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Prevalence of Oral Submucous Fibrosis at OPD of ENT Department of SMBT Institute of Medical Sciences, Nasik

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Original Research Article

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Abstract: Oral Submucous Fibrosis (OSMF) is premalignant condition having high malignant transformation rate and increased risk of oral squamous cell carcinoma. The present study was done to study the prevalence of oral submucous fibrosis patients. This cross-sectional study was carried out for the study of prevalence of oral submucous fibrosis. The study population was selected from all the patients coming to the OPD of the ENT department of SMBT institute of medical sciences, Nasik, for time period of 8 months from November 2016 to June 2017. The patients having the age above 15 years were selected for the study. The examination was done by 4 qualified doctors who were trained by the senior departmental staff. Patients past history, habit history and in detail the clinical features of the patient were recorded. The statistical analysis was done with the help of IBM SPSS version 16. Total patients examined in the present study were 1167. Out of 1167 patients, 41 (3.51%) were presented with OSMF and majority of patients i. e. 18 (1.54%) belong to 15 to 24 years. Out of 755, 29 (70.73%) male patients were found with presence of OSMF and 12 (29.26%) out of 412 females were presented with OSMF. In the present study, OSMF was seen in 41 patients out of whom 21 (51.21%) patients had gutkha chewing habit, 12 (29.26%) patients chewed areca nut and tobacco and 08 (19.51%) patients used areca nut only. From the study it can be concluded that there is need for public health awareness regarding the oral submucous fibrosis and the dangerous outcomes of habitual betel nut chewing.
Keywords: Areca nut, Oral submucous fibrosis, Prevalence.

INTRODUCTION

Oral submucous fibrosis (OSMF) is a chronic disease of oral mucosa characterized by inflammation and progressive fibrosis of lamina propria and deeper connective tissues, followed by stiffening of mucosa resulting in difficulty in opening the mouth [1].

Oral submucous fibrosis (OSMF) is a chronic, premalignant condition of the oral mucosa which was first described by Schwartz 1952 [2].

It is generally accepted today that areca nut quid plays a major role in the etiology of the disease. The disease occurs mostly in India and in South East Asia but the cases have been reported world-wide like Kenya, China, UK, Saudi Arabia and other part of the world where Asians are migrating [1].

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 [2].

The initial clinical presentation of OSMF includes inflammation. It is followed by hypovascularity and fibrosis observed as blanching of the oral mucosa characterized with a marble-like appearance. It may be localized, diffuse, or reticular. However, in some cases, small vesicles may develop that subsequently rupture and form erosions. In the later advanced stage of OSMF, a fibrotic band that reduces mouth opening is characteristic feature. It causes further problems in maintaining oral hygiene, proper speech, normal mastication, and swallowing. Formation of fibrous bands in the lip give rise to thickening and rubbery appearance .Other clinical features of advanced OSMF include the absence of puffed-out appearance of cheeks which is observed usually when a patient blows a whistle. Fibrosis of tongue and mouth affect tongue movement and cause depapillation and blanching of mucosa [3,4].

The present study was done to study the prevalence of oral submucous fibrosis patients.

MATERIALS AND METHODS

This cross-sectional study was carried out for the study of prevalence of oral submucous fibrosis. The study population was selected from all the patients coming to the OPD of the ENT department of SMBT institute of medical sciences, Nasik, for time period of 8 months from November 2016 to June 2017. The patients having the age above 15 years were selected for the study. Institutional ethical committee approval and informed consent were taken from all the participants. Patients with any systemic disease and malignancy were excluded from the study.

Diagnostic criteria

Oral submucous fibrosis was diagnosed based on the clinical findings like blanching and stiffness of the oral mucosa, difficulty in opening mouth, having palpable fibrous bands and difficulty in protruding tongue were considered as having oral submucous fibrosis.

Methods of examination

The examination was done by 4 qualified doctors who were trained by the senior departmental staff. Patients past history, habit history and in detail the clinical features of the patient were recorded. The armamentarium used for the examination were sterile mouth mirror, explorer, tweezers, kidney tray, savlon, disposable latex gloves, disposable mouth mask and questionnaires.

The statistical analysis was done with the help of IBM SPSS version 16.

RESULTS

Total patients examined in the present study were 1167. Patients were divided into the age groups of 15 to 24 years, 25 to 34 years, 35 to 44 years, 45 to 54 years and 55 years and above. Out of 1167 patients, 41 (3.51%) were presented with OSMF.

Distribution of the patients according to the age group

268 (22.96%) patients were in age group of 15-24 years, 309 (26.47%) in 25 to 34 years, 201 (17.22%) in 35 to 44 years, 220 (18.85%) in 45 to 54 years and 169 (14.48%) in 55 year and above group. Majority of patients i. e. 18 (1.54%) belong to 15 to 24 years, followed by 13 (1.11%) patients in 25 to 34 years, 07 (0.51%) patients in 35 to 44 years, 02 (0.17%) patients in 45 to 54 years and only one (0.08%) patients found from the age above 55 years. (Graph 1)

Distribution of patients according to the gender

The study included of 755 male patients and 412 female patients. Out of these, 29 (70.73%) male patients were found with presence of OSMF and 12 (29.26%) females were presented with OSMF. (Graph 2)

Association of different habits

Out of 1167 patients examined, 265 (22.27%) patients were having different types of smokeless tobacco habits. Majority of the patients, 112 (10.28%) had gutkha chewing habit, 89 (7.62%) patients had areca nut and tobacco chewing habit and 64 (5.48%) patients were having areca nut chewing habit.

In the present study, OSMF was seen in 41 patients out of whom 21 (51.21%) patients had gutkha chewing habit, 12 (29.26%) patients chewed areca nut and tobacco and 08 (19.51%) patients used areca nut only. (Table 1)

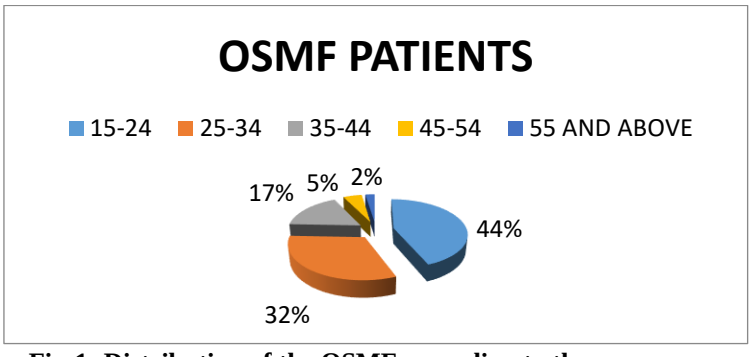

Fig-1: Distribution of the OSMF according to the age groups:

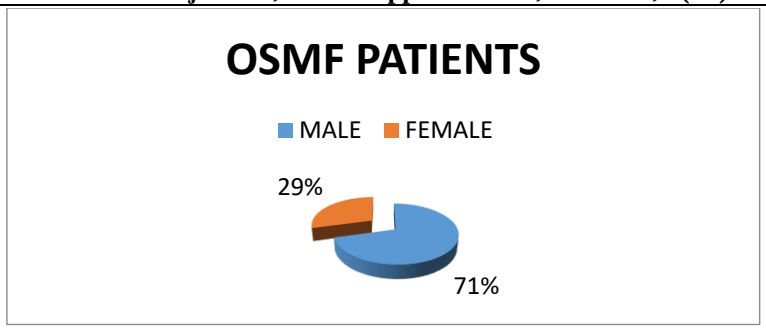

Fig-2: Distribution of the OSMF patients according to gender

Table-1: Association of smokeless tobacco habits with presentation of OSMF

Gutkha	112 (22.27%)	21 (51.21%)
Areca nut and tobacco	89 (7.62%)	12 (29.26%)
Areca nut	64 (5.48%)	08 (19.51%)
Total	**265 (22.27%)**	**41 (3.51%)**

DISCUSSION

Oral submucous fibrosis is common in countries of south-east Asia and shows a predisposition towards the Indian ethnic group. The resulting stiffness of the oral mucosa and deeper tissues progressively limits opening of the mouth and protrusion of the tongue, with difficulties in eating, speaking and swallowing. Epithelial atrophy is marked in advanced stages of the disease. The association with cancer is highly probable but not yet conclusive. However, OSMF satisfies the WHO definition for an oral precancerous condition because there appears to be a significantly increased risk of cancer [5].

The hallmark of the disease is submucosal fibrosis that affects most parts of the oral cavity, pharynx and upper third of the esophagus leading to dysphagia and progressive trismus due to rigid lips and cheeks [5].

The overall prevalence of OSMF in the present study was 41 (3.51%) which correlates to the study by Seedat HA *et al*. [6] in which prevalence of submucous fibrosis were 3.4%. However, study done by Pindborg *et al*. [7] showed lower prevalence.

Epidemiological data and intervention studies suggest that areca nut is the main etiological factor for OSMF. Other etiological factors suggested are chillies, lime, tobacco, nutritional deficiencies such as iron and zinc, immunological disorders, and collagen disorders [8,9].

In present study, prevalence of OSMF among patients chewing gutkha was higher, 21 (51.21%), this finding is similar with the study done by Goel S *et al*. [10] which showed commercial areca nut products 40% among OSMF subjects and Ahmad MS *et al*. [11] showed that 69% were using gutkha.

The treatment of patients with oral submucous fibrosis depends on the degree of clinical involvement. If the disease is detected at a very early stage, cessation of the habit is sufficient [8].

Medical treatment is symptomatic and predominantly aimed at improving mouth opening and tongue movements. The principal actions of drug therapy include anti-fibrotic, anti-inflammatory, and anti-oxygen radical mechanisms. Potential new drugs are on the horizon. Surgery may be necessary in advanced cases of trismus. Prevention is most important, as no healing can be achieved with available treatments [3,8].

CONCLUSION

The present study had shown that the prevalence of oral submucous fibrosis was high among the betel nut chewers. It is premalignant condition having high malignant transformation rate and increased risk of oral squamous cell carcinoma. Hence it can be concluded that there is need for public health awareness regarding the oral submucous fibrosis and the dangerous outcomes of habitual betel nut chewing.

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