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Original Article

Assessment of Prevalence of Malignant and Pre-Malignant Cases: A Retrospective Study

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***ABSTRACT*:**
Background: Oral cancer is sometimes preceded by clinically visible lesions which are noncancerous to begin with and which have therefore been termed precancerous. The most common oral potentially malignant lesions are leukoplakia, erythroplakia, and oral submucous fibrosis. A large number of these oral mucosal lesions have a tendency to transform into malignancy. **Aim of the study:** To study the prevalence of malignant and premalignant diseases in the patients. **Materials and methods:** The study was conducted in the Department of Oral pathology of the Dental institute. The study was conducted from January 2016- January 2017. The medical records of the patients were collected in the perspective of age, sex, site involved, and final histopathological diagnosis from the archives of department of oral pathology. After reviewing the medical records of the study period, we selected patients diagnosed with premalignant and malignant lesions. The records were reviewed and data was recorded for further evaluation. **Results:** A total of 116 medical records for the desired study period were reviewed. The number of male patients was 72 and number of female patients was 44. We observed that 39 patients' biopsies were reported to be premalignant, 14 were malignant, and 69 were others. Of the premalignant cases, 25 cases were males and 14 cases were females. Of the malignant cases, 8 were males and 6 were females. In the premalignant cases, 9 cases were male patients and 5 patients were females. **Conclusion:** The prevalence of pre-malignant and malignant cases is 33% and 12% respectively. In terms of prevalence, frequency and presentation awareness of the precancerous and malignant lesions of oral cavity is beneficial for oral pathologists and general dental practitioners in making early and better diagnosis and treatment.
Keywords: Malignant, non-malignant, lichen planus, carcinoma.

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INTRODUCTION:

Oral cancer is a serious and growing problem in many parts of the globe. Oral and pharyngeal cancer, grouped together, are the sixth most common cancer in the world.[1, 2] Oral cancer is sometimes preceded by clinically visible lesions which are noncancerous to begin with and which have therefore been termed precancerous. The most common oral potentially malignant lesions are leukoplakia, erythroplakia, and oral submucous fibrosis.[3] A large number of these oral mucosal lesions have a tendency to transform into malignancy. The malignant transformations of oral mucosal lesions including leukoplakia, erythroplakia, and submucous fibrosis are well documented.[4, 5] Lack of improvement in prognosis over the years is due to the fact that a significant proportion of oral squamous cell carcinoma (OSCC) is not diagnosed or treated until they reach an advanced stage. It is presumed that such delays are longer for asymptomatic lesions. Although arising *de novo* in many instances a significant proportion of OSCC develop from premalignant lesions and conditions such as leukoplakia, oral submucous fibrosis and lichen planus.[6]Hence, we planned the study to study the prevalence of malignant and premalignant diseases in the patients.

MATERIALS AND METHODS:

The study was conducted in the Department of Oral pathology of the College. The ethical clearance for the study was obtained from the ethical board of the institute prior to commencement of the study. The study was conducted from January 2016- January 2017. The medical records of the

patients were collected in the perspective of age, sex, site involved, and final histopathological diagnosis from the archives of department of oral pathology. After reviewing the medical records of the study period, we selected patients diagnosed with premalignant and malignant lesions. The records were reviewed and data was recorded for further evaluation.

The statistical analysis of the data was done using SPSS version 20.0 for windows. The Student's t-test and Chi-square test were used to check the significance of the data. The p-value less than 0.05 was predetermined as statistically significant.

RESULTS:

A total of 116 medical records for the desired study period were reviewed. The number of male patients was 72 and number of female patients was 44. We observed that 39 patients' biopsies were reported to be premalignant, 14 were malignant, and 69 were others. Of the premalignant cases, 25 cases were males and 14 cases were females. Of the malignant cases, 8 were males and 6 were females. In the premalignant cases, 9 cases were male patients and 5 patients were females. In premalignant cases, 16 cases were reported as oral lichen planus, 6 cases were reported as OSMF, 9 cases were reported as leukoplakia, and 8 cases were reported as erythroplakia. In malignant cases, 4 cases were reported as well-differentiated squamous cell carcinoma, 3 cases were reported as moderately-differentiated carcinoma, 4 cases were reported as poorly-differentiated carcinoma, 1 case was reported each of verrucous carcinoma, basaloid squamous cell carcinoma and ameloblastic carcinoma. [Fig 1-3]

Figure 1

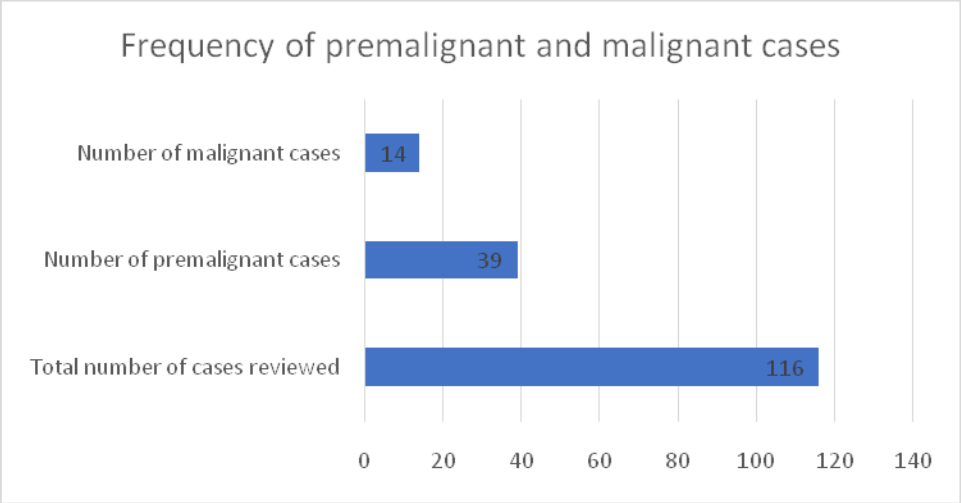


Figure 2

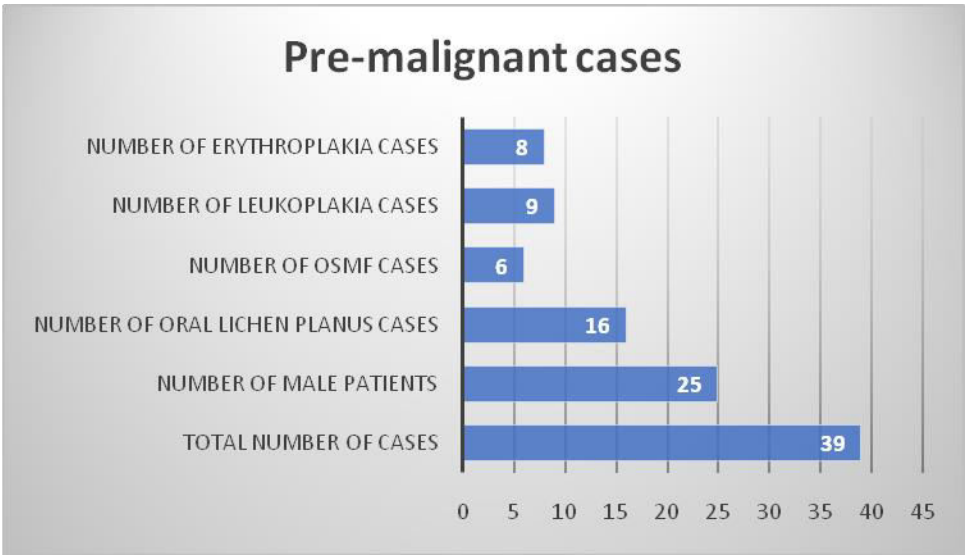
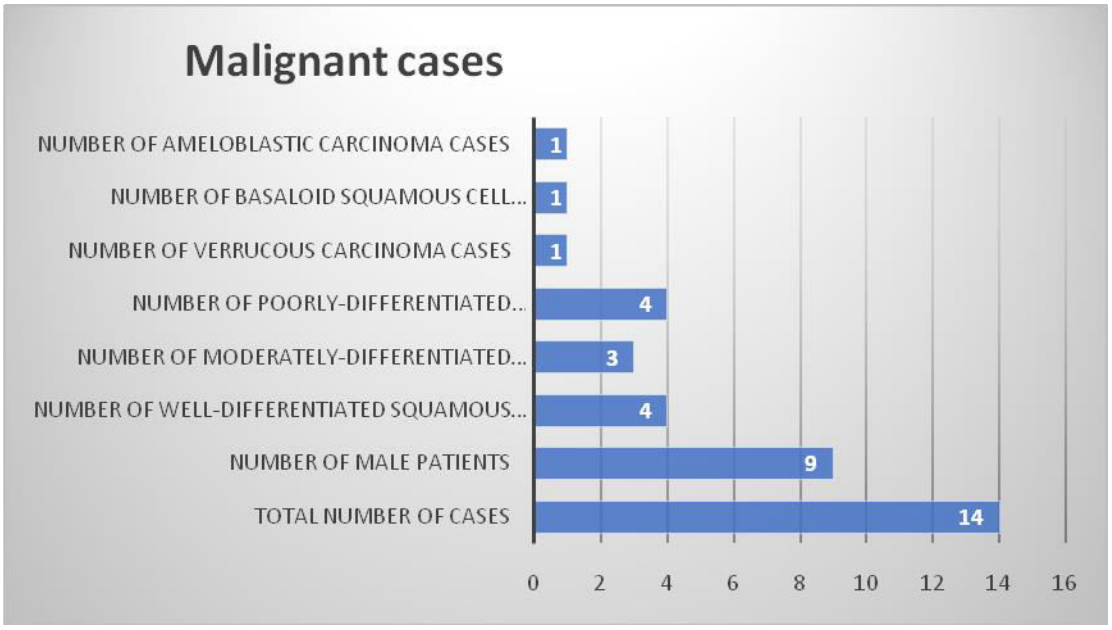


Figure 3



DISCUSSION:

In the present study we reviewed 116 medical records for the desired study period. We observed that 39 cases were premalignant, whereas 14 cases were malignant. . In premalignant cases, 16 cases were reported as oral lichen planus, 6 cases were reported as OSMF, 9 cases were reported as leukoplakia, and 8 cases were reported as erythroplakia. In malignant cases, 4 cases were reported as well-differentiated squamous cell carcinoma, 3 cases were reported as moderately-differentiated carcinoma, 4 cases were reported as poorly-differentiated carcinoma, 1 case was reported each of verrucous carcinoma, basaloid squamous cell carcinoma and ameloblastic carcinoma.But the results were statistically non-significant. The results were compared with previous studies and results were consistent with previous studies.Kavarodi AM et al conducted a cross sectional study to assess the prevalence of risk factors and occurrence of oral precancerous lesions in a low income group expatriate community from the Indian subcontinent residing in Qatar. 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. The prevalence of white lesions was higher in smokers versus non-smokers 3.5% versus 2.3%, 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. A significant proportion (8.9%) of the subjects with pan chewing habit showed evidence of oral precancerous lesions. They concluded that 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. Kumar YS et al assessed the prevalence and risk factors of oral potentially malignant disorders (PMD) among industrial workers of Udupi taluk, Karnataka. The sample consisted of industrial workers aged >18 years from randomly selected industries in Udupi Taluk. A self-administered questionnaire was given to the participants to assess sociodemographic factors and abusive habits (Tobacco, Alcohol, and Betel quid) followed by clinical oral examination by single trained and calibrated examiner. A total of 396 completed all steps of the survey and were included for analysis. A total of 14, 11.4, and 14.4% were tobacco, alcohol, and betel quid users, respectively. A total of 8.6% (n = 34) have at least one PMD. A significantly higher number of participants with single (11.4%) or combined habits (60.4%) had oral lesions while none of the participants without habits reported any oral lesions. It was concluded that prevalence of abusive habits and oral premalignant lesions or conditions was substantial among the workers. The cause and effect relationship and dose-response were also shown to be significantly associated.[7, 8]

Starzyńska A conducted an epidemiological and clinical analysis of patients with oral leukoplakia (OL) diagnosed and treated in the Department of Maxillofacial and Oral Surgery, Medical University of Gdansk. The study was retrospective and prospective. Among 55 911 patients diagnosed and treated in the Department in 1999–2009, 204 people with OL were selected. The material includes 104 women and 100 men with an average age of 58.1. Most of the patients were in the age group of 50–70 years, average

age was 58.1. The most common concomitant disease was diabetes. More than 88% of the patients declared occurrence of OL predisposing development factors (50.49% – cigarette smoking). Three hundred and twenty foci of OL were found among patients. Homogeneous OL dominated (72.05%). Multifocal OL was diagnosed in 58.3% of patients. The most common location of lesions was buccal mucosa (52.2%). Cancers developed on the basis of OL in 7 patients (3.43%). The percentage of malignant transformation was 12.19% for untreated patients and 1.41% for treated patients. The floor of the oral cavity was proven to be the location of the highest risk of oral squamous cell carcinoma. Patients with diabetes may be more likely to develop OL. The risk of malignant transformation is relatively high. In our material it was equal to 3.43%. it was concluded that cigarette smoking is the most important factor, which can influence the effectiveness of treatment. Gupta S et al investigated the relative occurrence of different oral pre-cancerous lesions and oral cancer in North India and to identify the associated risk factors. A hospital-based study was conducted and 471 subjects were recruited in the study. The subjects comprised patients with squamous cell carcinoma (n = 85), oral submucous fibrosis (n = 240), leukoplakia (n = 32), lichen planus (n = 15), and controls (n = 99). A strong correlation was observed between the presence of the chewing habit in all the oral precancerous lesions and oral cancer. Duration of the habit and intensity of habit ware also strongly correlated with the risk of oral precancerous lesions and oral cancer. Other factors such as alcohol and smoking were found to be less important in concern with oral cancer and precancerous lesions.[9, 10]

CONCLUSION:

Within the limitations of the study we conclude thatthe prevalence of pre-malignant and malignant cases is 33% and 12% respectively. In terms of prevalence, frequency and presentation awareness of the precancerous and malignant lesions of oral cavity is beneficial for oral pathologists and general dental practitioners in making early and better diagnosis and treatment.

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