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Oral Submucous Fibrosis

*Dr. Anil Singh Chauhan[1] Dr Honey Shukla[2] Dr Yogesh loksh[3]
Dr Sabrant Singh[4] Dr Chandraprabha Singh[5]
Reader Dept of Oral and Maxillofacial Surgery Modern Dental College And Research Centre Gandhinagar Indore
Senior Lecturer Dept of Oral and Maxillofacial Surgery Modern dental college and research Centre Gandhinagar indore
Assistant prof Amaltas Institute of Medical Sciences dewas
Sr Lecturer Rishiraj College of Dental Sciences Bhopal
Junior resident

Corresponding author: Anil Singh Chauhan

Abstract: *Oral submucous fibrosis is a preventable, common disease process seen in the Indian Subcontinent. The treatment protocol at the Modern dental college and research centre Gandhinagarindore is presented along with a description and review of the disease process.*

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I. Introduction

Oral submucous fibrosis (OSMF) is a chronic precancerous disease that results in progressive juxtaepithelial fibrosis of the oral soft tissues, mainly occurring in the Indian subcontinent. It is a chronic, insidious, disabling disease involving oral mucosa, the oropharynx, and rarely, the larynx. It manifests as blanching and stiffness of the oral mucosa, trismus, burning sensation in the mouth, reduced mobility of the soft palate and tongue, loss of gustatory sensation, intolerance to eating hot and spicy foods and occasionally, mild hearing loss due to blockage of Eustachian tube.

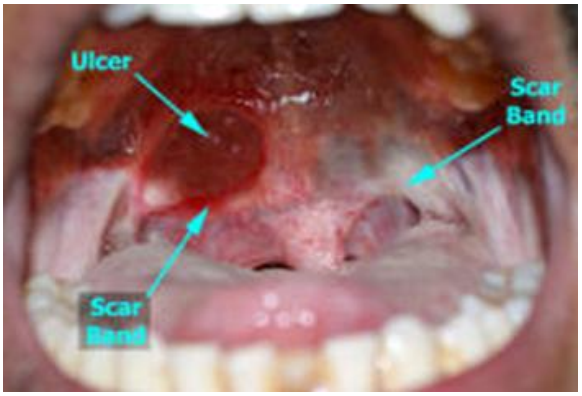
Incidence and etiology: The condition is found in 4/1,000 adults in rural India and as many as 5 million young Indians are suffering from this precancerous condition as a result of the increased popularity of the habit of chewing pan masala. Pan masala is a mixture of spices including, betel nuts, catechu, 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.[1]

A variety of aetiological factors including capsaicin, betal nut alkaloids, hypersensitivity, autoimmunity, genetic predisposition (HLA-A 10 , DR 3 , DR 7 and halotypes A 10 /DR 3 , B, 3 /DR 3 and A 10 /B 8) and malnutrition have been suggested by various authors.[2]

The importance of this disease lies in its inability to open the mouth and dysplasia giving rise to malignancy. The incidence of malignant change to squamous cell carcinoma in patients with OSMF ranges from 2 to 10%.

II. Material And Methods

Diagnosis is made by history and clinical examination. Patients present with trismus, stiff and small tongue, blanched and leathery floor of the mouth, fibrotic and depigmentedgingiva , and rubbery soft palate with reduced mobility, blanched and atrophic tonsils, shrunken uvula and sinking of the cheeks, not commensurate with age or nutritional status.



Laboratory investigations done are Hb, T&D, ESR, Urine examination and tissue biopsy. X-ray Barium swallow of esophagus is done to rule out any pathology in esophagus. Patients with other pre-malignant and malignant conditions of oral cavity and severe trismus were excluded from this study. Fifty-two patients were taken into the study from January 2007 to December 2008.

Treatment: Many treatment protocols for oral sub mucous fibrosis have been proposed to alleviate the signs and symptoms of the disorder. [3] There are few if any controlled studies evaluating the effectiveness of treatment protocols. In severe cases, surgical intervention is the only treatment modality, but relapse is a major problem. Treatments used in our hospital for this disease are as follows:

• Patient is asked to stop the pan masala /beetle nut /smoking/tobacco chewing/ alcohol and spicy food.
• Local injection of placental extract 2ml (market preparation manufactured from 0.1gm of fresh human placenta) given at multiple sites at soft palate and anterior to anterior pillars (as shown in the figure with red marking) every week for 10 weeks.
• Lycopene (10%) 2000mcg orally
• Methylcobalmin injection (1500mcg) given intramuscularly every week.
• Jaw dilators exercises explained to the patients to be taken every day.
• Advanced cases of trismus are treated by jaw dilation under general anesthesia with incision of fibrous bands.

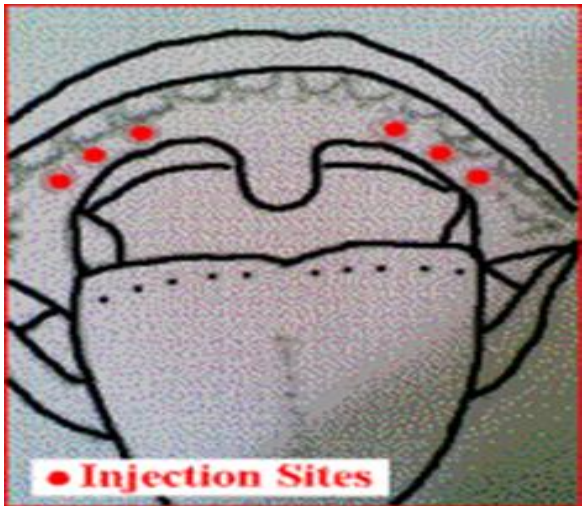
Ttable 1: Change in Inter-incisor gap with the treatment protocol			
Number of Patients	Average Inter-incisor gap-before starting the treatment	Average Inter-incisor gap 10 weeks after starting the treatment	Average Inter-incisor gap after 6 months of starting the treatment
52	22±7 mm	31±7 mm	32±8 mm

Ttable 2: Percentage of the patients who have reportedI improvement in Intolerance to spicy& hot food/ improvement f from burning sensation in the oral cavity and oropharynx.			
Number of Patients	After 3 weeks of the treatment	After 10 weeks of the treatment	After 6 months of the treatment
52	32.69%	76.92%	88.46%

III. Discussion

Human placental extract is a topical preparation from human placenta extracted and manufactured according to a defined method. Purified extract of human placenta is commercially available in the Indian market as injections and gel for topical application. Placenta extract has been successfully used in treatment of oral mucosal fibrosis at our institution and across the Indian subcontinent. There are many published reports of use of purified human placental extracts by various specialty doctors in clinical medicine like obstetrics and gynaecology physicians, otorhinolaryngologists, dermatologists, ophthalmologists orthopaedic surgeons, general surgeons and dentists. Purified extract of human placenta has been found to be beneficial on topical application in the management of non-healing wounds.[6] Human placental extracts have shown to help collagen synthesis leading to potent healing of wounds in rats.[7] Recent spectroscopic and chromatographic studies of human placental extracts pointed towards the presence of various bioactive substances in human placental extracts like NADPH,13 poly-deoxy-ribonucleotide (PDRN), RNA, DNA, fragments, peptides, amino-acids, trace elements.[8,9] Placental extract contains growth factors and anti-inflammatory agents[10] and it has shown to have anti-inflammatory and anti-platelet activity. [11] In our study, we have injected placental extract intra-lesionally in the soft palate and in the fibrous bands formed anterior to anterior pillars (at multiple sites bilaterally). Sites of

injection are being shown in the picture to the right. The injections were given every week for 10 weeks. The patients were followed for total duration of six months with excellent results.



IV. Conclusion

A simple office procedure in cases of oral sub mucous fibrosis with injection of placental extract intra lesion ally associated with antioxidants and jaw dilator exercises has been found useful in 52 cases.

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