(International Print/Online Journal)

SJIF IMPACT FACTOR: 4.617
GADIF IMPACT FACTOR: 1.49

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume1, Issue 2, Page No: 46-54
July-August 2018

A Potential Malignant Disorder: Oral Submucous Fibrosis

Dr. Afroz . Anjum. Sr. Lecturer. Dept of Periodontology. Aditya Dental College Beed
Dr.Pratik.C.Parkarwar.Sr.Lecturer. Dept Of OMR .PDU Dental College,Solapur.
Dr. Nilofer. Zaidi. M. D.S.Dept of Oral Medicine and Radiology .
Dr. Ziauddin Saudgar. Sr. Lecturer. Dept of Oral Surgery .Aditya Dental College. Beed.
Dr.Himanshu Srivastava . Lecturer. Dept of Oral Pathology .Aditya Dental College Beed
Dr. Kirandevi Puranik. M. D. S. Dept of Oral Medicine and Radiology

Corresponding Author:
Dr.Pratik.C.Parkarwar.
Sr.Lecturer. Dept Of OMR .PDU Dental College,Solapur

Type of Publication: Original Research Paper
Conflicts of Interest: Nil

ABSTRACT
OSMF is now considered as a potential malignant disorder. It is the dreadful disease as it mostly affects the young generation getting addicted to the usage of betenut. It firstly afeects the oral mucosa ,palate and pharynx. The subjects mainly complains of reduced mouth opening and burning sensation.The treatment includes stoppage of habit,medical and surgical treatment.This article reviews about Incidience,age,clinical features , Classification,Treatment of oral submucous fibrosis.

Keywords: OSMF,young,betel,palate,pharynx,medical,surgical.

INTRODUCTION

Oral submucous fibrosis (OSF) is a slowly progressive chronic fibrotic disease of the oral cavity and oropharynx, characterized by fibroelastic change and inflammation of the mucosa, leading to a progressive inability to open the mouth, swallow, or speak[(1)]. It is now globally accepted as an Indian disease, has one of the highest rates of malignant transformation amongst potentially malignant oral lesions and conditions. It occurs almost exclusively in inhabitants of Southeast Asia, especially the Indian subcontinent. It is a chronic debilitating disease. It is a premalignant condition of the oral cavity strongly associated with betel nut and gutkha chewing. It is characterized by [(2)]: Generalized submucosal fibrosis of the oral soft tissue, resulting in marked rigidity and progressive inability to open the mouth and restricted movements of tongue, Reduction in the vasculature which appears as oral mucosal pallor, atrophy of the surface epithelium, dysphagia, which may occur in severe cases.

Schwartz first described the condition in 1952 as 'atrophia idiopathica (tropica) mucosae oris' [(3)]. This condition has also been described and named as idiopathic scleroderma of mouth (Su 1954), idiopathic palatal fibrosis (Rao 1962) and sclerosing stomatitis (Behl 1962). Its malignant transformation nature was first reported by Paymaster in 1956[(4)]. The disease is predominantly seen in Asian countries, prevalence being more in India.

Incidence: The condition is found in 4/1,000 adults in rural India and as many as 5 million young Indians are suffering from this precancerous condition as a result of the increased popularity of the habit of chewing pan masala. Pan masala is a mixture of spices including, betel nuts, catechu, menthol, cardamom, lime and others. It has a mild stimulating effect and is often eaten at the end of the meal to help digest food and as a breath mint.

Age: Oral submucous fibrosis is widely prevalent in all age groups and across all socioeconomic strata in India. A sharp increase in the incidence of oral submucous fibrosis was noted after pan parag came onto the market, and the incidence continues to increase. Sirsat and Khanolkar reported majority of

OSMF cases belonged to the age group of 20-40 years of age. Sinor et al re-ported 79 per cent of the OSMF cases were under the age of 35 years and maximum numbers of cases were in 25-44 years of age group. Shah and Sharma in their study numbers of cases were in 25-44 years of age group. Younger generations in India are getting attracted to the advent of attractive, con-veniently packed sachets and mass and media advertisements.

Sex: A case-control study of 185 subjects in Chennai, South India revealed a male-to-female ratio 9.9:1. In Patna, Bihar (also in India), the male-to-female ratio was 2.7:1. Hazarey et al from Nagpur also reported that most of their patients were in the younger age group (< 30 years) with a similar male to female ratio of 5:1.

Classification:

Khanna JN and Andrade NN in 1995 developed a classification system for the surgical management of OSMF:

Group I: Very early cases

•Common symptom is burning sensation in the mouth

•Acute ulceration and recurrent stomatitis

•Not associated with mouth opening limitation (interincisal distance greater than 35 mm).

Group II: Early cases

•Buccal mucosa appears mottled and marble like

•Widespread sheets of fibrosis palpable

•Patients with an interincisal distance of 26 to 35 mm.

Group III: Moderately advanced cases

•Trismus evident, with an interincisal distance of 15 to 25 mm

•Buccal mucosa appears pale and firmly attached to underlying tissues

•Atrophy of vermillion border

•Vertical fibrous bands palpable at the soft palate, pterygomandibular raphe and anterior faucial pillars.

Group IVA: Advanced cases

•Trismus is severe, with an interincisal distance of less than 15 mm and extensive fibrosis of all the oral mucosa.

Group IVB: Advanced cases with premalignant and malignant changes

•Hyperkeratosis, leukoplakia or squamous cell carcinoma can be seen.

Etiopathogenesis:

Various factors have been thought as causative agents for OSMF. Some of the factors implicated in the etiology of this disease include arecanut chewing, ingestion of chillies, genetic processes, immunologic process and nutritional deficiencies. High copper content of arecanut upregulate lysyl oxidase activity which result in fibrosis. The major arecanut alkaloids are arecoline, arecaidine, arecolidina, guyacoline and guacine. Arecoline, the most abundant alkaloid, might have cytotoxic effects on cells and is also demonstrated to promote collagen synthesis.

Ingestion of chillies is common in Indians, which was considered as a source of allergen for causing oral submucous fibrosis in a study by Pindborg and Singh[4]. The use of chillies (Capsicum annum and Capsicum frutescence) has been thought to play an etiological role in oral submucous fibrosis. Capsaicin, which is vanillylamide of 8-methyl-6-nonenic acid, is the active ingredient of chillies, play an etiological role in oral submucous fibrosis Also Sirsat and Khanolkar observed oral submucous fibrosis like response in wistar rats on application of capsaicin, an active priniciple of chillies [5]. But Hamner et al failed to support chillies as one of the cause for OSMF, in a study carried out in hamster cheek pouch[5]. Genetic processes have also been thought to be major causative factor[6]. Studies carried out on oral submucous fibrosis indicated that genetic factor allele A6 which is a major histocompatibility complex—class I chain related gene A, confers the risk to develop the disease. Liu et al [7] reported that there is increased risk of oral submucous fibrosis associated with cytotoxic T lymphocyte associated antigen 4 + 49 G allele which has shown susceptibility to various autoimmune diseases. Due to involvement of genetic process, raised values of human leukocyte antigen (HLA) A10, B7 and DR3 were found in OSMF patients when compared to normal individuals. Immunologic process [8] as natural killer cells also plays vital role in OSMF.

Volume 1, Issue 2; July-August 2018; Page No. 46-54

Reduced natural killer cell activity was observed in patients with oral leukoplakia and OSMF, so it is suggested that its modulation with interferon may help in control of malignant transformation of oral precancer. Higher frequencies of deficiencies of vitamin A, B, C and multiple vitamin deficiencies have been indicated to be of etiologic importance in oral submucous fibrosis [4]. Rajalalitha P and Vali S [9] in 2002 reviewed the etiopathogenesis of OSMF wherein it is stated that collagen forms a major component in OSMF and hence, it is a collagen disorder. Synthesis of collagen is influenced by variety of mediators, including growth factors, hormones, cytokines and lymphokines. Oral submucous fibrosis is thought to be a localized collagen disease of oral cavity. It is linked to scleroderma, rheumatoid arthritis, Duputreyen's contracture and intestinal fibrosis.

A link between scleroderma and oral submucous fibrosis has also been suspected on the basis of similarity of histological characteristics (Tsai et al, 1999; Tilakratne et al, 2005). Transforming growth factor beta (TGF-beta) plays a major role in wound repair and fibrosis. It causes deposition of extracellular matrix by increasing the synthesis of matrix proteins like collagen and decreasing its degradation by stimulating various inhibitory mechanisms. The molecular events in the causation of OSMF takes place through collagen production pathway and collagen degradation pathway. In the initial events of disease arecanut acts as a major initiative agent. Luquman M, Dinesh V, Prabhu, Vidya M [10] (2004) evaluated serum copper and iron level in normal individuals and OSMF patients. Increased serum copper could cause an upregulation of the enzyme lysyl oxidase leading to cross-linking of collagen and elastin. Whereas serum iron level was found to be decreased, that might be due to lack of consumption of normal diet.

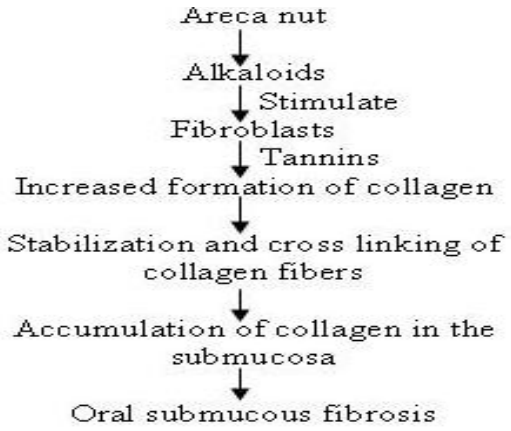

Fig: Role of areca alkaloids in OSF (Ghom & Mhaske, 2008).

Clinical features:

The features of which were described as a progressive narrowing of the mouth, blanching of the oral mucosa, pain and burning sensation on taking food, hypomobility of the soft palate and tongue, loss of gustatory sensation and occasional mild hearing impairment due to the blockage of the Eustachian tube . There has been nearly no change in these symptoms till today[11]. The disease first presents with a burning sensation of the mouth, particularly during consumption of spicy foods. It is often accompanied by the formation of vesicles or ulcerations and by excessive salivation or xerostomia and altered taste sensations. Gradually, patients develop a stiffening of the mucosa, with a dramatic reduction in mouth opening and with difficulty in swallowing and speaking. This condition is mainly diagnosed on the basis of clinical criteria including oral ulceration, paleness of the oral mucosa and burning sensation (particularly in the presence of spicy foods), hardening of the tissue and presence of characteristic fibrous bands. The fibrosis involves the lamina propria and the submucosa and may often extend into the underlying musculature resulting in the deposition of dense fibrous bands giving rise to the limited mouth opening which is a hallmark of this disorder. The mucosa appears blanched and opaque with the appearance of fibrotic bands that can easily be palpated. The bands usually involve the buccal mucosa, soft palate, posterior pharynx, lips, and tongue. OSF usually affects young individuals in the second and third decades of life but may occur at any age. Another feature of the oral mucosa affected by oral submucous fibrosis is pigmentation. This is caused by an increase in the activity of enzyme

Volume 1, Issue 2; July-August 2018; Page No. 46-54

tyrosine which is affected by the increased copper levels found in betel nut chewers. An additional feature that may be observed in betel quid chewers is a brownish red discoloration of the mucosa.

Such mucosa has an irregular surface which tends to desquamate [(11)]. Hematological abnormalities reported in oral submucous fibrosis include increased erythrocyte sedimentation rate, Iron-deficiency anemia, decrease in serum iron and increase in total iron binding capacity (TIBC), Eosinophilia, increased gamma globulin.

In advanced OSF [(12)], oral mucosa becomes blanched and slightly opaque and white fibrous bands appear involving the buccal mucosa, lips, soft palate, faucial pillars and tongue. With progressive fibrosis, the stiffening of certain areas of the mucosa occurs difficulty in opening the mouth, inability to whistle or blow out a candle and difficulty in swallowing. In severe submucous fibrosis, the patient cannot protrude the tongue beyond the incisal edges and there is a progressive closure of the oral opening. The oral mucosa is involved symmetrically and the fibrous bands in the buccal mucosa run in a vertical direction. The density of the fibrous deposit varies from a slight whitish area on the soft palate causing no symptoms to a dense fibrosis causing fixation and shortening or even deviation of the uvula and soft palate. Depending on if the OSF patient chews the areca nut or swallows it after chewing, the fibrotic change in the mucosa can also occur in the pharynx or esophagus. Some OSMF subjects showed unilateral fibrosis in the mouth. On examination one side of the buccal mucosa was fibrosed where as other side was completely normal. The patients used to keep the gutkha on the fibrosed side for few minutes and after that partially swallowed and partially spitted out.

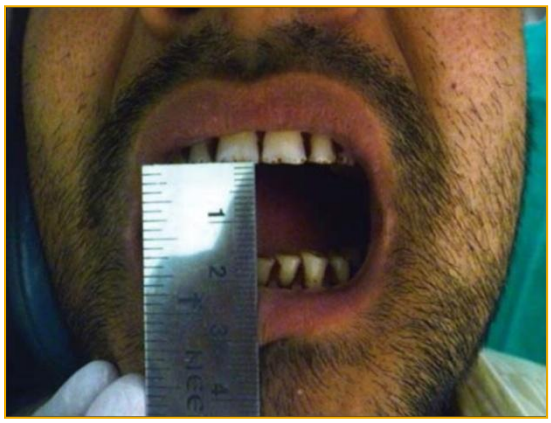

Figure: reduced mouth opening

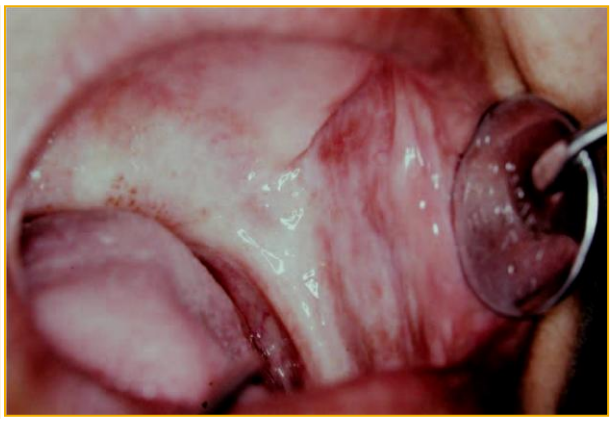

Figure: Clinically submucosal banding

Differential Diagnosis:

Some differential diagnoses for OSMF could be leukoplakia due to smoking, tobacco keratosis (from smokeless tobacco), plaque-type lichen planus, or chronic hyperplastic candidiasis (Newland et al., 2005)[(13)]. The difference between smoking-related leukoplakia, hyperplastic candidiasis, and tobacco keratosis compared to OSF is that the leukoplakia, keratosis, and candidiasis will be painless (OSMF can be painful); they will also have a different histological appearance when biopsied. Oral submucous fibrosis has a characteristic clinical appearance and there are very few conditions that need to be differentiated from it. One is oral manifestation of scleroderma. Compared to submucous fibrosis, however, the occurrence of scleroderma is rare. Usually pale mucosa seen in anemic conditions may be mistaken for oralsubmucous fibrosis. More often, pale mucosa, coupled with pigmentation seen in anemic conditions, may be mistaken for blanching in submucous fibrosis.

Treatment:

The management of an OSF patient depends on the degree of clinical involvement. It comprises of: discontinuation of areca-nut related habit, nutritional support and antioxidants , physiotherapy immunomodulatory drugs(steroids) for local/systemic

Volume 1, Issue 2; July-August 2018; Page No. 46-54

application, intra-lesional injections of steroids, hyaluronidase, human placental extracts etc, either singly or in combination for early/milder form of disease and surgical measures for advanced cases with post-operative nutritional support and anti-oxidants along with active physiotherapy to prevent contracture at the surgical site and recurrence. It is very essential to follow these patients closely in order to prevent recurrence and to detect any developing malignancy at its earliest so as to manage this untoward and most common eventuality.

As the exact causative factor for OSMF is a matter of conflict, the failure to achieve proper or specific treatment for it may be the reason for its incomplete regression or abolition. Paissat DK (1981) have reviewed the overall aspect of OSMF and management of the condition. The various modalities discussed are surgical, medical and conservative. Though the surgical treatment resulted in initial improvement, eventually led to more severe fibrosis, the modern grafting techniques have improved prognosis in many cases. As a medical treatment, submucosal steroidal injection gave relief in signs and symptoms of OSMF along with increase in mouth opening (which was temporary improvement) with variable dose. Conservative treatment includes stopping the consumption of chillies and other irritants, treating anemia, and encouraging a balanced diet with vitamin B supplements and regular review.

Restriction of the habit: Reduction or even elimination of the habit of areca nut chewing is an important preventive measure. The preventive measure should be in the form of stoppage of the habit. Patients should be explained about the disease

-Abstention from chewing areca nut (also known as betel nut) and tobacco.

-Minimizing consumption of spicy foods, including chilies,Maintaining proper oral hygiene.

-Supplementing the diet with foods rich in vitamins A, B complex, and C and iron.

Medical management:

Many authors are of the opinion that conservative treatment is preferable than the conventional ones [(14)]. There is a dizzying array of reported medical interventions including dietary supplementation (vitamins, anti-oxidants), anti-inflammatory agents (principally corticosteroids) and proteolytic agents (such as hyaluronidase and placental extracts), and anti-cytokines. Such agents may be administered orally, topically or via submucosal injection. Hayes PA (1985) reported a case of 4-year-old girl with OSMF for which she was given conservative mode of treatment that involved stoppage of habit, vitamins supplements, balanced diet and stretching exercises aimed at increasing the oral opening. The increased maximum mouth opening resulted was 3mm with decreased blanching of oral mucosa. Other observations include increased buccal mucosal resiliency, no recurrence of vesicles, less tenderness to palpation. The short duration of pan supari intake, the total cessation of habit and the greater healing potential of young age were given as possible explanations for improvements.

Lycopene therapy: Lycopene is a safe antioxidant of utmost importance. The ingredients of betel nut induce excessive reactive oxygen species which damages the cell structures, including lipids and membranes, proteins and nucleic acids.

Moreover vitamin deficiency, iron deficiency anemia, and malnutrition can derange the repair of the inflamed oral mucosa, leading to defective healing and the resulting atrophic oral mucosa is more susceptible to the effects of areca nut. Antioxidant vitamins stabilize and deactivate the free radicals before they attack cells. Vitamins A, B complex, C, D, E and minerals like iron, copper and magnesium, when used a standard or adjunct are effective in controlling the signs and symptoms of OSF. Lycopene is a bright red carotene and carotenoid pigment and phytochemical found in tomatoes and other red fruits and vegetables, such as red carrots, watermelons and papayas. Lycopene is a powerful antioxidant and has a singlet-oxygen-quenching ability twice as high as that of beta-carotene and ten times higher than that of alpha-tocopherol. It has been shown to have several potent anti-carcinogenic and antioxidant properties and has demonstrated profound benefits in precancerous lesions such as leukoplakia & OSMF. Lycopene exhibits the highest physical quenching rate constant with singlet oxygen. The role of lycopene in oral submucous fibrosis is Inhibition of abnormal fibroblast, increase resistance to stress, decrease in inflammatory response. It has found to improve mouth opening and reduces burning sensation singly

Volume 1, Issue 2; July-August 2018; Page No. 46-54

or in combination of intralesional steroids. (Kumar et al, 2007). Lycopene (taken at a dose of 16 g daily) has shown promise for oral submucous fibrosis.

Pentoxifylline therapy: Pentoxifylline is a tri-substituted methylxanthine derivative, the biologic activities of which are numerous. This includes increasing red cell deformability, leukocyte chemotaxis, antithrombin and anti- plasmin activities, and more importantly to the present context, its fibrinolytic activity. Pentoxifylline decreases red cell and platelet aggregation, granulocyte adhesion, fibrinogen levels, and whole blood viscosity[(15)]. Rajendran et al, 2006 divided the 29 participants into two groups that took either oral pentoxifylline or multi-vitamins. All those enrolled completed the 7-month study period. The authors reported statistically significant improvements in the oral pentoxifylline group (n = 14) compared with controls with respect to objective criteria (mouth opening, tongue protrusion and relief from circum-oral fibrotic bands) and subjective criteria (intolerance to spices, burning sensations, tinnitus, difficulty in swallowing, and difficulty in speech). In a study published in 2006 in the Indian Journal of Dental Research on the effects of the drug pentoxifylline, it was suggested that due to results from the study pentoxifylline may; with further studies and tests; prove to be a cure [(15)].

Intralesional injections:

Steriods: In patients with moderate OSMF, weekly submucosal intralesional injections or tropical application of steroids are helpful. Hydrocortisone injection along with the local aneasthetic injection locally given in the area of fibrosis. Injections are given fortnightly. The early cases show good improvement with this therapy. (Roa and Raju)[(16)] recommended combination of oral and injection therapy: 7 weeks of treatment with dexamethasone in gradually decreasing dose; this was supplemented with local injection of hydrocortisone."

A Therapy with hydrocortisone 25 mg tablet, in doses of 100mg/day is useful in relieving burning sensation. This is supplemented with local injection of hydrocortisone 25mg at biweekly intervals at the affected site. Increased vascularity of the site is observed, which is due to fibrinolytic, anti-allergic and anti-inflammatory action of corticosteroid[(15)].

Placental extracts: The rationale for using placental extract in patients with oral submucous fibrosis derives from its proposed anti-inflammatory effect, hence, preventing or inhibiting mucosal damage.

Cessation of areca nut chewing and submucosal administration of aqueous extract of healthy human placental extract (Placentrex) has shown marked improvement of the condition. Placentral extract accelerates cellular metabolism, aids in absorption of exudates, and stimulates regenerative process, increases physiological function of organs, produces significant enhancement of wound healing and it has anti-inflammatory effect. Doses: injected around fibrous bands, intra-muscularly, at the interval of 3 days for 15 days. Each time 2 ml solution is deposited [(17)]. Katharia S K. Singh S P. K Kulshretra V K studied the effect of placenta extract in management of Oral submucous fibrosis and stated that there was significant improvement in mouth opening, colour of oral mucosa and reduction of fibrous bands. Sudhakar Vaidya, V K Sharma got good results with injection of placental extract intra lesion ally associated with antioxidants and jaw dilator exercises has been found useful in 52 cases.

Hyaluronidase: Breaks down hyaluronic acid (ground substance of connective tissue), lowers the viscosity of intracellular cement substance i.e hyaluronidase decreases cell formation by virtue of its action on hyaluronic acid, which plays an important role in collagen formation. The use of topical hyaluronidase has been shown to improve symptoms more quickly than steroids alone. Hyaluronidase can also be added to intralesional steroid preparations. The combination of steroids and topical hyaluronidase shows better long-term results than either agent used alone. Improvement in health of mucous membrane, burning sensation and trismus was observed by using hyaluronidase injections [(12)].

Other drugs [(18)]:

Previous studies have shown that the local and systemic upregulation of fibrogenic cytokines and down regulation of antifibrotic cytokine are central to the pathogenesis of OSF. The milk from cows immunized with human intestinal bacteria (immune milk) contains an anti-inflammatory component that may suppress the inflammatory reaction and modulate cytokine production. Only one study showed the effect of oral administration of milk from cows immunized with human intestinal bacteria in

Volume 1, Issue 2; July-August 2018; Page No. 46-54

OSF. Forty-five grams of immune milk powder twice a day for 3 months resulted in significant improvement in intolerance to spicy foods in 80% and increase in interincisor distance in 69.2% patients.

Interferon gamma is also a known anti-fibrotic cytokine. In an open uncontrolled study intra-lesional interferon gamma treatment showed reduced burning dysaesthesia, increased suppleness of the buccal mucosa and improvement in the mouth opening by 42% in OSF. In vitro study showed that the increased collagen synthesis in response to arecoline was inhibited in the presence of Interferon gamma (0.01–10 U/ml) in a dose-related way. Also the post-treatment immunohistochemistry showed a decreased amount of inflammatory cell infiltrate and an altered level of cytokines compared with the pre-treatment lesional tissue.

Ayurvedic therapy :

The use of turmeric or Curcuma longa Linn as a spice and household remedy has been known to be safe for centuries. Turmeric extract and turmeric oil have shown chemoprotective effect against chemically induced malignancies in experimental animals. They have the potential for reversing OSF and can be recommended directly for a Phase II trial.

In one clinical trial alcoholic extracts of turmeric 3 g, turmeric oil 600 mg and turmeric oleoresin 600 mg, when consumed orally, decreased the number of micronucleated cells both in exfoliated oral mucosal cells and in circulating lymphocytes in OSF [(18)].

Surgical management:

The surgical treatment involves excision of fibrous bands and forceful mouth opening resulting in a raw wound surface. Relapse is common complication that occurs after surgical release of the oral trismus caused by OSMF. Initially surgeons aimed at surgical elimination of the fibrotic bands which showed further scar formation and recurrence of trismus, to prevent which, they started using various inter positional graft materials. Yeh carried out a surgical procedure of incising the mucosa down to the muscles from the angle of mouth to the anterior tonsillar pillar, taking care to prevent damage to the stoma of the parotid duct, followed by split skin grafting into the defect, with acceptable results[(19)]. Canniff et al. described the procedure of split thickness skin grafting after bilateral temporalis myotomy or coronoidectomy along with daily opening exercise and nocturnal props for a further 4 weeks. But the results with skin grafting have a high reoccurrence rate due to graft shrinkage.

The other limitation of the split thickness skin graft is the morbidity associated with the donor site along with maintenance of mouth opening post operatively for 7 to 10 days which is the most unpleasant and uncomfortable experience for the patient [(20)]. Collagen membrane is used as a biological dressing. Shobha Nataraj et al used collagen membrane composed of type I and type III bovine collagen (that is similar to human collagen), following excision of fibrotic bands to cover the raw areas during initial phase of healing and observed that collagen membrane had good adaptability to the surgical defect.

Collagen when used to cover rawareas provides coverage for sensitive nerve endings thereby diminishing degree of pain. The adherence of collagen membrane is initially due to fibrincollagen interaction & later due to fibro vascular in-growth into the collagen. With time, it slowly undergoes collagenolysis and is eventually sloughed off. However, it resists masticatory forces for sufficient time, to allow granulation tissue to form. None of the cases in their study showed any adverse reaction to the collagen proving its safety as a biological dressing.

Borle and Borle reported disappointing results with skin grafting to cover the raw area and used tongue flap to cover the defect [(21)].

Khanna and Andrade reported the incidence of shrinkage, contraction, and rejection of split skin graft as very high, owing to poor oral condition, with recurrence in 12 cases. Palatal island flap based on the greater palatine artery had been used to cover defect. This technique, accompanied with bilateral temporalis myotomy and coronoidectomy, was a highly effective surgical procedure . However, use of island palatal flap has limitation such as its involvement with fibrosis and second molar tooth extraction required for flap to cover without tension [(20)].

Patients suffering from this incurable, chronic fibro-elastic scarring disease need to be fully informed. It

Volume 1, Issue 2; July-August 2018; Page No. 46-54

is essential at the onset of treatment to avoid raising expectations. Treatment needs to be coupled with cessation of betel/tobacco quid chewing and active jaw physiotherapy in order to manage properly both early and advanced stages off. Patients should be closely followed up to monitor the inter-incisal distance and any developing suspicious lesion so that appropriate and timely treatment for the same may be initiated.

Conclusion:

It is estimated that most of all cancers and cancer mortality worldwide are preventable through early detection, as it provides a greater chance of initiating early and successful treatment. Only sure way to avoid cancer is not to be born, but we can reduce our chances for cancer by a balanced approach to cancer prevention, early detection and effective early treatment. The main objective of secondary prevention is early detection of PMDs when they can be treated most effectively. PMDs are often undiagnosed due to lack of public awareness and due to lack of knowledge among medical professionals. Clinical appearance and diagnosis of a lesion is not adequate to determine its premalignant nature, as not all white lesions turn malignant. Diagnostic biopsy and histopathological examination should be considered for any mucosal lesion that persists for more than 14 days after obvious irritants have been removed.

Prognosis and patient survival is directly related to stage and grade of cancer at initial diagnosis.

Dentists and other health care professionals need to understand and play an important role in the early detection and diagnosis of oral cancer and potential malignant disorders as it can prevent the development of severe dysplasia of potential malignant disorders or provide a better prognosis for patients affected by oral cancer through an immediate treatment.

It can be concluded that, that risk factors mentioned reflect the need for increased awareness of potential-malignant and malignant lesions with higher prevalence in males and predominance in the 5th and 6th decade of life and predominant anatomical site include the, buccal mucosa, followed by tongue, lower lip, floor of the mouth, alveolar border and retromolar trigone.

References:

1. S. Warnakulasuriya at al: Nomenclature and classification of potentially malignant disorders of the oral mucosa; J Oral Pathol Med (2007) 36: 575–80
2. Tapasya Vaibhav Karemore, Vaibhav A Karemore ; Etiopathogenesis and Treatment Strategies of Oral Submucous Fibrosis; REVIEW ARTICLE; Journal of Indian Academy of Oral Medicine and Radiology, October-December 2011;23(4):598602.
3. Khanna JN, Andrade NN. Oral submucous fibrosis: A new concept in surgical management. Report of 100 cases. Int J Oral Maxillofac Surg 1995;24:433-39.
4. Yen DJC. Surgical treatment of submucous fibrosis. J Oral Maxillofac Surg 1982;269-72.
5. Bailoor DN. Osmf: The Mangalore study JIAOMR 1993;4(3):12-15.
6. Rajendran R, Sivapathasundharam B. Shafer's textbook of oral pathology (5th ed). Phildelphia, Elsevier 2006:136
7. Liu CJ. Polymorphism of the MICA gene and risk for oral submucous fibrosis. J Oral Pathol Med 2004;33:1-6.
8. Gupta D, Sharma SC. Oral submucous fibrosis: A new treatment regimen. J Oral Maxillofacial Surg 1988;46:830-33.
9. Rajlalitha P, Vali S. Molecular pathogenesis of oral submucous fibrosis: A collagen metabolic disorder. J Oral Pathol Med 2005;34:321-28.
10. Luquman M, Dinesh V, Prabhu, Vidya M. The role of serum copper and iron in oral submucous fibrosis. JIAOMR 2004;16 (1):30-32.
11. Brad Neville, Damm D, Allen C, Bouquot J. Oral and maxillofacial pathology (2nd ed). Phildelphia, Elsevier 2004;349-50.
12. Fareedi Mukram Ali, Prasant MC, Ashok Patil, Vinit Aher, Safiya Tahsildar, Rashmi Deshpande ; Oral Submucous Fibrosis: Medical Management; GJMEDPH, Vol 1(1) Jan-Feb 2012.
13. Newland, J. R., Meiller, T. F., Wynn, R. L., Crossley, H. L. (2005). Oral soft tissue diseases: A reference manual for diagnosis and management (3rd ed., pp. 24,28,30-Hudson, OH: Lexi-Comp.
14. Sudhakar Vaidya, V K Sharma. Oral

Volume 1, Issue 2; July-August 2018; Page No. 46-54

Submucous Fibrosis. World articles in Ear, nose & throat.
15. Ward A, Clissold SP: Pentoxifylline: a review of its pharmacodynamic and pharmacokinetic properties and its therapeutic efficacy, Drug Eval 1987; 34: 50-97.
16. Rananjaneyulu P, Rao P (1980). Submucous fibrosis – new treatment. J Indian Dent Assoc52: 379–380.
17. Anil GG. Text Book of Oral Medicine. Jaypee Brothers Medical Publishers (P) Ltd 2010.
18. Revant H. Chole , Shailesh M. Gondivkar , Amol R. Gadbail , Swati Balsaraf et al ; Review of drug treatment of oral submucous fibrosis; Oral Oncology 48 (2012) 393
19. Yeh CJ. Application of the buccal fat pad to the surgical treatment of oral submucous fibrosis. Int J Oral Maxillofac Surg 1996;25:130-3.
20. Shevale Vasant V , Kalra Rinku D , Shevale Vruturaj V , Shringarpure Milind D ; Management Of Oral Sub-Mucous Fibrosis : A Review; Indian Journal of Dental Sciences. June 2012 Issue:2, Vol.:4
21. Borle RM, Borle SR. Management of oral submous fibrosis; A conservative approach. J Oral Maxillofac Surg 1991; 49; 788-91.

Volume 1, Issue 2; July-August 2018; Page No. 46-54