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Oral Submucous Fibrosis – Management of Two Cases

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ABSTRACT

Oral submucous fibrosis is a potentially malignant disorder with increased potential for malignant transformation. Major etiological factor for causation of OSMF is betel quid and gutka chewing habit. Patient with OSMF usually complains of burning sensation in the oral cavity and progressive difficulty in opening the mouth. Several management strategies have been tried in the treatment of OSMF and steroids are usually the mainstay of treatment for OSMF. These case reports portray the etiology, clinical features and management of these cases.

Keywords: Oral submucous fibrosis (OSMF), Steroids, Blanching, Mouth opening

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INTRODUCTION

Oral submucous fibrosis (OSMF) is a chronic debilitating and a well recognized potentially malignant condition of oral cavity associated with arecanut chewing characterized by generalized fibrosis of oral soft tissue resulting in marked rigidity and progressive inability to open the mouth. This disease is mainly confined to South East Asian countries especially in the Indian subcontinent. Pathogenesis is not yet established but it is believed to be due to multifactorial causes. The disease initially presents as burning sensation in oral cavity.[1]

Bailoor DN clinically staged OSMF into three stages with values taken from the study done by **Mathur RM, Jha T (1993)**[2]

Stage 1: Early OSMF

a. Mild blanching.
b. No restriction in mouth opening. The mouth opening is measured from the mesioincisal angle of the upper incisor and the lower central incisor of the same side. The normal values are : Males-5.03 cm, Females-4.5 cm.
c. No restriction in tongue protrusion: Measured from mesioincisal angle of upper central incisor to the tip of the tongue when maximally extended with mouth wide open. The normal values are: Males-6.73 cm, Females-6.07 cm.
d. Cheek flexibility, CF = V1-V2

   V1-Two points measured between at one third the distance from the angle of the mouth on a line joining the tragus of the ear and the angle of the mouth, the subject is then asked to blow his cheeks fully and the distance measured between the two points marked on the cheek.

   V2-The patient is then asked to release the air and the distance between the two points is measured at rest.

   Mean value for males - 1.2 cm, females - 1.08 cm.
e. Burning sensation only on taking spicy food, or hot temperature liquids, etc.

Stage 2: Moderate OSMF

a. Moderate to severe blanching.
b. Mouth opening reduced by 33%, tongue protrusion reduced by 33%, flexibility also demonstrably decreased.
c. Burning sensation even in absence of stimuli.
d. Palpable bands felt.

e. Lymphadenopathy either unilateral or bilateral.

Demonstrable anemia on hematological examination.

Stage 3: Severe OSMF

a) Burning sensation very severe. Patient unable to do day to day work.

b) More than 66% reduction in the mouth opening, cheek flexibility and tongue protrusion. In many the tongue may appear fixed.

c) Ulcerative lesions may appear in cheek.

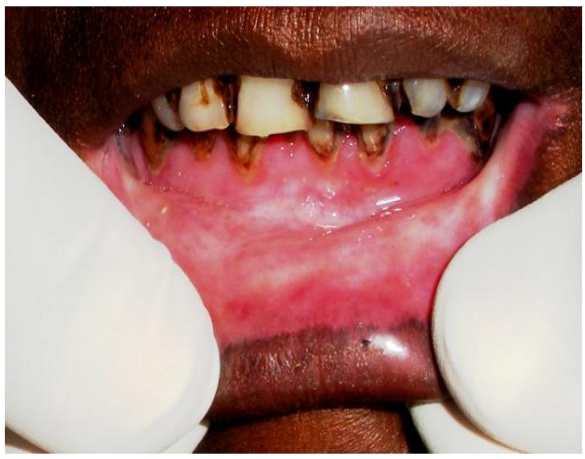
d) Thick palpable bands.

e) Lymphadenopathy bilaterally evident.

Case reports:

Case report 1:

A female patient 35 yrs of age complained of restricted mouth opening past 8 months it was gradual, progressive and associated with pain while forceful opening. History of burning sensation on taking hot and spicy food with 80 out of 100 on VAS scale. History of altered taste sensation to food was there past 8 months. She was a areca nut chewer past 15yrs, 4 to 5 times a day for duration of 30 minutes. On general physical examination pallor was present. On intraoral examination blanching was present in the right and left buccal mucosa, upper and lower labial mucosa(verbal consent was taken from the patient for photographs). Mouth opening was 5mm which was measured from mesioincisal line angle of upper central incisors to lower central incisor. On palpation vertical fibrotic bands were present in the buccal mucosa and circular around rima oris. Mucosa was leathery in consistency.



Figures 1: Blanched mucosa

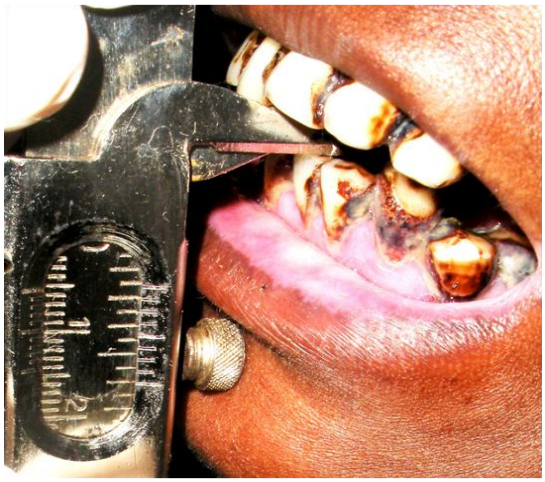


Figure 2: Mouth opening at baseline 5 mm

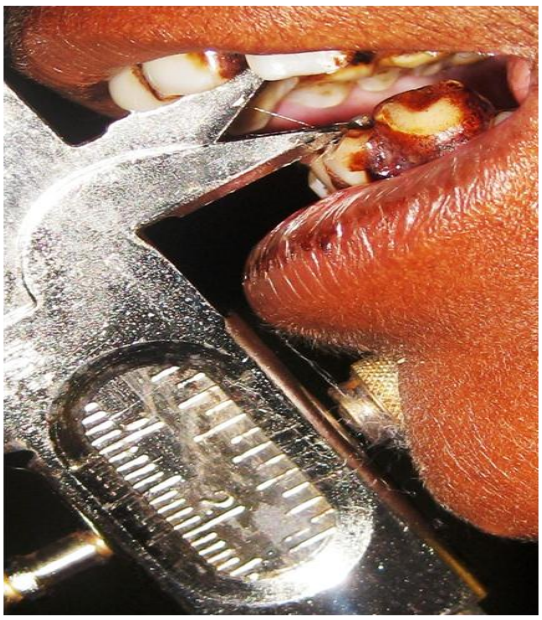


Figure 3: Mouth opening improvement by 10 mm

Tongue was bald with loss of papillae. Based on these findings provisional diagnosis of OSMF was given. Her heamatological investigations revealed anaemia. So patient was counseled to quit the habit and explained the harmful effects of chewing arecanut. Patient was managed with albendazole 400 mg once a day. Multi vitamin and iron supplementation and tablet betamethasone 0.25 mg 4 times daily for 7 days (swish and swallow) was also advised. After 1 week, 2 weeks and 3 weeks of follow up mouth opening increased by 7 mm, 9 mm and 10 mm respectively. Burning sensation reduced by 50 on VAS scale. Dosage of steroid tapered on successive visits.

Case report 2:

A male patient 24 yrs of age complained of inability to open the mouth since 2 yrs it was gradual and progressive. History of burning sensation on taking hot and spicy food with 100 out of 100 on VAS scale. Patient gave history of gutka chewing 20 packets per day since 6 yrs, 5 times daily for duration of 20 minutes. On intraoral examination blanching was present in the labial and buccal mucosa along with a white patch on the left buccal mucosa about 3×1 cm surface of the lesion was fissured and surrounding area was normal (verbal consent was taken from the patient for photographs). On palpation mouth opening was 14 mm, palpable vertical bands were present and circular around rima oris. White lesion was nonscrapable and nontender. Based on these finding provisional diagnosis of OSMF with homogenous leukoplakia was given. His hematological investigations revealed normal. He has been advised to quit the habit and prescribed with betamethasone 0.25 mg three times daily for 7 days and placentral extract

injection intralesionally 2ml/ampule. During the subsequent visits mouth opening increased by 0.5 mm. But burning sensation persisted with few ulcers on the buccal mucosa so patient prescribed to take triamcenolone 0.1% topically thrice daily for 7 days along with discontinuation of placentral extracts. Later visits patient advised to take lycopene once daily for 15 days along with topical triamcinolone. Complete reduction in the burning sensation was observed along with 1 mm improvement of mouth opening. Dosage of steroids tapered on following visits.

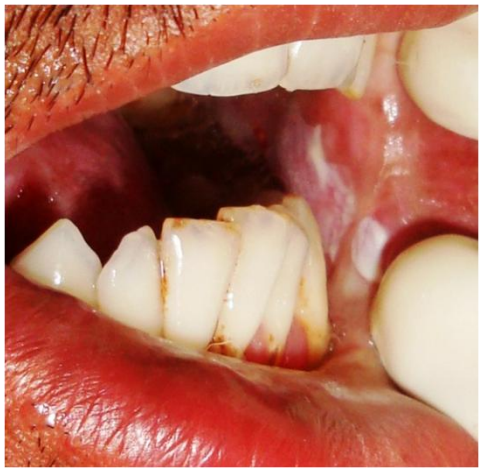


Figure 4: Blanched mucosa with white lesion in the left buccal mucosa

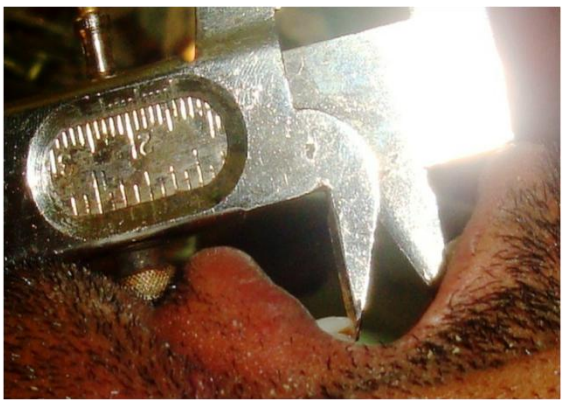


Figure 5:Mouth opening at baseline 13.5mm

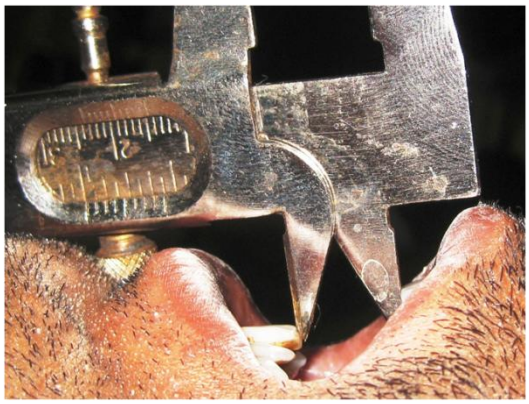


Figure 6:Mouth opening improved to 15mm

RESULT AND DISCUSSION:

Worldwide, estimates of OSMF shows a confinement to Indians and Southeast Asians, with overall prevalence rate in India to be about 0.2% to 0.5 % and prevalence by gender varying from 0.2-2.3% in males and 1.2-4.57% in females.[4] The age range of patients with OSMF is wide ranging between 20 and 40 years of age.[5] It has been suggested that ingestion of chillies, genetic susceptibility, nutritional deficiencies, altered salivary constituents, autoimmunity and collagen disorders may be involved in the pathogenesis of this condition.[3] The condition is well

recognized for its malignant potential rate of 7.6% and is particularly associated with use of areca nut in various forms with significant duration and frequency of chewing habits.[3]

The disorder primarily affects the males. Male- female ratio was found to be 2.3: 1. Buccal mucosa is the most common site of involvement, followed by soft palate, uvula, lips, tongue and floor of the mouth. The symptoms and signs of OSF are due to inflammation and, primarily, fibrosis. The most common initial symptoms and signs are a burning sensation, dry mouth, blanching of oral mucosa and ulceration. The burning sensation usually occurs while chewing spicy food. Blanching of the oral mucosa is caused by impairment of local vascularity because of increasing fibrosis and results in a marble-like appearance. Blanching may be localized, diffuse or reticular. In some cases, blanching may be associated with small vesicles that rupture to form erosions. These features can be observed at all stages of OSMF. In the more advanced stage of the disease, the essential feature is a fibrous band restricting mouth opening and causing difficulty in mastication, speech, swallowing and maintaining oral hygiene.[4]

Most important aspect of medical treatment is cessation of habits. The most common mode of medical treatment had been the use of steroids in its various forms. Used other methods include injection of placental extract, use of trypsin, collagenase, hyaluronidase and elastase and intralesional Interferon-γ (IFN-γ). Oral zinc has been used as also oral pentoxiphylline and lycopene with varying benefits.[1]

Glucocorticoids exert their anti inflammatory action by inhibiting the generation of inflammatory factors and increasing the apoptosis of inflammatory cells. They partially relieved patients of their symptoms at an early stage of OSMF as confirmed in many studies. They were less useful in reversing the abnormal deposition of fibrotic tissues and recovering the suppleness of the mucosa and thus this treatment was always associated with high incidence of relapse. Prolonged use of steroids or overdose invariably produced unwanted side effects.[5]

A study in which mouth opening with the use of lycopene increased by 3.4 mm, but some individual maximum improvements of 5 mm, 6 mm, and 9 mm was also observed. lycopene and intralesional steroids) showed an average improvement of 4.6 mm, although some individual case patients showed maximum improvements of 7 mm and 8 mm. The management of oral submucous fibrosis purely by means of intralesional steroids has been reported to be widely unsatisfactory and was deemed useful only for patients with minimal impairment of opening.[6] Contrary to this statement in our first case there was improvement with the use of steroids only by 5 mm but in our second case there was a combined treatment which gave improvement in the patient.

CONCLUSION

Steroids are considered to be first line treatment selection by many oral physicians. Its anti-inflammatory property is found to be effective against OSMF. But several unwanted side effects reported along with recurrence. So proper counseling to quit the habit by the patient is better solution for this disorder.

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