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Case Report

Oral Sub Mucous Fibrosis: Case Report

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ABSTRACT:

Oral submucous fibrosis is an oral precancerous condition characterized by inflammation and progressive fibrosis of sub mucosal tissue resulting in marked rigidity and trismus. OSMF still remains dilemma to the clinicians due to elusive pathogenesis. It may be due to areca nut alkaloids. Progressive in ability to open the mouth due to oral fibrosis and scarring. OSMF is a condition of Oro pharyngeal OSMF of oral cavity in olden days. A precancerous condition is generalized state associated with a significantly increased risk of cancer.

Key-Words: OSMF, Areca Nut, Blanching

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INTRODUCTION

Oral sub mucous fibrosis (OSMF) is a precancerous condition and it is chronic, resistant disease characterized by juxta epithelial inflammatory reaction and progressive fibrosis of the sub mucosal tissues. In 1966 Pindborg defined OSMF as an insidious chronic disease affecting any part of oral cavity and sometimes the pharynx although occasionally preceded by and/ or associated with vesicle formation it is always associated with juxta epithelial inflammatory reaction followed by a fibroelastic change of lamina propria with epithelial atrophy leading to stiffness of oral mucosa and causing trismus and inability to eat. Other terms used to describe this condition are juxta epithelial fibrosis, Idiopathic scleroderma of the mouth, idiopathic palatal fibrosis, submucous fibrosis of the palate and pillars, sclerosing stomatitis and diffuse osmf. It occurs most commonly seen in young and adult between 25-35 years. Onset of this disease is insidious and is often 2-5 years of duration. The prevalence rate

of OSMF in India is about 0.2%-0.5%. The malignant transformation rate of OSMF was found to be 7.6%. This increased prevalence is due to increased use and popularity of commercially prepared areca nut and tobacco product-gutkha, pan masala, flavoured supari etc. Risk factors: Areca nut chewing, Tobacco use (smoking or smokeless form), genetic predisposition, nutritional deficiency (Vitamin B12 and Iron). Other factors such as hormonal and immunological.

Classification of OSMF (Based on Mouth Opening)

Stage I: Mouth opening greater than 45 mm

Stage II: Restricted mouth opening 20-44mm

Stage III: Mouth opening less than 20 mm

OSMF is characterised by:

- Fibrosis of the oral mucosa
- Blanched and stiffed oral mucosa
- Fibrotic bands in the buccal mucosa, tongue and floor of the mouth
- Gradual reduction in mouth opening
- Difficulty in eating, speaking and swallowing

CASE REPORT



Figure 1: Blanching is Evident on Right and Left Buccal Mucosa

A 20 years male patient came to the department of oral medicine and radiology, St Joseph Dental College Eluru with a chief complaint of missing tooth and pain at the upper front tooth region since 4days. Patient gives h/o pain which is intermittent. Aggravates while taking food and relieved by its own. Patient gives h/o pan chewing in the past 2 years. On extra oral examination, on apparent swelling was present, on intra oral examination revealed that on inspection blanching is evident on the right and left buccal mucosa. Extending antero-posteriorly from the corner of the mouth to retromolar area superior-inferiorly extending from upper buccal vestibule to lower buccal vestibule. Cheek blowing capacity is reduced. Tongue

movement are normal inter-incisal mouth opening is 35 mm, shrunken uvula is evident, VAS score by patient is 5 and on palpation, all inspector findings are confirmed on palpation. Two vertical bands are palpable extending antero-posteriorly from 2cm from retromolar area superior-inferiorly extending to upper and lower buccal vestibule, rubbery in consistency. No secondary changes are evident. Clinical diagnosis was given as Stage II OSMF involving right and left buccal mucosa. Investigations advised are Toluidine blue staining, HbsAg, Tridot, RBS, CT, BT, CBP. Toluidine blue is retained at both right and left buccal mucosa. Incisional biopsy done under LA and sent for histopathological examination.

Test Name	Result	Units	Reference Range
ST. JOSEPH GENERAL HOSPITAL Duggirala, Andhra Pradesh 534003			
LABORATORY REPORT			
Patient Name	Mr. AMAN SK	Age / Gender	20Y / Male
OP Reg No	OP4410011367	Lab Order No	20240509-58
Referred By	Dr. ORAL MEDICINE AND REDIOLGY	Req Date	09-05-2024 11:38 AM
Reported On	09-05-2024 11:50 AM	Printed Date	09-05-2024 11:51 AM
DEPARTMENT OF HAEMATOLOGY			
COMPLETE BLOOD PICTURE			
Hemoglobin	14.2	gm%	Male : 12.0 – 18.0 gm % Female: 11.0 – 16.0 gm %
RBC count	4.72	mill/cumm	3.5 - 5.5 mill/cumm
PCV	42.8	PERCENTAGE	40-50%
MCV	90.9	FENTO/LITERS	80-100FL
MCH	30.2	PICO/GRAMS	27-32Pg
MCHC	33.2	GRAM/DESI LITERS	32-34g/dl
RDW	13.8	PERCENTAGE	11.5-14.0%
Platelet Count	3.09	Laks /cumm	1.5 – 4.5Lakh/cumm
Total WBC count	8.97	cumm	4,000 – 11,000/cumm
DIFFERENTIAL COUNT			
Neutrophils	40	%	55 – 70%
Lymphocytes	48	%	25 – 40%
Eosinophils	09	%	01 - 08%
Monocytes	03	%	02 – 06%
Basophils	00	%	00 – 01%
BT CT			
Bleeding Time	1 MIN 04 SEC		1 - 3 minutes
Clotting Time	3 MIN 45 SEC		3 - 7 minutes
DEPARTMENT OF IMMUNOLOGY			
HIV			
HIV I	NON REACTIVE		
HIV II	NON REACTIVE		
HBs Ag			
HBs Ag	NEGATIVE		
DEPARTMENT OF BIO-CHEMISTRY			
GRBS			
G. RANDOM BLOOD SUGAR	97	mg/dl	60 - 160 mg/dl

Figure 2: Haematological Reports



Figure 3: Toluidine Blue Retained On Left Buccal Mucosa



Figure 4: Incisional Biopsy Done At Right Buccal Mucosa

DISCUSSION

OSMF is a chronic insidious disease that is associated with significant functional morbidity and high risk for malignancy transformation. Areca nut chewing, chillies ingestion, immunological patterns and nutritional deficiencies. The high copper content of areca nut increases lysyl oxidase activity in return increases fibrosis. It contains alkaloids such as arecoline, acecainide, arecolidina, guacine and guyacoline. Arecoline have cytotoxic effect on cells and promote collagen synthesis. A survey had stated that those who chewed areca nut has possibility of OSMF. Here in the present case, the patient had the habit of areca nut chewing in the last 1 year. In general, found that areca nut suppresses the appetite and has a psycho-stimulating effect. The content of each packet was betel nuts, catechu, lime, cardamom, menthol, natural artificial flavours, mixed spices and added flavour. It has been reported earlier that patient with sub mucous fibrosis has oral cancer and associated findings in 5.2%. The present case falls under stage II classification of sub mucous fibrosis. The classification is divided into three stages based on the progression of clinical features of the disease. The clinical signs and symptoms of the disease include

oral ulceration, burning sensation (on taking spicy foods), paleness of the oral mucosa. The most important characteristic feature is the marked vertical fibrous ridge formation within the cheeks and board like stiffness of the buccal mucosa. The fibrosis in the soft tissue leads to trismus, difficulty in eating, and even dysphagia. The diagnosis can be made based on clinical features and symptoms. Out of the above clinical findings cheek blowing capacity is reduced, inter incisal mouth opening is 35 mm, shrunken uvula is evident and VAS score by patient is 5 were present in this patient. The peak incidence of this condition is in the 35–54-year age group. But in the present case, the age of patient is just 20 years that highlights the need for establishment of a preventive and is a potentially malignant condition. 4.5-7.6% is the malignant transformation rate. The possible precancerous nature of OSMF was first described by paymaster. The main problem in treating such a case of OSMF is that the patient does not understand the ill effects and the malignant potential of the areca nut and tobacco. The overall consumption rate of areca nut and tobacco in India is very high leading to increased prevalence of development of such a malignancy condition in children and adults. Hence

the emphasis on generation of awareness regarding the morbidity of the disease is to be addressed among the general population because of the taboos and myths regarding the disease and its cure, efficiently delivering the treatment to the diseased becomes difficult as the cooperation desired becomes from the patient's part is not available. There is a dire need for

establishment of a preventive and intervention programme for the malicious habit, the first step being so that young children can be benefited. Based on the histopathological we have concluded that Oral Submucous Fibrosis with moderate epithelial Dysplasia involving right buccal mucosa.

ST. JOSEPH DENTAL COLLEGE AND HOSPITAL

DUGGIRALA, ELURU

HISTOPATHOLOGY REPORT

PATIENT NAME: SK. AMAR	REFERRED BY: Dr. M.S.RAJU
AGE: 20 YRS	DEPARTMENT: OMR
SEX: MALE	SPECIMEN RECEIVED ON: 09/5/24
BIOPSY NO: 41/24	REPORT DISPATCHED ON: 20/5/24

MACROSCOPIC FEATURES:
 Received single bit of soft tissue measuring approximately 0.5 x 0.5cm x 0.4 cm in size, round to oval in shape. creamish black in color, firm in consistency with irregular borders.

HISTOPATHOLOGIC FEATURES:
 The given H & E section shows hyperparakeratotic, acanthotic epithelium with hyperchromatic nuclei, prominent nucleoli, acantholysis, increased nuclear cytoplasmic ratio extending till the middle of Stratum spinosum. The underlying connective tissue is dense with stellate shaped fibroblasts and few capillaries. Deeper part of the connective tissue shows adipose tissue and striated muscle. These histopathological features are suggestive of OSMF with moderate epithelial dysplasia.

HISTOPATHOLOGICAL DIAGNOSIS: ORAL SUBMUCOUS FIBROSIS WITH MODERATE EPITHELIAL DYSPLASIA.



 SIGNATURE OF PATHOLOGIST
 Dr. A. JAGADEESH KUMAR

Figure 5: Histopathology Report

CONCLUSION

Oral sub mucous fibrosis is a premalignant condition, progressive disorder with complex mechanism of pathogenesis initiated by inflammation of oral mucosa. Betel quid with areca nut chewing is the main reason for oral sub mucous fibrosis. It has several stages like early OSMF, intermediate OSMF advanced OSMF, burning sensation while taking spicy foods, inability to eat, open mouth, tobacco chewing, alcohol consumption, increase of collagen formation. In this case the patient has the habit of chewing areca nut in the last 2 years which he is not aware of malignancy. We should bring awareness and should conduct camps to bring awareness among youth towards using these harmful substances. The textbooks of these students should include all this awareness lessons. Parents should have an eye on the children about their daily activities. OSMF is a premalignant condition and it may increase its severity if the habit is not stopped. So, quickly bring

awareness among youth and society about all these things to make our nation free from malignancy.

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