Original Research Article

# A study of clinical features and factors associated with oral sub mucous fibrosis at tertiary health care centre

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## Abstract

**Background:** Oral submucous fibrosis is a chronic, progressive, scarring disease, which is considered to be a precancerous condition. It occurs chiefly in the Indian subcontinent and Southeast Asia. **Aim and objective:** To study the clinical features and factors associated with oral sub mucous fibrosis at tertiary health care centre **Methodology:** A cross sectional study was carried out in patients attending OPD for oral submucous fibrosis in department of ENT in ANMMCH Gaya Bihar.. **Results:** Burning sensation was absent in 37 % patients. It was mild in 22% patients, moderate in 28% and severe in 13% patients. Among all 100 patients we classified them according to clinical staging. Majority of the patients were in stage III (50 %) followed by stage II (39%). Stage I was observed in 11% patients. Gutkha, pan, Arcea nut chewing were major risk factors for oral submucous fibrosis. Gutkha chewing was observed commonly (64%) followed by Pan chewing (24%). Arcea nut chewing was observed in 12% patients.

**Key Word:** sub mucous fibrosis.

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## INTRODUCTION

Oral submucous fibrosis has been defined as "an insidious chronic disease affecting any part of the oral cavity and sometimes the pharynx although occasionally preceded by and or associated with a juxta-epithelial inflammatory reaction followed by a fibro elastic change of the lamina propria with epithelial atrophy leading to stiffness of the oral mucosa and causing trismus and inability to eat [1] It has been observed with the chronic placement in the mouth of a betel quid or paan and is found in 0.4% of Indian villagers.[2] The slaked lime acts to release an alkaloid(arecaidine) from the areca nut, producing a feeling of euphoria and well being in the user. Symptoms in submucous fibrosis include painful ulcerations of the oral cavity, difficulty in opening the mouth and affecting food intake. Dysplasia changes to 2 to 10% malignancy. The disease can be classified clinically into two phases (1) An eruptive phase, characterised by formation of erythema, vesicles, ulceration and a burning sensation in the mouth. (2) The fibrosis induction phase characterised by the disappearance of the vesicles and healing of the ulcers by fibrosis. The burning sensation decreases and blanching and stiffness of the oral and oropharyngeal mucosa occur. The two phases appear in a cyclic manner [3] Habit restriction is the most important treatment for disease retardation. As this is the premalignant condition it is very important to diagnose and treat. This study was conducted to know about the clinical feature and risk factors associated with oral sub mucous fibrosis.

## MATERIAL AND METHODS

A cross sectional study was carried out in patients attending OPD for oral submucous fibrosis in department of ENT in ANMMCH Gaya Bihar.

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**Inclusion criteria:** 1.Patients diagnosed as oral submucous fibrosis 2. Willing to participate in the study.
**Exclusion criteria:** 1. Not willing to participate in the study. Study was approved by ethical committee of tertiary care institute. Study was explained in detail to the participants and valid written consent was taken.
A pre tested, pre validated questionnaire was used to collect data. Data includes sociodemographic data, detailed history of risk factors, clinical examination of patients. patient underwent routine investigations. Whenever required biopsy was was taken. Statistical analysis was done with appropriate statistical test to see the clinical features and risk factors in oral submucous fibrosis.

## RESULTS

After selection criteria 100 patients were studied who were diagnosed with oral submucous fibrosis. Table 1 shows distribution of patients of oral submucous fibrosis according to age and gender. Majority of the patients were male (82%) than females (18%). Majority of the patients were in the age group of 31-40 years (39%) followed by 41-50 years (32%). No female was observed in age group of 11-20 years and >50 years. Table 2 shows clinical signs and symptoms of patients of oral submucous fibrosis. Taste sensation was normal in 67% of patients and it was altered in 33% patients. 73% of patients had normal hearing and 27% individuals had defective hearing. Salivation was affected in 64% patients. Among these 9 patients complained of increased salivation while 55% complained about decreased salivation. Mouth opening was affected in oral submucous fibrosis. Mouth opening of >30 mm was observed in 43% patients. 52% patients were having 15-30 mm mouth opening. Among all 5% patients showed restricted mouth opening < 15 mm. pain during mastication was absent in 7% patients. mild, moderate and severe pain was observed in 20%, 32% and 41% patients respectively. Burning sensation was absent in 37 % patients. It was mild in 22% patients, moderate in 28% and severe in 13% patients. Among all 100 patients we classified them according to clinical staging. Majority of the patients were in stage III (50 %) followed by stage II (39%). Stage I was observed in 11% patients. Gutkha, pan, Arcea nut chewing were major risk factors for oral submucous fibrosis. Gutkha chewing was observed commonly (64%) followed by Pan chewing (24%). Arcea nut chewing was observed in 12% patients.

**Table 1:** Distribution of patients of oral submucous fibrosis according to age and gender

| Sr no | Age group (years) | Male | Female | Total |
|---|---|---|---|---|
| 1 | 11-20 | 05 | 00 | 05 |
| 2 | 21-30 | 18 | 03 | 21 |
| 3 | 31-40 | 33 | 06 | 39 |
| 4 | 41-50 | 23 | 09 | 32 |
| 5 | >50 | 03 | 00 | 03 |
| | **Total** | **82** | **18** | **100** |

**Table 2:** Distribution of oral submucous fibrosis patients according to signs and symptoms

| Sr no | Sign/symptoms | | No of patients | Percentage |
|---|---|---|---|---|
| 1 | Taste | Normal | 67 | 67% |
| | | Altered | 33 | 33% |
| 2 | Hearing | Normal | 73 | 73% |
| | | Defective | 27 | 27% |
| 3 | Salivation | Normal | 36 | 36% |
| | | Increased | 09 | 9% |
| | | Decreased | 55 | 55% |
| 4 | Mouth opening | >30 mm | 43 | 43% |
| | | 15-30 mm | 52 | 52% |
| | | <15 mm | 05 | 5% |
| **5** | Pain during mastication | Absent | 07 | 7% |
| | | Mild | 20 | 20% |
| | | Moderate | 32 | 32% |
| | | Severe | 41 | 41% |
| **6** | Burning sensation | Absent | 37 | 37% |
| | | Mild | 22 | 22% |
| | | Moderate | 28 | 28% |
| | | Severe | 13 | 13% |

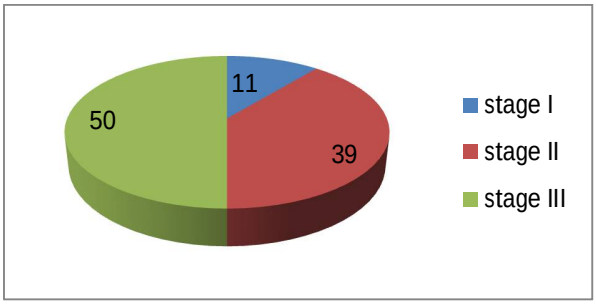


**Figure 1:** Distribution of patients of oral sub mucous fibrosis according to clinical stage

**Table 3:** Distribution of patients of oral sub mucous fibrosis according to associated risk factors

| Sr no | Risk factor | No of patients | Percentage |
|---|---|---|---|
| 1 | Gutkha | 64 | 64% |
| 2 | Pan | 24 | 24% |
| 3 | Areca nut | 12 | 12% |
| | **Total** | **100** | **100%** |

## DISCUSSION

In our study, Majority of the patients were in the age group of 31-40 years (39%) followed by 41-50 years (32%). Mean age of the patients was 29.52±2.4 years. Similar findings were seen in Sinor *et al* [4]. previous studies showed 21- 30 years age group was more commonly affected.[5,6] Majority of the patients were male (82%) than females (18%). Similarly male predominance was seen in previous studies like Akbar *et al*,[7] Caniff *et al*.[6], Marathe *et al*[8], Sharma *et al* [9], Golhar *et al*.[10], and Gupta *et al* [11] Taste sensation was normal in 67% of patients and it was altered in 33% patients. 73% of patients had normal hearing and 27% individuals had defective hearing. Similar findings were observed in previous studies like Marathe *et al*[8] (44%) and soni *et al* (26%)[12]. Salivation was affected in 64% patients. Gupta *et al*[11] reported excessive salivation in 40% patients. Mouth opening of >30 mm was observed in 43% patients. 52% patients were having 15-30 mm mouth opening. Among all 5% patients showed restricted mouth opening < 15 mm. Marathe *et al*[8] observed difficulty in mouth opening in 98% cases.

Pain during mastication was absent in 7% patients. Mild, moderate and severe pain was observed in 20%, 32% and 41% patients respectively. Similar findings were observed in previous studies [6,8,11]

Burning sensation was absent in 37 % patients. It was mild in 22% patients, moderate in 28% and severe in 13% patients. Akbar *et al*,[7] observed similar findings in burning sensation , whereas Marathe *et al*[8] reported burning sensation in all cases of OSMF. In our study Majority of the patients were in stage III (50 %) followed by stage II (39%). Stage I was observed in 11% patients. similar findings were observed in previous studies [13]. This finding may be because study subjects are from tertiary care centre. Gutkha , pan, Arcea nut chewing were major risk factors for oral submucous fibrosis. Gutkha chewing was observed commonly (64%) followed by Pan chewing (24%). Previous studies [14] reported that OSMF presents early in gutkha chewers than betel quid chewers. The areca nut grains cause mechanical injury, cytotoxicity of the oral mucosa and produces collagen crosslinks. The cytotoxicity induced by arecholine is augmented by nicotine leading to production of damaged collagen[15].

## CONCLUSION

Oral submucous fibrosis manifest as various symptoms which affect day today life of patients. Gutkha ,arcea nut chewing are important risk factors. Prevention of intake of these risk factors is the most important fact in prevention of OSMF.

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