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A Study of Precancerous Lesions for Oral Cancer in Patna, Bihar

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Abstract
Introduction*: Oral cancer is a common malignancy, ranking first among all cancers in Western and Asian countries. It is preceded by some benign lesions or conditions, which are termed precancerous. Only one-third of people at the precancerous stage of disease succumb to cancer, it would be of practical importance to identify individuals at risk among them.*
Objectives*: The aim of the present study was to evaluate high risk factors for oral cancer, to evaluate clinical features and correlate various factors to precancerous lesions and to determine incidence rate and magnitude of precancerous lesions in general population.*
Material and Methods*: In the study, 8846 residents from different wards of Patna are clinically assessed for presence of precancerous lesions and interviewed by cross-sectional study.*
Results*: It was found that prevalence rate of leukoplakia was found 0.93% while of OSMF was 1.75% in study population. All persons with precancerous lesions have addictions like tobacco chewing/smoking. Out of 2826 persons with poor oral hygiene, leukoplakia was found in 2.54%, while OSMF in 1.67%.*
Conclusion*: This study concluded that prevalence rate of precancerous lesion in general population of Patna is high. It is associated with habits of tobacco chewing and cigarette smoking.*
Keywords: *Precancerous lesions, Precancerous condition, Oral cancer.*

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I. Introduction

Malignant neoplasms are major causes of fear, morbidity and mortality all over the world. Globally 'oral cancer' is the sixth most common cause of cancer-related death. Oral cancer accounts for approximately 30-40% of all cancers in India . Despite the recent advances in tumor surgery and multimodal treatment regimes, the prognosis of oral squamous cell carcinoma is still relatively poor. This may be because symptoms that indicate the presence of the carcinoma often appear when the tumor is in an advanced stage [1]. Keeping in view the importance of early diagnosis and hence cure of such lesions, a study was conducted

in Patna, regarding the occurrence and prevalence of such premalignant states and conditions and its relation to various factors predisposing to such conditions.

II. Aims And Objectives Of The Study

The main aim and objective of the study was,to evaluate the high-risk factors associated with oral cancer along with that to evaluate the clinical features of such lesions and to correlate various factors, such as age, sex, habits and personal hygienic conditions with the clinical condition and to determine the incidence rate and magnitude of precancerous lesions and conditions among general population in Patna.

III. Materials And Methods

The present study was carried out taking 8846 persons from different parts of Patna out of which 5475were males and the remaining 3371 were females with the age group distribution from 15 to 85 years. A special proforma was prepared for the study. People were examined for the presence of leukoplakia and OSMF diagnosis of both OSMF and leukoplakia were entirely based on clinical features only. For leukoplakia, any white plaque on the oral mucosa which can not be classified under definite entities, like lichen planus, white sponge nevus, lupus erythematosis, chemical burns and other stomatitis, etc. were considered as leukoplakia.2,3

OSMF was characterized on the basis of burning sensation of the mouth particularly when eating spicy foods, followed by formation of vesicles, ulcerations or recurrent stomatitis, blanching of mucosa, appearance of fibrotic bands usually involving buccal mucosa, soft palate, lips and tongue; stiffening of certain areas of oral mucosa with difficulty in opening the mouth and swallowing.4,5 People were also graded as per their oral hygiene maintenance. These grades were given on the basis of oral hygiene index. All the collected data were then statistically organized and analysis was done.

IV. Statistical Analysis

Chi-square test was used to compare precancerous lesions with regard to age, sex, habits and oral hygiene status. All significant tests were done at 0.001 levels. Analysis was carried out using
SPSS software.

V. Results

A total of 8846 patients attending the OPD were examined for the precancerous states and conditions. Out of them, majority of patients were between 21 to 40 years of age (53.09%) while 16.47% were below the 20 years of age and rest was above 40 years of age (Table 1). The sex-wise distribution was as such: Out of 8846 patients 61.9% were males and remaining 38.1% were females. Table 2 shows the age-wise distribution of precancerous lesions. Overall (out of 8846 (patients) 82 patients (0.93%) had leukoplakia and 155 patients (1.75%) had OSMF.

Table 1: Age-wise distribution of patients

Age groups (years)	Total patients	Percentage
Below 10 years	36	0.4
15-20	1421	16.07
21-30	2411	27.26
31-40	2285	23.83
41-50	1542	17.43
51-60	759	8.59
61-70	272	3.07
71-80	101	1.14
81-85	19	0.21
Total	8846	100

Table 2: Age-wise distribution of precancerous lesions

AGE GROUPS (YEARS)	TOTAL PATIENTS	LEUKOPLAKIA	OSMF
Below 10 years	36	00	00
15-20	1421	09	14
21-30	2411	06	45
31-40	2285	14	47
41-50	1542	19	31
51-60	759	19	11
61-70	272	8	5
71-80	101	06	1
81-85	19	1	1
Total	8846	82	155

Table 3: Sex-wise distribution of precancerous lesions

Sex	Total patients	Leukoplakia	OSMF
MALE	5475	81	149
FEMALE	3371	1	6
TOTAL	8846	82	155

VI. Discussion

As the age increases percentage of precancerous lesions also increases. [$\chi 2$ are highly significant for both the conditions (Table 2), similar findings by Axell T(6) and Rajendra R(7) in their studies. Males are predominantly affected by both the conditions. Out of 82 leukoplakia cases, 81 were males. Similarly, out of 155 cases of OSMF 149 were males. [$\chi 2$ are highly significant for sex ratio (Table 3)]. Same things were observed by Zein RB(8) in their study. There is a significant relationship between leukoplakia and smoking and OSMF and pan masala/tobacco chewing Same relationship was also found by Sinor PN(9) and Gupta PC (10).

With decrease in oral hygiene precancerous state/condition levels increases and it was statistically highly significant. HA Seedat observed same things.(11)

Maximum cases of OSMF were detected in the age group of 20 to 40 years. Holumerman observed same things(12) Maximum cases of leukoplakia were detected above 40 years of age. Similar finding by Gupta PC in their study.(10)

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