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Original Research Article

Study of clinical profile of oral sub mucous fibrosis patients

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Abstract: Oral sub-mucous fibrosis (OSMF) is a chronic, progressive, irreversible, scarring disease, predominantly affecting the people of South-East Asian origin. The present study was done to evaluate the clinical profile of the OSMF patients. This study was done over a period of two years in the ENT department. All the OSMF patients coming to the OPD of the SMBT medical college and hospital, Ghoti, Nasik, Maharashtra College was taken for the study. Detailed case history was recorded including age, sex, habits, duration of the habits, signs and symptoms, interincisal distance, clinical grading of the OSMF and any other finding. Approval of the ethical committee was taken before start of the study and informed consent was taken from each of the patient participating in the study. The collected data was collected, tabulated and analyzed by IBM SPSS statistic software version 20. Descriptive statistics was calculated for the variables. In the study total of 165 patients of OSMF were studied. Out of which 98 were males and 67 were female patients. The patients were of the age group ranging from 14 to 56 years. Maximum patients were from the age group of 15 to 25 years. 96.4 % patients shown bilateral involvement of the OSMF and only 3.4% patients (6 patients) had shown unilateral involvement. Buccal mucosa had shown involved in maximum number of patients in about 93.9% of the patients. About 96.7% patients had habit of gutkha chewing either alone or along with other habits. 2.3 % of the patients were also having extra lesions along with OSMF including of leukoplakia, tobacco pouch keratosis, etc. In this study, the occurrence of OSMF was higher in the younger age group of 16-25 years. The prevalence of OSMF was more in males than in females.
Keywords: Oral sub mucous fibrosis, Clinical profile, ENT.

INTRODUCTION:

Oral sub-mucous fibrosis (OSMF) is a chronic, progressive, irreversible, scarring disease, which predominantly affects the people of South-East Asian origin. This condition was described first by Schwartz1 while examining five Indian women from Kenya, to which he ascribed the descriptive term “atrophia idiopathic a (tropica) mucosae oris.” Later in 1953, Joshi from Bombay (Mumbai) redesignated the condition as OSMF, implying predominantly its histological nature [1, 2].

Oral Sub mucous Fibrosis (OSMF) is a progressive disease of the oral cavity which was first described in detail by Joshi. The onset of fibrosis is noted as a reduction of mouth opening and stiffening of the mucosa. Though there are many studies of OSMF reporting fibrosis and hyalinization in the sub-epithelium, there is a paucity of information related to the involvement by fibrosis of areas adjoining the oral cavity Eg: Ear (Eustachian tube), Oropharynx, Pharynx [1-3].

Recent epidemiological data indicates that the number of cases of OSMF has raised rapidly in India from an estimated 250,000 cases in 1980 to 2 million cases in 1993. That figure has crossed 10 million in the year 2013.5 In future; this figure is likely to increase many folds. The number of gutkha consumers in India is, also, rising alarmingly. Prior to 2000, the incidence of OSMF in patients visiting dental surgeons was 0.2-1%, mostly in the age group of 45-54 and sex ratio of 1:3 (male-female) [1]. The present study was done to evaluate the clinical profile of the OSMF patients.

MATERIALS AND METHODS:

This study was done over a period of two years in the ENT department. All the OSMF patients coming to the OPD of the SMBT medical college and hospital, Ghoti, Nasik, Maharashtra, College was taken for the

study. Detailed case history was recorded including age, sex, habits, duration of the habits, signs and symptoms, interincisal distance, clinical grading of the OSMF and any other finding. Approval of the ethical committee was taken before start of the study and informed consent was taken from each of the patient participating in the study.

Inclusion Criteria:

1. Patient with chief complaint of burning sensation in the mouth while eating spicy foods and progressive inability to open mouth fully.
2. Positive history of consumption or chewing of gutkha or related products
3. Clinical examination shows ulcerations and vesiculations of the oral mucosa and / or fibrous bands running across buccal mucosa in the vertical direction or horizontal direction in the palate.

Exclusion Criteria:

1. Presence of frank oral squamous cell carcinoma (OSCC).
2. The presence of severe systemic disease.

The collected data was collected, tabulated and analyzed by IBM SPSS statistic software version 20. Descriptive statistics was calculated for the variables.

RESULTS:

In the study total of 165 patients of OSMF were studied. Out of which 98 were males and 67 were female patients. (Table 1) The patients were of the age group ranging from 14 to 56 years as shown in table 2. Maximum patients were from the age group of 15 to 25 years. 96.4 % patients shown bilateral involvement of the OSMF and only 3.4% patients (6 patients) had shown unilateral involvement. Various sites of involvement of the fibrous bands were also recorded. Buccal mucosa had shown involved in maximum number of patients in about 93.9% of the patients (155 patients), followed by palate, lips, floor of mouth and tongue. (Table 3)

Inter-incisal mouth opening was measured in each of the patients and tabulated. (Table 4) most of the patients [67.2% patients (111 patients)] shown mouth opening between 1.5 to 2.5 cm. Khanna JN, Dave R (1995) classification was used to classify the patients of OSMF into different grades. Maximum numbers of patients were present of the Grade II OSMF. (Table 5)

About 96.7% patients had habit of gutkha chewing either alone or along with other habits. 2.3 % of the patients were also having extra lesions along with OSMF including of leukoplakia, tobacco pouch keratosis, etc.

Table 1: Distribution of the OSMF patients according to sex

Sex of the patient	Male	Female	Total
Number of patients	98	67	165

Table 2: Distribution of the OSMF patients according to age groups

Age group	Number of OSMF patients
5- 15	2
16-25	103
26-35	43
36-45	8
46-55	6
56-65	3
Total	165

Table 3: Distribution of the OSMF patients according to sites of involvement

Site of involvement	Number of patients	%
Buccal mucosa	155	93.9
Palate	101	61.21
Lips	37	22.41
Floor of mouth	22	13.33
tongue	18	10.9
Ear	4	2.4
Oropharynx	6	3.6
pharynx	8	4.8

Table 4: Distribution of the OSMF patients according to Grades

Grade of OSMF	Number of patients	%
I	46	27.87
II	102	61.81
III	12	7.2
IV	5	3.0

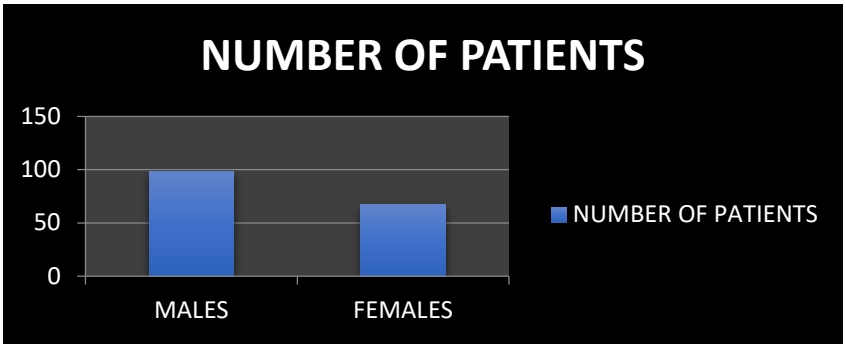

Fig 1: Distribution of the OSMF patients according to sex.

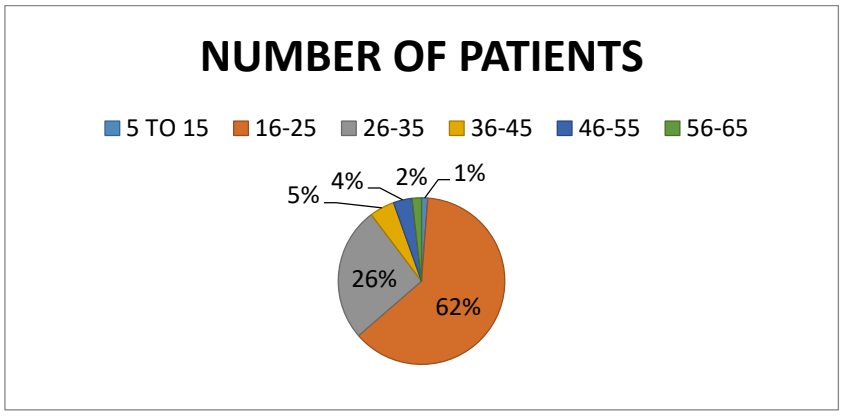

Fig 2: Distribution of the OSMF patients according to age group

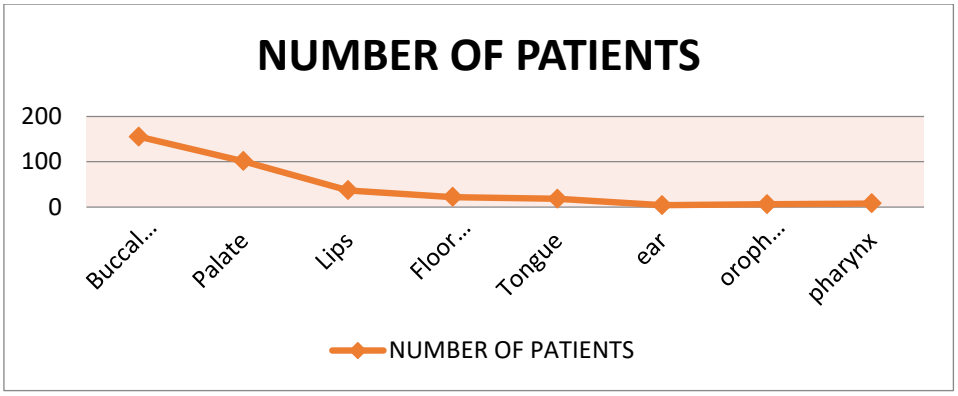

Fig 3: Distribution of the OSMF patients according to Sites of involvement.

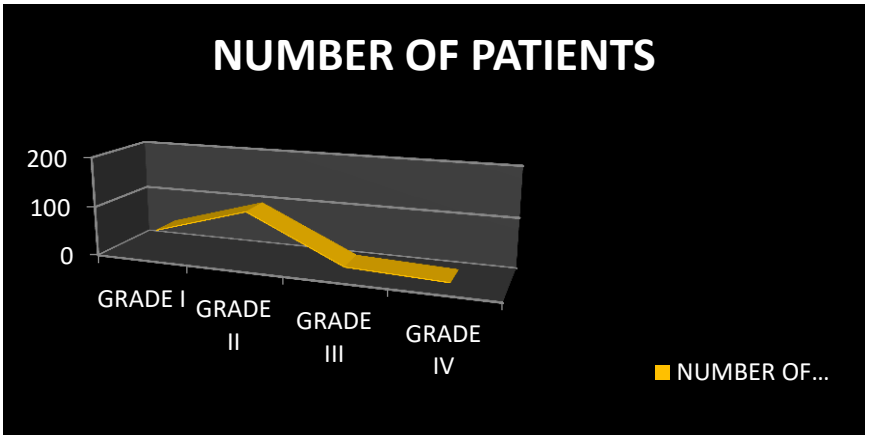

Fig 4: Distribution of the OSMF patients according to Grades.

DISCUSSION:

OSF, a crippling disease of the oral mucosa, evokes the interest of dental professionals in different parts of the world. Its occurrence in various parts of India, South Africa and among Indian emigrants has been reported in dental literature. The peculiarity of the disease is that it is confined to a particular geographic region. This has led to the concept that dietary or cultural habits prevalent in this regions act as the etiological factors. Case reports, epidemiological studies, animal experiments and in vitro culture studies all tried to explain the etiopathogenesis, clinical and histopathological features [4-6].

Epidemiological data and intervention studies suggest that areca nut (Supari) is the main etiological factor for OSMF. Areca nut is believed to be the fourth most addictive substance in the world and is also associated with dependency syndrome. Other etiological factors suggested are chillies, lime, tobacco, nutritional deficiencies such as iron, zinc, and copper, immunological disorders, collagen disorders, and genetic predisposition [1].

Areca nut chewing is known to cause local trauma and injury to the oral mucosa due to its abrasive nature. This could be more severe in users of pan masala and gutkha due to their fine particulate nature, with the high probability of particle adhesion to the traumatized mucosa, leading to morphological changes and membrane damage. This continuous local irritation by pan masala, gutkha or areca nut can lead to injury related chronic inflammation, oxidative stress and cytokine production. Oxidative stress and subsequent Reactive oxygen species (ROS) generation can induce cell proliferation, cell senescence or apoptosis, depending upon the level of ROS production. During chronic exposure, these events can lead to preneoplastic lesions in the oral cavity and subsequently to malignancy [7, 8].

Absence of betel leaf, which has anti-oxidant properties and a consequently higher dry weight proportion of areca nut were responsible for early development of OSF. These findings are of great concern because younger individuals are at greater risk as it has been well established that OSF is a premalignant and crippling condition of the oral mucosa [8, 9].

CONCLUSION:

In this study, the occurrence of OSMF was higher in the younger age group of 16-25 years. The prevalence of OSMF was more in males than in females.

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