

Study of oral premalignant and malignant lesions in a tertiary care teaching centre of North India

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Abstract

Background :Oral malignancies are the sixth most common cancer around the globe. However, In India oral cancer is one of the leading carcinoma is squamous cell carcinoma these days. Its incidence is 12.6 per 1,00,000 population. Oral carcinoma is a common health problem with developing prevalence and mortality rates. Prevention or early finding of premalignant and oral cancer requires increased public awareness. Oral squamous cell carcinoma is the most frequent of oral carcinomas and represents about 3% of all human malignant tumours. **Methods** : This cross-sectional study was conducted in Government Medical College associated Hospital, Datia from February 2018 to February 2019. Total 88 patients suffering from oral lesions were included in the study both premalignant and malignant lesions. The patients were asked about the detailed clinical history and daily routine habits to eliminate exposure to known carcinogens. **Result**:In this study total Males were 52 and females were 36 (M:F=1.3:1). The mean age was 56.2 years. The largest number of patients of premalignant cases was between age group 41-60 years and malignant cases between age group 51-70 years. Regarding substance abuse maximum patients were tobacco chewers then smokers then tobacco chewers as well as and some was no addiction to tobacco or smoking. **Conclusion** : This study explores the prevalence of oral lesions in this area and attempts to correlate the various risk factors with the lesions identified. Present studies were pattern and presentation of premalignant as well as malignant lesions in oral cavity and result of epidemiological factors and daily lifestyle habits on the scenario of oral cavity.

Keywords: Oral squamous cell carcinoma, malignant lesions, epidemiological factors, oral cavity.

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Introduction

Oral malignancies are the sixth most common cancer around the globe[1].However, In India oral cancer is one of the leading cancer these days. Its incidence is 12.6 per 1,00,000 population[2,3].Oral carcinoma is a universal health problem with developing prevalence and mortality rates. Oral squamous cell carcinoma is the most frequent of oral carcinomas and represents approximately 3% of all human malignant tumors[4]. It is the most common malignant tumor of the lip and oral cavity (90%of the cases), while the remaining 10% of the cases are mainly melanomas, sarcomas, minor salivary gland carcinomas and metastatic cancers[5].Premalignant or precancerous lesion is defined by the WHO (1978) as “a morphologically altered tissue in which cancer is more likely to occur than its usual counterpart[6].Oral premalignant lesions are comparatively common, occurring in about 2.5% of the general population[7].The importance of oral cancer lies in its preventability and high potential of curability. Oral mucosal lesions result due to infections, local trauma, irritation, systemic disease or usage of tobacco, nut, betel or alcohol. India has

a vast geographic area, divided into states, which differ with regard to their socioeconomic, educational, cultural and behavioural traditions. The majority of the people at Datia belong to the lower socio-economic status with poor access to medical facilities due to lack of education. This study explores the prevalence of oral lesions in this area and attempts to correlate the various risk factors with the lesions identified.

Aims and Objectives

1. To study the pattern and presentation of premalignant as well as malignant lesions in oral cavity.
2. To study the affect of epidemiological factors and daily lifestyle habits on the scenario of oral cavity lesions.

Materials and Methods

This cross-sectional study was conducted on patients appearing in Department of Otorhinology and Department of Dental Care Government Medical College associated Hospital, Datia , MP from February 2018 to February 2019.Patients suffering from oral lesions were included in the study. The study population was 88, including both premalignant and malignant lesions. The study was approved by our research committee. An informed consent was taken from the patient along with the basic questionnaire from each case as per the WHO guidelines (1997).The patients were asked about the detailed clinical history and daily routine habits to eliminate exposure to known carcinogens. After thorough clinical examination focusing on

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the location of lesion, size and appearance, a provisional diagnosis was established according to the mucosal damage followed by incision or excision biopsy of all oral lesions.

Result

The sample constituted of 88 patients. Males were 59.09% (n=52) and females were 40.91% (n=36) (M:F=1.3:1). The mean age was

56.2 years. The largest number of patients of premalignant cases (n=27; 30.68%) were between age group 41-60 years and malignant cases (n=21; 23.86%) between age group 51-70 years. It was observed 55.68% (n=49) premalignant cases and 44.31% (n=39) malignant cases

Table 1: Shows age distribution of premalignant and malignant cases.

Age group (years)	Premalignant	Malignant	Total	Percentage
≤30	7	1	8	9.09%
31-40	9	4	13	14.77%
41-50	13	8	21	23.86%
51-60	14	12	26	29.54%
61-70	4	9	13	14.77%
>70	2	5	7	7.95%
Total	49	39	88	100%

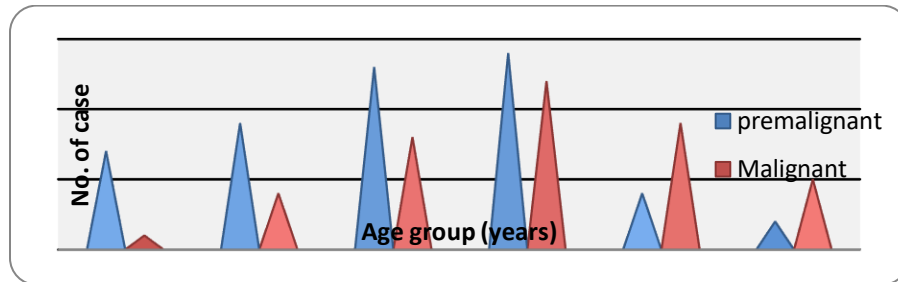


Fig 1: shows age distribution of premalignant and malignant cases

Table 1 shows the daily habits scenario in the study population. Regarding substance abuse, 38.63% (PM cases, n=20; M cases, n=14) were tobacco chewers, 21.59% were smokers (PM cases

,n=11; M cases, n=8) , 35.23% were tobacco chewers as well as smokers (PM cases, n=15 ; M cases, n=16) and 4.55% had no addiction to tobacco or smoking.

Table 2: Daily habits in Premalignant and Malignant cases

Daily habit	Premalignant	Malignant	Total	Percentage
Tobacco	20	14	34	38.63
Smoking	11	8	19	21.59
Both tobacco and smoking	15	16	31	35.23
None	3	1	4	4.55
Total	49	39	88	100

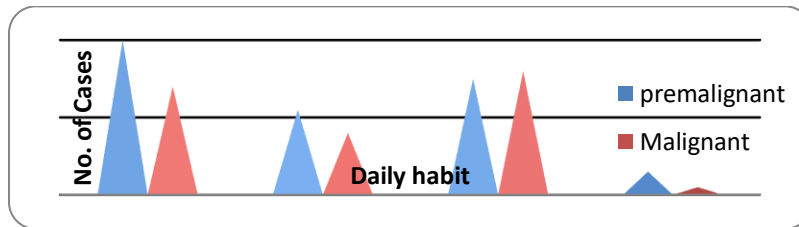


Fig 2: Daily habits in Premalignant and Malignant cases

Table 3: Presenting symptom in oral cavity lesions

Presenting symptom	Premalignant	Malignant	Total	Percentage
Buccal mucosa	30	21	51	57.95
Tongue	12	9	21	23.86
Gingivae	3	4	7	7.95
Alveolus	2	2	4	4.54
Retromolar Trigone	1	2	3	3.41
Lip	1	1	2	2.27

Most common affected site in oral cavity was buccal mucosae (57.95%) followed by tongue (23.86%).

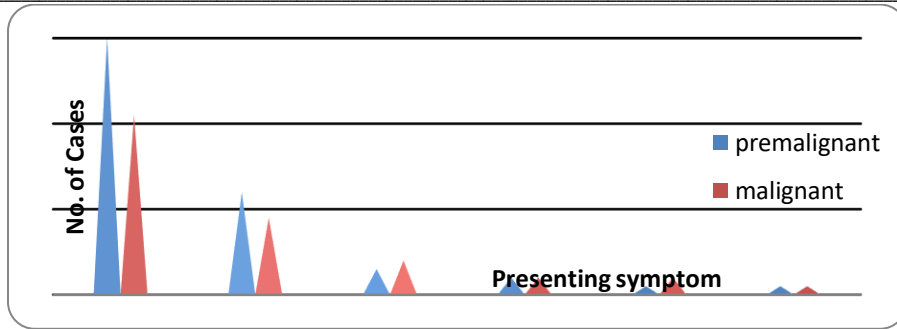


Fig 3: Presenting symptom in oral cavity lesions

Table 4: Presenting symptom in oral lesions

Presenting symptom	Premalignant	Malignant	Total	Percentage
Difficulty in opening mouth	8	1	9	10.23
Burning sensation	4	3	7	7.95
Altered taste	3	2	5	5.68
Altered salivation	2	3	5	5.68
White patches	31	6	37	42.05
Ulcer/growth	1	18	19	21.59
Swelling in neck	0	6	6	6.82

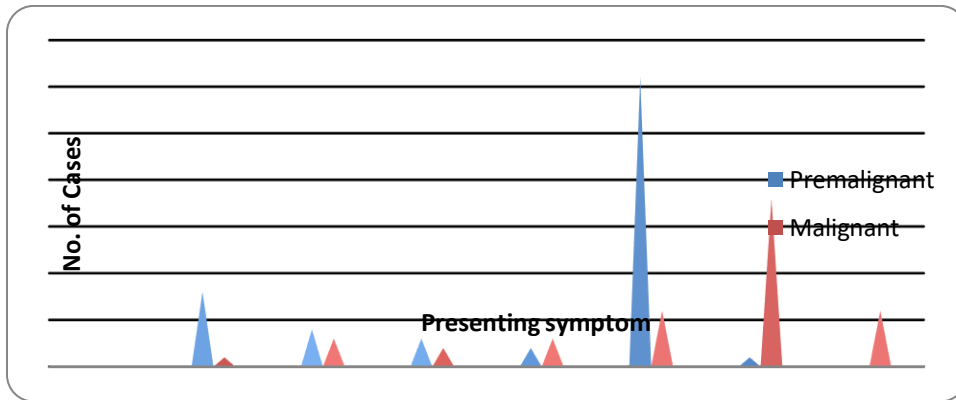


Fig 4: Presenting symptom in oral lesions

Table 5: Different histological patterns of premalignant cases

Type of lesion	Premalignant (49)	Percentage
Leukoplakia	37	75.51
OSMF	6	12.24
Lichen planus	4	8.16
Erythroplakia	2	4.08

Table 6: Different histological patterns of malignant cases

Type of carcinoma	Malignant (39)	Percentage
Squamous cell carcinoma	36	92.30
Verrucous carcinoma	1	2.56
Spindle cell carcinoma	1	2.56
Adenosquamous carcinoma	1	2.56

Discussion :

Now a day's cancer is one of the prominent threats to human life. Oral pre-malignant illnesses consist of a group of diseases which are defined by WHO in 2005 as the conditions of oral mucosa which may undergo malignant transformation as 'Potentially malignant disorders'. The head and neck cancer is largely a disease due to environmental and socioeconomic conditions which results maximally due to prolonged addiction to smoking, alcohol and

tobacco chewing. Oral cavity is the main site of involvement among head and neck cancers. Studies on precancerous lesions are very important since it is known that oral cancers still cannot be diagnosed adequately in early stages. The main way to deal with this problem is to educate people about the importance of regular checkups and the strong association between daily lifestyle with the development of oral pre-malignancy and malignancy[8]. Early diagnosis of the lesion and cessation of habit is the best line of treatment[9]. There is limited

information available on oral mucosal lesions prevalence in semi-urban population of India[10]. This study was conducted focusing on the type of premalignant lesions and oral cancers along with the factors affecting these lesions. The present study showed the number of patients increased with increase in age with maximum number of patients in 51-60 years age group, which was same reported by Iype et al[11](50-59yrs) in 2001 but higher than Saraswati et al[12] (40-61 yrs). Male to female ratio was 1.3:1. Male predominance was seen in both groups as similar to the study of Herity et al[13] and Dietrich et al[14]. In current study, we observed 21.59% smokers, 38.63% tobacco chewers and 35.23% were both smoker and tobacco chewers. It was noted that subjects who were addicted to smoke or tobacco had far higher frequency of oral lesions. Nunes DN *et al*[15] noted 42.7% were smokers and 89.3% tobacco chewers. Vellapelly *et al* [16] found oral lesions were present in 22.7% tobacco chewer. Regarding the site of development of oromucosal lesions, the main site reported in this study was buccal mucosa which was similar as that reported by Wahi et al[17] which indicates more usage of tobacco products. The most common place of carcinoma was tongue related to Mirbong and Ahing[18]. Out of the studied patients, the % suffering from leukoplakia was 75.51%, OSMF 12.24%, lichen planus 8.16% and Erythroplakia 4.08%, which was comparable to study of Saraswati et al[12]. Leukoplakia was the commonest premalignant lesion noticed which has a strong association with the use of tobacco products. The most frequent site of involvement was buccal mucosa. The presenting symptom was mostly white patch (83.78%). These findings were similar to Panda and Khadangas study[19]. The second most common premalignant lesion was OSMF (12.24%), which maximally presented with trouble in opening mouth and burning sensation. The least number of patients were of erythroplakia. This study shows that most common oral carcinoma was squamous cell carcinoma. These findings coincide with study of Bose and Rosai[20]. Malignant lesions were more common in the elderly age group. Tongue was the most common site involved in Squamous cell carcinoma as it is the most prone part of oral cavity exposed to carcinogens. This result was similar to study of Iype et al¹¹. In the study done by Mridu Manjari et al[21], it was found that the dominant group was squamous cell carcinoma (93.3%), Adenoid cystic carcinoma (1.71%) and mucoepidermoid carcinoma (0.19%).

Conclusion

The prevalence of oral cancer can easily be reduced with timely screening of oral lesions. Etiopathological analysis reveals addictive substances play a major role in pathogenesis of oral lesions. So, there is need of awareness activities hoping that the results will benefit at area level in addition to the benefit of sinking the oral malignancies.

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