conclusion

There are a wide range of surgical options available for the reconstruction after the fibrotomy defect inside the oral cavity but the Nasolabial flap has withstand the dunes of time and is considered one of the most versatile flaps for the oral cavity. As the case reveals a patient who is 24 year old the prime concern was esthetics alongwith the function and hence nasolabial flap was the easiest solution to the problem. Even after a followup of 2 years, the patient is morbidity free , satisfied with the post operative mouth opening and essentially the outcome.

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