

Original Article

Retrospective assessment of prevalence of various malignant neoplasms of the oral cavity: An institutional based study

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Abstract

Background: Epidemiologic studies yield important information such as origin, prevalence and trends of certain diseases like oral cancer. Hence; we planned the present study to assess the frequency of occurrence of malignant oral neoplasms. **Materials & methods:** The present study included assessment of prevalence of malignant neoplasms of the oral cavity. Data records of all the patients were obtained who were diagnosed with presence of epithelial malignancies. Data of a total of 200 patients was analyzed in the present study. All the data were summarized in Microsoft excel sheet and were analyzed by SPSS software. **Results:** Oral squamous cell carcinoma (OSCC) was the most commonly encountered malignant epithelial neoplasm in the present study, found to be present in 38 patients in the total study population. Other encountered epithelial malignancies of the oral cavity included basal cell carcinoma and Verrucous carcinoma. **Conclusion:** Oral squamous cell carcinoma is the most prevalence oral epithelial malignant disorder.

Key words: Epithelial, Malignancy, Prevalence

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This article may be Cited as : Dar MS, Anjum R, Kaur M . Retrospective assessment of prevalence of various malignant neoplasms of the oral cavity: An institutional based study .HECS Int J Com Health and Med Res 2017;3(4):38-41

INTRODUCTION

Epidemiologic studies yield important information such as origin, prevalence and trends of certain diseases like oral cancer. Oral cancer is one of widely prevalent cancer types emerging as a growing problem in various regions of the world. Head and neck cancer is the 6th most common cancer in the world. In South-central Asia, it is a common entity and the third most common type of cancer. Squamous cell carcinomas are the most prevalent form of oral malignancies.¹⁻³

Alcohol consumption, tobacco smoking, unhealthy diets, sedentary lifestyles, and viral infections are risk factors for cancer development. Drinking alcohol and smoking tobacco can synergistically cause cancer of the oral cavity, pharynx, larynx, and esophagus. While smoking prevalence is declining in economically developed countries, it

is increasing in some developing countries in South America, Asia, and Africa.⁴⁻⁶

According to the reports of the World Health Organization (WHO), oral cancer ranks sixth among all malignancies worldwide. In spite of advances in treatment, there has been no considerable drop in the mortality rate. Cancers of the tongue as well as buccal mucosa have been noted to be quiet common in India, attributed to the local custom of chewing pan, betel leaf with tobacco.^{7,8}

Hence; we planned the present study to assess the frequency of occurrence of malignant oral neoplasms.

MATERIALS & METHODS

The present study was commenced in the department of oral pathology of the dental institute and it included assessment of prevalence of

malignant neoplasms of the oral cavity. Data records of all the patients were obtained who were diagnosed with presence of epithelial malignancies. Histopathological report was used for confirming the diagnosis of malignant neoplasms of epithelial origin. Data of a total of 200 patients was analyzed in the present study. We assessed the frequency of occurrence of different epithelial malignant lesions among all other reported lesions. All the data were summarized in Microsoft excel sheet and were analyzed by SPSS software. Univariate regression curve was used for assessment of level of significance.

RESULTS

Data records of a total of 200 patients were analyzed in the present study. Among these patients, 120 were males while the remaining were females. Majority of the patients were more than 50 years of age. Oral squamous cell carcinoma (OSCC) was the most commonly encountered malignant epithelial neoplasm in the present study, found to be present in 38 patients in the total study population. Other encountered epithelial malignancies of the oral cavity included basal cell carcinoma and Verrucous carcinoma. Well differentiated OSCC was the most common grade of OSCC encountered in the present study.

Graph 1: Demographic data

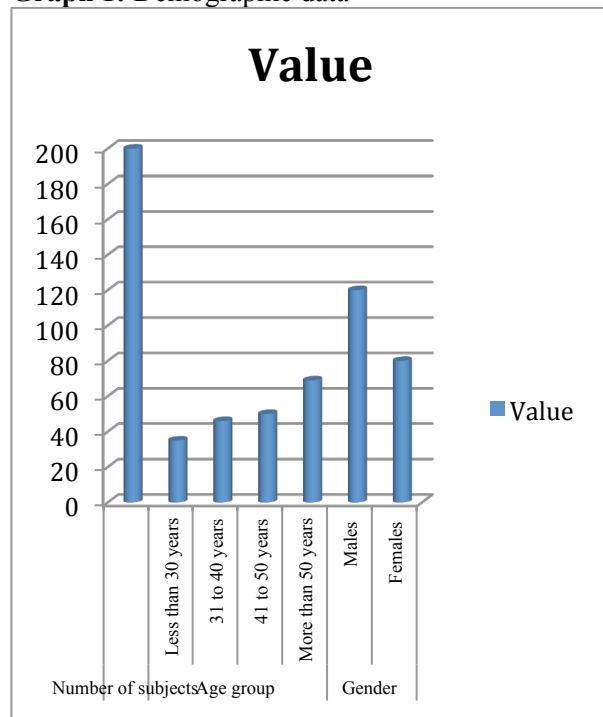


Table 1: Prevalence of malignant tumor of oral cavity

Malignant neoplasm	Grade	Number of subjects	Prevalence (%)
Oral squamous cell carcinoma (OSCC)	Well differentiated	20	40.8
	Moderately differentiated	9	18.4
	Poorly differentiated	9	18.4
Basal cell carcinoma (BSCC)		2	4.0
Verrucous carcinoma (VC)		9	18.4

DISCUSSION

In the present study, OSCC was the most commonly encountered malignant epithelial neoplasm in the present study, found to be present in 28 patients in the total study population. Other encountered epithelial malignancies of the oral cavity included basal cell carcinoma and Verrucous carcinoma. Well differentiated OSCC was the most common grade of OSCC encountered in the present study. Selvamani M et al determined the frequency and distribution of oral squamous cell carcinoma (OSCC) involving tongue among patients by studying biopsy specimens obtained from the archives of the Department of Oral and Maxillofacial Pathology, College of Dental Sciences, Davangere, Karnataka, India, during the past 13 years. Data for the study were retrieved from the case records of patients. Analyzed clinical variables included age, sex, anatomical site, and histological diagnosis. Of the 369 squamous cell carcinoma involving head and neck region, we found 52 biopsies reported exclusively involving tongue. Lateral border of the tongue was most commonly involved (43 cases, 82.7%), followed by base of tongue and posterior part of tongue. The patient were affected over a wide range of 27–80 years with mean age of 55.75 years and peak incidence was seen in the fourth and fifth decades

of life, with the male: female ratio of 1.7:1. The prevalence rate of OSCC involving tongue showed a definite geographic variation when compared with a study done in other parts of the world.⁹

Hernández-Guerrero JC et al analyzed the trend in gender, age, anatomic zone and OSCC stage from Mexico City's General Hospital patients from 1990 to 2008. A retrospective review of all OSCC cases diagnosed by the Pathology Department of the Mexico City General Hospital was performed. Demographic data, in addition to anatomic zone and histological degree of differentiation were obtained. Central tendency, dispersion and prevalence rate per 100,000 individuals were determined. A total of 531 patients were diagnosed with OSCC; 58.4% were men, giving a male:female ratio of 1.4:1, and the mean age was 62.5 ± 14.9 years. The predominant anatomic zone was the tongue (44.7%), followed by the lips (21.2%) and gums (20.5%). The most frequent histological degree was moderately differentiated in 325 cases (61.2%). The rates of OSCC prevalence showed similar patterns in terms across time. A significant correlation ($P = 0.007$) between anatomic zone and age was observed. According to their results, the prevalence of OSCC does not show important variations; however, a relationship between age and anatomic zone was observed.¹⁰

Dhanuthai K et al determine the prevalence and clinicopathologic data of the oral malignant tumors from Thailand. Biopsy records of the Oral Pathology Department, Chulalongkorn University; Department of Oral Biology and Diagnostic Sciences, Chiang Mai University; Department of Oral Diagnosis, Khon Kaen University and Department of Stomatology, Prince of Songkla University, were reviewed for lesions diagnosed in the category of oral malignant tumors from 2005–2014. Demographic data and site of the lesions were collected. Of the 22,639 accessioned cases, 1411 cases (6.23%) were diagnosed as oral malignant tumors. The mean age of the patients was 59.13 ± 17.32 years. A total of 651 cases (46.14%) were diagnosed in males, whereas 759 cases (53.79%) were diagnosed in females. The male-to-female ratio was 0.86:1. The sites of predilection for oral malignant tumors were the gingiva, followed by tongue and alveolar mucosa. The three most common oral malignant tumors in the descending order of frequency were squamous cell carcinoma, non-Hodgkin lymphoma and mucoepidermoid carcinoma. This study provided extensive data on the oral malignant tumors from several university biopsy services.¹¹

CONCLUSION

Under the light of above mentioned data, the authors conclude that oral squamous cell carcinoma is the most prevalence oral epithelial malignant disorder. Further epidemiological studies are recommended.

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