

Original Research Article

A clinical study on precancerous lesions of oral cavity in patients attending dental hospital, Telangana

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ABSTRACT

Background: Aim of the retrospective study is to determine the type and frequency of the precancerous lesions of the oral cavity and to assess their sex, age distribution among the patients.

Methods: Study was conducted based on year-wise data collected during 2015 to 2018 of all the patients with precancerous lesions of oral cavity.

Results: The total number of patients was 1247, out of which 803 (64.39%) were males and 444 (35.60%) were females. Most common precancerous lesion is oral submucous fibrosis (70.24%) followed by oral lichen planus (19.08%), leukoplakia (8.98%), erythroplakia (1.68%).

Conclusions: We observed marked geographical variation in the incidences of various precancerous lesions. Mostly males are affected by precancerous lesions than females.

Keywords: Precancerous lesions, Oral submucous fibrosis, Leukoplakia, Oral lichen plane, Erythroplakia

INTRODUCTION

The precancerous lesions of the oral cavity are those which potentiality turns into cancerous lesions in its due course if left untreated. Most common precancerous lesions of the oral cavity are leukoplakia, oral submucous fibrosis, oral lichen planus, erythroplakia.

Leukoplakia is defined as “a white plaque of questionable risk having excluded (other) known diseases or disorders that carry no increased risk for cancer”.¹

Erythroplakia is defined as “a fiery red patch that cannot be characterized clinically or pathologically as any other definable disease”.¹

Lichen planus is an autoimmune chronic disease mediated by T lymphocytes that involves the stratified squamous epithelial tissue.²

Oral submucous fibrosis (OSF) is “an insidious, chronic disease affecting any part of the 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 fibro-elastic change of the lamina propria, with epithelial atrophy leading to stiffness of the oral mucosa and causing trismus and inability to eat”.³

Objective of this study is that early diagnosis can be lifesaving and hence important, since the disease may progress to severe dysplasia and even carcinoma in situ and/or squamous cell carcinoma in later stages.¹

METHODS

Study design

This is based on systematic reviews and meta-analyses study.

Sample size

Retrospective study was conducted on precancerous lesions of the oral cavity in patients from 2015 to 2018, year wise data was collected and total number of 1247 patients with oral precancerous lesions i.e. leukoplakia, erythroplakia, oral lichen planus, oral submucous fibrosis were recorded in oral medicine and radiology department at Malla Reddy Institute of Dental Sciences in Telangana.

Selection criteria

Criteria includes subjects who is above 15 years of age and suffering from leukoplakia, erythroplakia, oral lichen planus, oral submucous fibrosis due to any etiology

Statistical analysis

Data entry was done in Microsoft Excel and frequency distribution was calculated for all the variables.

Ethical approval and informed consent

The study proposal was approved by the Institutional Ethical Committee of Malla Reddy Institute of Dental Sciences which is institution based hospital.

RESULTS

The total number of patients was 1247, out of which 803 (64.39%) were males and 444 (35.60%) were females. According to Table 1, 876 (70.24%) number of patients were affected by oral submucous fibrosis during 2015 to 2018 and patients with oral lichen planus was 238 (19.08%) in number whereas 112 (8.98%) number of patients were affected by leukoplakia and erythroplakia has the least number of cases i.e. 21 (1.68%).

Age distribution of precancerous lesions in the oral cavity is shown in Table 2. Based on the distribution oral submucous fibrosis is most common among all the precancerous lesions in the study shows high rate of occurrence in age groups between 36 to 45 years (35.73%). Leukoplakia shows more common in age groups between 26 to 35 years (58.03%), whereas oral lichen planus shows more common in 36 to 45 years of age (41.17%) and erythroplakia which has least number of cases shows high rate of occurrence in 56 to 65 years (33.33%) of age.

Table 3 shows sex distribution of precancerous lesions in oral cavity, oral submucous fibrosis (76.60%), leukoplakia (58.03%), and erythroplakia (66.66%) shows male predilection whereas oral lichen planus (63.02%) shows female predilection.

Table 1: Types of precancerous lesions and its frequency of occurrence.

Lesion	N	Frequency (%)
Oral submucous fibrosis	876	70.24
Leukoplakia	112	8.98
Oral lichen planus	238	19.08
Erythroplakia	21	1.68

Table 2: Age distribution of precancerous lesions in the oral cavity.

Lesion	15-25 years	26-35 years	36-45 years	46-55 years	56-65 years	66-75 years	>76 years	Total no.
	N (%)	N (%)	N (%)					
Oral submucous fibrosis	82 (9.36)	228 (26.02)	313 (35.73)	128 (14.61)	110 (12.55)	14 (1.59)	1 (0.11)	876 (100)
Leukoplakia	0	65 (58.03)	23 (20.53)	17 (15.17)	6 (5.35)	0	1 (0.89)	112 (100)
Oral lichen planus	44 (18.48)	44 (18.48)	98 (41.17)	26 (10.92)	17 (7.14)	9 (3.78)	0	238 (100)
Erythroplakia	4 (19.04)	4 (19.04)	0	3 (14.28)	7 (33.33)	3 (14.28)	0	21 (100)

Table 3: Sex distribution of precancerous lesions in the oral cavity.

Lesion	Males (%)	Females (%)
Oral submucous fibrosis	72.6	27.39
Leukoplakia	58.03	41.96
Oral lichen planus	36.97	63.02
Erythroplakia	66.66	33.33

Table 4: Site distribution of precancerous lesions in oral cavity.

Lesion	Buccal mucosa	Labial mucosa	Palate	Tongue	Gingiva	Floor of the mouth
Oral submucous fibrosis	486	344	28	0	0	18
Leukoplakia	76	15	3	18	0	0
Oral lichen planus	128	56	7	20	27	0
Erythroplakia	18	2	1	0	0	0

In Table 4, under the category of site distribution, oral submucous fibrosis commonly occur in buccal mucosa region later comes the labial mucosa of oral cavity. Ultimately all the precancerous lesion in this study show high rate of occurrence in buccal mucosa region of oral cavity. Only precancerous lesion seen in floor of the mouth is oral submucous fibrosis with least number of cases and in gingival region is oral lichen planus.

DISCUSSION

Oral submucous fibrosis is a chronic, progressive, scarring disease. This condition was described first by Schwartz (1952) and he ascribed the descriptive term “atrophia idiopathic mucosal oris” later it was redesign to oral sub mucous fibrosis.⁴

According to this retrospective study, oral submucous fibrosis is most commonly seen precancerous lesion which shows male predilection than females which correlates with studies of Kumar and Chowdary.^{1,3} And oral submucous fibrosis is more common between age group of 36-45 years (35.73%) which shows similarities with the studies of Misra and differs with the studies of Chowdary and Kumar.^{1,3,5}

Leukoplakia is defined as a clinical white patch or plaque on the oral mucosa which will not rub off and which cannot be characterized clinically or histologically as any other specific disease (e.g. lichen planus, Candidiasis, white sponge nevus, lupus erythematosus, etc.). By this definition, leukoplakia is essentially a clinical term and carries no histopathologic connotation.⁶

Leukoplakia shows more prevalence in males than females in this study which correlates with the studies of Chowdary and not in line off agreement with the studies of Waldron and Bouquot where there show more female prevalence.^{1,6,7} And leukoplakia show more occurrence between age group of 26-35years (58.03%) which is similar to Misra studies and differ from Charles A Waldron study.^{5,6}

Oral lichen planus shows female predilection according to this study which correlates with the studies of Chowdary whereas it differs with studies of Bouquot which shows male predilection.^{1,7} Oral lichen planus show more occurrence between the age group of 36-45 years (41.17%).

Erythroplakia shows more prevalence in males and high occurrence rate in between the age group of 56-65 years (33.33%) which shows similarities with the studies of Chowdhary.¹

CONCLUSION

Oral sub mucous fibrosis is the most common precancerous lesion in the oral cavity followed by oral lichen planus according to this study. Commonly males (64.39%) are affected by the precancerous lesions than females (35.60%). Oral submucous fibrosis, leukoplakia, erythroplakia shows more prevalence in males and oral lichen planus shows more in females. Since most of the data on the frequency of precancerous lesions are derived from hospital-based institution which may show some biases while collecting information from the patients or from the old records of the hospital.

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Conflict of interest: None declared

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