

Incidence of Oral Submucous Fibrosis in Young Adults

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Abstract

Background: Oral Submucous Fibrosis (OSMF) is a chronic condition characterized by the progressive fibrosis of the oral mucosa, which leads to restricted mouth opening & may predispose to oral cancer. The disease is most common in individuals who consume betel quid & other areca nut-based products, with a high incidence in young adults. This study aims to analyze the incidence & demographic characteristics of OSMF in young adults.

Methods: A retrospective study was conducted involving 60 patients diagnosed with OSMF. The study focused on the prevalence, age, gender distribution, & risk factors such as the use of areca nut, tobacco, & alcohol consumption. Data was collected from the dental clinic records over a two-year period.

Results: The incidence of OSMF was higher in males (70%) compared to females (30%). Most patients were between 25-35 years of age (80%). A significant association was found between the consumption of areca nut & tobacco with the development of OSMF.

Conclusion: OSMF is a significant health concern in young adults, especially in regions with high betel nut consumption. Early intervention & awareness are essential for reducing the incidence & preventing the progression to oral cancer.

Keywords:

Study Design:

Introduction

The oral mucosa is the primary target of the precancerous condition known as oral submucous fibrosis (OSMF). It is typified by mucosal tissue fibrosis & stiffness, which can limit mouth opening, make swallowing difficult, & in certain situations, increase the risk of oral cancer [1]. In areas where chewing betel quid & eating areca nuts are common, this disorder has become more widespread.

This study sought to ascertain the prevalence of OSMF in young adults, with a focus on alcohol, tobacco, & areca nut intake, which are thought to be significant risk factors for the condition's development [2].

Chronic, resistant, irreversible, & prone to malignancy is oral submucous fibrosis (OSF). A scar & growing fibrosis of the mucosa covering the upper portions of the digestive tract, especially the oral cavity, oropharynx, & upper third of the esophagus, are the clinical manifestations of this pathologic lesion [3]. This is the oral premalignant lesion with the

highest risk of developing into malignancy. One side is usually afflicted by the disease's symptoms, which include thick mucus & paleness, though studies have also reported that both sides may be impacted. The lesion may induce symptoms such as dry mouth, burning in the mouth, & aversion to spicy foods. Patients with severe forms of the illness experience issues with articulation, swallowing, tongue movement, microstomia, & trismus, which is an irreversible restriction in the degree of mouth opening [4-5]. This disease is characterized by epithelial atrophy & fibroelastic changes in the lamina propria. Although OSF affects people of all ages, it is more prevalent in adults between the ages of two & four, & it affects women slightly more often than it does men. Although there have been a few of cases with abrupt onset & varying durations, it usually starts gradually & lasts for two to five years [6].

Material & Methods

This was a retrospective observational study at a tertiary care dental facility. The study involved a review of clinical records of 60 young adults diagnosed with OSMF. Demographic information (age, gender), clinical features, & risk factors such as betel nut consumption, tobacco use, & alcohol intake were extracted from the medical records of the patients. The severity of OSMF was graded based on the clinical staging.

Inclusion Criteria

- Patients aged 25 to 35 years.
- Clinical diagnosis of OSMF confirmed by histopathological examination.
- History of areca nut and/or tobacco use.
- Patients who provided consent for the use of their medical records.

Exclusion Criteria

- Patients with known systemic conditions affecting the oral mucosa.
- Individuals under 25 years or over 35 years of age.
- Patients with incomplete medical records.

Result

Table 1: Demographic Distribution of Patients with OSMF (N=60)

Demographic Parameter	Number of Patients (n)	Percentage (%)
Gender		
Male	42	70
Female	18	30
Age Group		
25-28 years	36	60
28-31 years	18	30
31-35 years	06	10

Risk Factors

The study revealed that 85% of the patients had a history of chewing betel nut, 70% consumed tobacco, & 30% reported alcohol use. Table 2 highlights the distribution of risk factors among the study population.

Table 2: Distribution of Risk Factors in Patients with OSMF

Risk Factor	Number of Patients (n)	Percentage (%)
Areca Nut Use	51	85
Tobacco Consumption	42	70
Alcohol Consumption	18	30
Betel Quid Chewing	50	83.33

Severity of OSMF

Table 3 presents the clinical staging of OSMF in the study group. The majority of patients (56%) were diagnosed with Stage I OSMF, which involves mild mucosal fibrosis. Severe stages (Stage III) were less common, observed in only 15% of the patients.

Table 3: Clinical Staging of OSMF (Based on Pindborg Classification)

Stage of OSMF	Number of Patients (n)	Percentage (%)
Stage I (Mild)	34	56.67
Stage II (Moderate)	18	30
Stage III (Severe)	09	15

Age & Gender Correlation with OSMF

The correlation between age, gender, & the severity of OSMF was analyzed. As seen in Table 4, males in the 25-35 years age group were most commonly affected by mild to moderate OSMF, with no cases of severe OSMF in females within this age range.

Table 4: Age & Gender Distribution in Relation to Severity of OSMF

Age Group	Severity of OSMF	Male (n)	Female (n)
25-28 years	Mild (Stage I)	25	09
	Moderate (Stage II)	12	06
	Severe (Stage III)	01	00
28-31 years	Mild (Stage I)	08	04
	Moderate (Stage II)	06	03
	Severe (Stage III)	03	01
31-35 years	Mild (Stage I)	02	02
	Moderate (Stage II)	01	01
	Severe (Stage III)	02	00

Discussion

The results of this investigation support other studies showing that OSMF is more common in men, particularly those who carry out behaviors like chewing tobacco & honey. Nearly 80% of instances occur in the younger population, especially those between the ages of 25 & 35, putting them at serious danger [7]. This implies that education regarding the negative consequences of these behaviors & early intervention are essential.

Furthermore, only a small portion of patients in our group had severe symptoms; the majority of patients had mild to moderate OSMF. Given that the majority of patients were still in the early stages of fibrosis at the time of diagnosis, this might be an indication of the condition's early phases [8].

There is a well-established link between tobacco usage & OSMF & chewing betel nuts. Carcinogenic chemicals found in these substances contribute to oral mucosal fibrosis. Although less significant, alcohol use cannot be disregarded as a possible contributing factor to the development of OSMF [9].

According to the majority of case reports that have been provided thus far, OSMF is uncommon among adolescents. However, in their study, Ali et al. noted that 7.4% of male school-going students had OSMF. A clinicopathological investigation of 647 OSMF cases in the Chinese population by Cai et al. revealed a prevalence of 2.37% in the 10–19 age group, while a research of 1000 OSMF patients from Central India by Hazarey et al. found a prevalence of 35.2%. The majority of the 36 OSMF cases in this article were male, which is

consistent with a higher prevalence of areca nut chewing among male school-age children in the Oakley et al. study. The outcome contrasted with a review report by Jain & Taneja that found a greater frequency in females.[10]

The classic features of OSMF in adolescent groups, such as decreased mouth opening, burning sensation, blanching of the oral mucosa, restricted tongue movement, palpable fibrotic band in the buccal mucosa, retromolar area, & soft palate, remained consistent with those in adult & older age groups.[11] According to our data, the most common symptoms & signs were burning sensation & blanching of the buccal mucosa, respectively, with clinical Stages I & II being the most common.

The main cause of early areca nut exposure is environmental factors, such as parents, friends, family, movie stars, & other important people who have a habit of consuming ANBP. Other known factors that contribute to early areca nut exposure include stress, domestic abuse, avoiding hunger or cravings, aiding in focus, pleasure, flavor, seeming mature, appealing packaging, & refreshing breath.[12] According to our observations, the main factor exposing teenagers to areca nuts & their products was the influence of parents, friends, family, & teachers.

Conclusion

This study highlights the significant incidence of OSMF among young adults, particularly those who engage in betel nut chewing & tobacco use. The disease remains a considerable health threat, with the potential to progress to oral cancer. Public health strategies should focus on awareness campaigns targeting young people to prevent the initiation of these harmful habits.

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