Original Research Article

A study of various pre-malignant oral lesions and factors associated at tertiary health care centre

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Abstract

Background: Premalignant oral lesions are at a great risk of developing oral cancers. Early detection of these lesions will have good prognosis and it is life-saving. This study aimed at finding risk factors for development of these lesions. **Aim and objective:** to study the various pre-malignant oral lesions and factors associated with it at tertiary health care centre. **Methodology:** 330 patients visiting surgical OPD with oral lesions were studied. These cases were studied as per WHO criteria for potentially malignant diseases. Data collection was done with pretested questionnaire. Data included sociodemographic data, detailed history and clinical examination. Various risk factors, site of involvement and grades of dysplasia were recorded. Data analysed with appropriate statistical tests. **Results:** Out of all 330 patients 44 patients showed premalignant oral lesions. Mean age of the patient was 45.16± 3.5 years. Male to female ratio was 2.1:1. Most commonly observed premalignant lesion was leukoplakia (68.17%) followed by oral lichen planus (13.67%). Tobacco chewing was most commonly observed in both males(21) and females(12). Most commonly involved site for premalignant oral lesions was bucal mucosa (54.54%) followed by tongue (27.27%).
Key Word: pre-malignant oral lesions.

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INTRODUCTION

In India, oral cancer is one of the leading cancer today. Its incidence is 12.6 per 1,00,000 population.[1] According to the World Health Organization (WHO), lesions and conditions of the oral mucosa, which may undergo malignant transformation are defined as a potentially malignant disorder (PMD)[2]. Various conditions like erythroplakia, lichen planus, oral submucosus fibrosis, actinic cheilitis and leukoplakia are described as potentially malignant disorders. In premalignant oral lesions risk factors are tobacco use, alcohol drinking, chewing of betel quid containing areca nut, and solar rays. Premalignant oral lesions may progress to dysplasia and carcinoma in situ if not diagnosed early. Various investigation modalities are available for diagnosis. Some of them are Local oral examination, application of toluidine blue to suspected lesion, cytological study, and tissue biopsy.

Early detection of these lesions is important as it can be life saving. Always prevention is better so this study was conducted to find associated risk factors in premalignant oral lesions.

MATERIAL AND METHODS

Present study was a cross sectional study carried out in outpatient department of Otorhinolaryngology in a tertiary care center. Study population was patients presented with complaints of oral lesions. Over a period of one year 330 patients with oral lesions were studied. These cases were studied as per WHO criteria for potentially malignant diseases. The clinical diagnosis involved WHO criteria for potentially malignant disorders and the classification of leukoplakia by Axell and four stage classification of van der Waal. The classification of oral leukoplakia was done

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according to size of oral lesion, its clinical presentation and histopathological features. Study was approved by ethical committee of the institute. A valid written consent was taken from the patients after explaining the study to them. Data was collected using pretested questionnaire. Data collection included sociodemographic profile of the patients. Detailed history and detailed clinical examination was done. The location of oral lesion, size, gross examination were done. Patient underwent appropriate investigations. Biopsy were taken, detailed histopathological features were noted. The tissue sections were stained with H and E stain. Data was analysed using appropriate statistical tests.

RESULTS

Out of all 330 patients 44 patients showed premalignant oral lesions. Mean age of the patient was 45.16± 3.5 years. Age ranged from 19 years to 75 years. one patient was diagnosed at age of 19 years. Most of the patients were from the age group of 51-60 years(27.27%) followed by 31-40 years(18.17%) and 61-70 years (18.17%). In our study 30 patients were males while 14 patients were females. Male to female ratio was 2.1:1. In our study most commonly observed premalignant lesion was leukoplakia (68.17%) followed by oral lichen planus (13.67%). Other lesions observed were oral submucous fibrosis (11.35%), erythroplakia (2.27%) and Actinic cheilitis (4.54%). Table 3 showed various risk factors for oral premalignant lesions. Tobacco chewing was most commonly observed in both males(21) and females(12). Second most common factor was alcohol with tobacco chewing it was observed in males only. Other risk factors involved were smoking and tobacco chewing. Smoking was not observed in females. 3 male patients had no addiction but still they had these lesions. Most commonly involved site for premalignant oral lesions was bucal mucosa (54.54%) followed by tongue (27.27%). Gingiva was found involved in 9.09% patients. Alveolus was site for premalignant oral lesions in 6.83% patients. One patient had lesions on lip contributing 2.27% of all study population. Table 4 showed grades of epithelial dysplasia in patients of premalignant oral lesions. 47.62% of patients had mild grade of epithelial dysplasia. 28.57% patients showed severe dysplasia.

Table 1: Distribution of patients of oral premalignant lesions according to age group

Age group	No of patients	Percentage
11-20	O1	2.27%
21-30	02	4.54%
31-40	08	18.17%
41-50	07	15.91%
51-60	12	27.27%
61-70	08	18.17%
>70	06	13.67%
Total	**44**	**100%**

Table 2: Distribution of patients of oral premalignant lesions according to type of lesion

Premalgnant lesions	No of patients	Percentage
Leukoplakia	30	68.17%
Oral lichen planus	06	13.67%
Oral submucous fibrosis	05	11.35%
Erythroplakia	01	2.27%
Actinic cheilitis	02	4.54%
Total	**44**	**100%**

Table 3: Distribution of patients of oral premalignant lesions according to risk factors and gender

Risk factors	Males	Females	Total
Tobacco chewing	21	12	33
Smoking + Tobacco chewing	01	00	01
Alcohol + Tobacco chewing	07	00	07
No addiction	03	00	03
Total	**30**	**14**	**44**

Table 4: Distribution of patients of oral premalignant lesions according to site of lesion

Site of lesions	No of patients	Percentage
Buccal mucosa	24	54.54%
Tongue	12	27.27%
Gingiva	04	9.09%
Alveolus	03	6.83%
Lip	01	2.27%
Total	**44**	**100%**

Table 5: Distribution of patients of oral premalignant lesions according to grades of epithelial dysplasia

Grades of epithelial dysplasia	No of patients	Percentage
Mild	10	47.62%
Moderate	05	23.81%
Severe	06	28.57%
Total	**21**	**100%**

DISCUSSION

Out of all 330 patients 44 patients showed premalignant oral lesions. Mean age of the patient was 45.16± 3.5 years. Age ranged from 19 years to 75 years. Most of the patients were from the age group of 51-60 years(27.27%) followed by 31-40 years(18.17%) and 61-70 years (18.17%) Prolonged exposure to the risk factors or carcinogen can be the cause for this prevalence. Similar results were seen in Mehrotra R *et al* where they observed the mean age of presentation was 54.5 year. Maximum number of cases were seen in sixth decade.[3] In our study 30 patients were males while 14 patients were females. Male to female ratio was 2.1:1. Similar results were observed in Dietrich T, *et al* where they found 65.78% male patients and 34.21% female patients.[4] In our study most commonly observed premalignant lesion was leukoplakia (68.17%) followed by oral lichen planus (13.67%). Two subtypes including homogeneous and non-homogeneous types[5]. Homogenous lesions are characterized by uniformly flat, thin, uniformly white in colour and shows shallow cracks of the surface

keratin[2,5]. Nonhomogenous lesions have been defined as a white and red lesion (known as erythroleukoplakia) that may be either irregularly flat (speckled) or nodular. Other lesions observed were oral submucous fibrosis (11.35%), erythroplakia (2.27%) and Actinic cheilitis (4.54%). Similar results were observed in previous studies.[6,7] Tobacco chewing was most commonly observed in both males (21) and females(12). Second most common factor was alcohol with tobacco chewing it was observed in males only. Other risk factors involved were smoking and tobacco chewing. Similarly, previous studies showed tobacco, smoking and alcohol were common risk factors.[8,9] These risk factor leads to hyperplastic or dysplastic squamous epithelial lesions which progress to carcinoma in situ to invasive squamous cell carcinoma. Most commonly involved site for premalignant oral lesions was bucal mucosa (54.54%) followed by tongue (27.27%). Similarily Mehta FS *et al* and Axell *et al* observed buccal mucosa as commonest site involved.[8,10].

CONCLUSION

Tobacco chewing, smoking and alcohol are most common risk factors in premalignant oral lesions. These lesions should be diagnosed as early as possible.

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