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Original Research

Prevalence of Oral Premalignant Lesions and its risk factors among adult population in Haroli district of Una Block, Himachal Pradesh, India

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ABSTRACT:
Introduction: India is one of the countries having the highest incidence of oral cancer in the world. Hence; the present study was undertaken for assessing the prevalence of oral premalignant lesions (OPLs) and its risk factors among adult population in Haroli district of Una Block, Himachal Pradesh, India. **Materials & methods:** A total of 560 subjects within the age group of 18 years to 65 years were enrolled in the present study. Complete demographic and clinical details of all the patients were obtained. A Questionnaire was framed and was given to all the patients for obtaining information about complete habit history and personal history of all the patients. Details regarding various risk factors and clinical symptoms were obtained through the questionnaire. **Results:** OPLs were found to be present in 23 patients. Therefore; the overall prevalence of OPLs was 4.11 percent. Positive tobacco history was found to be present in 22 patients with OPLs. Positive alcohol drinking history was found to be present in 18 patients with OPLs. Recurrent oral trauma was found to be present in 9 patients with OPLs. Recurrent oral ulcers were found to be present in 9 patients while poor oral hygiene was found to be present in all the 23 patients with OPLs respectively. **Conclusion:** Tobacco, alcohol consumption and poor oral hygiene are significant risk factors associated with development of OPLs.
Key words: Oral premalignant lesion, Tobacco

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INTRODUCTION

Oral potentially malignant lesions and conditions and its sequelae might cause heavy impairment in quality of life; the disease is also highly costly for society. Primary prevention is the most cost effective prevention program as it aims to reduce the incidence of potentially malignant disorders, by risk factor modification.[1-3]

India is one of the countries having the highest incidence of oral cancer in the world. The most common oral potentially malignant lesions are leukoplakia, erythroplakia, and oral submucous fibrosis. Significant proportion of these oral mucosal lesions has a propensity to transform into malignancy. The malignant conversions of oral mucosal lesions including leukoplakia, erythroplakia, and submucous fibrosis are well recognized. Tobacco has been regarded as a main etiological cause in the development of oral potentially malignant disorders.[2-4]

A varieties of oral potentially malignant disorders have been reported in literature with the consumption of tobacco. In Asians, oral potentially malignant disorders are known to be associated with cigarette smoking, excess alcohol consumption, and areca quid chewing.[5, 6] Hence; the present study was undertaken for assessing the prevalence of oral premalignant lesions (OPLs) and its risk factors among adult population in Haroli district of Una Block, Himachal Pradesh, India.

MATERIALS & METHODS

The present study was conducted in the department of dentistry and it included assessment of prevalence of oral premalignant lesions and its risk factors among adult population in Haroli district of Una Block, Himachal Pradesh, India. A total of 560 subjects within the age group of 18 years to 65 years were enrolled in the present study. Complete demographic and clinical details of all the patients were obtained. A Questionnaire was framed and was given to all the patients for obtaining information about complete habit history and personal history of all the patients. Written consent was obtained from all the patients after explaining in detail the entire study protocol. A mouth mirror, probe and tongue blade was used for carrying out the oral examination. Exclusion criteria for the present study included:

- Patients with history of any systemic illness,
- Patients with any known drug allergy,
- Patients of more than 65 years of age,
- Patients who didn't gave informed consent

Details regarding various risk factors and clinical symptoms were obtained through the questionnaire. All the results were compiled in Microsoft excel sheet and were analyzed by SPSS software. Chi- square test was used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

RESULTS

In the present study, a total of 560 patients within the age group of 18 to 65 years were analyzed. In the present study, a total of 560 patients were analyzed. All the patients belonged to the age group of 18 to 65 years. Out of 560 patients, OPLs were found to be present in 23 patients. Therefore; the overall prevalence of OPLs was 4.11 percent. Among these 23 patients, there were 14 males and 9 females. 21.74 percent of the patients with OPL belonged to the age group of less than 30 years, while 43.48 percent of the patients and 34.78 percent of the patients belonged to the age group of 30 to 50 years and more than 5 years respectively.

In the present study, Positive tobacco history was found to be present in 22 patients with OPLs. Positive alcohol drinking history was found to be present in 18 patients with OPLs. Recurrent oral trauma was found to be present in 9 patients with OPLs. Recurrent oral ulcers were found to be present in 9 patients while poor oral hygiene was found to be present in all the 23 patients with OPLs respectively. Positive tobacco history, positive alcohol drinking history and poor oral hygiene were found to be significant risk factors associated with OPLs.

Table 1: Prevalence of OPL

Parameter	Number of patients	Percentage of patients
Prevalence	23	4.11

Graph 1: Age and gender-wise distribution of patients with OPL

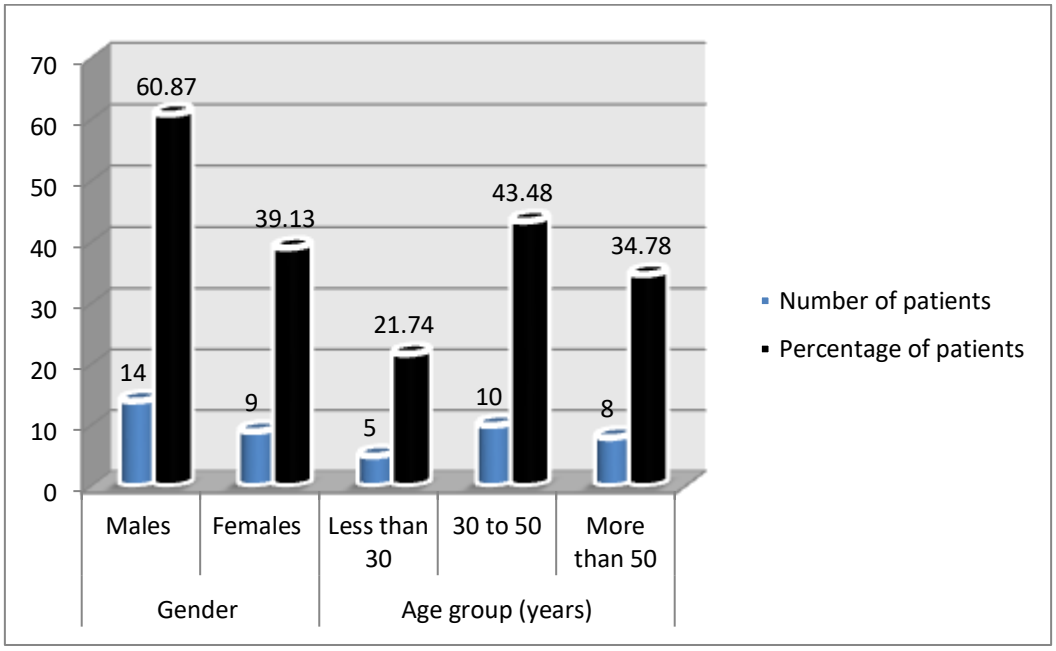

Table 2: Risk factors of OPL

Risk factors		Patients with OPL (n=23)	Patients without OPL (n=537)	p-value
Positive tobacco history	Present	22	138	0.001*
	Absent	1	399	
Positive alcohol drinking history	Present	18	123	0.020*
	Absent	5	414	
Reaped oral trauma history	Present	9	232	0.522
	Absent	14	305	
Recurrent oral ulcers	Present	12	189	0.813
	Absent	11	348	
Positive Areca nut consumption history	Present	10	103	0.098
	Absent	13	434	
Poor oral hygiene	Present	23	346	0.003*
	Absent	0	191	
Gender	Males	14	312	0.135
	Females	9	225	
Age group (years)	Less than 30	5	138	0.715
	30 to 50	10	213	
	More than 50	8	186	

DISCUSSION

Oral precancerous lesions and conditions such as oral leukoplakia and oral submucous fibrosis (OSF) have been shown to have a high rate of transformation to oral cancer. The prevalence of OSF in India varies between 0.03 and 3.2% according to various studies. Also, a higher occurrence of leukoplakia and cancer is observed in OSF patients, and tobacco is considered to be an important risk factor for oral cancer among youths.[6- 8] Increased prevalence of oral cancer and its risk factors in Asian populations is well documented. The complex association between poverty, education, reduced access to treatment, low prioritization of the disease and the specific cultural and social habits are the main reasons for increased incidence of oral cancer in underserved population.[9] Hence; the present study was undertaken for assessing the prevalence of oral premalignant lesions and its risk factors among adult population in Haroli district of Una Block, Himachal Pradesh, India.

In the present study, a total of 560 patients within the age group of 18 to 65 years were analyzed. In the present study, a total of 560 patients were analyzed. All the patients belonged to the age group of 18 to 65 years. Out of 560 patients, OPLs were found to be present in 23 patients. Therefore; the overall prevalence of OPLs was 4.11 percent. Among these 23 patients, there were 14 males and 9 females. 21.74 percent of the patients with OPL belonged to the age group of less than 30 years, while 43.48 percent of the patients and 34.78 percent of the patients belonged to the age group of 30 to 50 years and more than 5 years respectively. Kavarodi AM et al assessed the prevalence of risk factors and occurrence of oral precancerous lesions in a low income group expatriate community from the Indian subcontinent Among the 3,946 participants screened for oral premalignant lesions 24.3% (958) were smokers and 4.3 % (169) were pan chewers while 6.3% (248) were users of both smoked and smokeless forms of tobacco. Significantly higher proportion of industrial laborers (49.9%) followed by drivers (24.1%) were found to be smokers (p=0.001). The prevalence of white lesions was higher in smokers versus non-smokers 3.5% versus 2.3% (p=0.111), however this difference was statistically non-significant. Red and white lesions were highly significant (i.e. 1.2 % and 10.9% respectively) in the subjects with pan chewing and smoking habits (p=0.001). A significant proportion (8.9%) of the subjects with pan chewing habit showed evidence of oral precancerous lesions (p=0.001). Even though smoking and pan chewing were two significant risk factors detected in this population, their prevalence and occurrence of premalignant lesions are low as compared to the studies conducted in their home countries.[10]

In the present study, Positive tobacco history was found to be present in 22 patients with OPLs. Positive alcohol drinking history was found to be present in 18 patients with OPLs. Recurrent oral trauma was found to be present in 9 patients with OPLs. Recurrent oral ulcers were found to be present in 9 patients while poor oral hygiene was found to be present in all the 23 patients with OPLs respectively. Positive tobacco history, positive alcohol drinking history and poor oral hygiene were found to be significant risk factors associated with OPLs. Pahwa V et al estimated the prevalence of oral pre-malignant lesions (OPML) and to identify their risk factors. A community based cross-sectional study was carried out among 2033 individuals aged ≥18 years. A questionnaire was administered to collect socio-demographic characteristics, various risk factors for oral cancer and presence of its symptoms. The prevalence of OPML

was found to be 3.73%. Among those with OPML, all were ever tobacco consumers and had poor oral hygiene. A significant association was observed between OPML and younger age group, males and low socio-economic status. Tobacco, alcohol and areca nut consumption were strongly associated with OPML. On multivariate analysis among ever tobacco users, OPML was associated with younger individuals, males and those using smokeless forms of tobacco. The study showed that the participants with OPML were more likely to be never married, to be unskilled workers, to have suffered from oral trauma, to have consumed hot and spicy food frequently, to have consumed fruits infrequently and to report family history of any cancer. However, these associations were statistically insignificant. The study reinforced that use of substances such as tobacco, alcohol and areca nut are the modifiable risk factors for OPML.[12]

CONCLUSION

From the above results, the authors concluded that tobacco, alcohol consumption and poor oral hygiene are significant risk factors associated with development of OPLs. However; further studies are recommended for better exploration of results.

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