Original Article

"Study On Clinicopathological Spectrum Of Oral Lesions At Our Tertiary Care Hospital"

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Abstract

Introduction: Oral cancer is one of the leading cancer today. The premalignant lesion is a disease or syndrome if left untreated have significantly increased risk to develop cancer.

Aim and Objective of the study: The objective of this study is to find out the prevalence of oral cancer and to evaluate clinicopathological spectrum of oral cavity lesions at our tertiary care hospital.

Materials and Methods: A detailed history-taking including age, sex, complaints and duration of symptoms, site, side etc. and with thorough clinical examination relevant investigations for consistency, diagnosis, benign or malignant was done and appropriate management has been done for these patients. All relevant investigations were done. Biopsy was done under local anaesthesia in the Dept. of Surgery and the specimen sent to Dept. of Pathology for histopathological examination.

Results: In our cross-sectional study, we included a total of 100 subjects based on inclusion and exclusion criteria presenting to our OPD with oral cavity lesions, out of which 68% were males and 32% were females and majority of the subjects (37%) belong to the age group of 41-60 years. We evaluated all the subjects for oral cavity lesions with diagnostic biopsy and subjected for HPE. Among these subjects 36% had non-neoplastic lesion, 19% had benign lesion, 17% had pre-malignant and 28 % had malignant lesions. The most common pre-malignant lesion was leucoplakia, followed by oral lichen planus, oral sub mucous fibrosis, actinic cheilitis respectively and none had eryhthoplakia.

Discussion and Conclusion: In our cross-sectional study, we included a total of 100 subjects based on inclusion and exclusion criteria presenting to our OPD with oral cavity lesions, out of which 68% were males and 32% were females. Among these subjects 36% had non-neoplastic lesion, 19% had benign lesion, 17% had pre-malignant and 28 % had malignant lesions. The most common pre-malignant lesion was leucoplakia, followed by oral lichen planus, oral sub mucous fibrosis, actinic cheilitis respectively and none had eryhthoplakia.

Key-words: pre-malignant lesions, malignant lesions, leucoplakia, squamous cell carcinoma, tobacco chewing and smoking.

INTRODUCTION

Oral cancer is one of the leading cancer today. The premalignant lesion is a disease or syndrome if left untreated have significantly increased risk to develop cancer. Oral cancer is the sixth most common cancer with varying prevalence around the world. Oral squamous cell carcinoma (OSCC) is the most common cancer of the oral cavity and accounts for 95% of all oral cavity cancer instances.
In India, oral cancer is one of the leading cancer today. Its incidence is 12.6 per 1,00,000 population. The premalignant lesion is a disease or syndrome if left untreated have significantly increased risk to develop cancer. There is increase in rate of usage of tobacco which is directly associated with raised incidence of malignancies of the upper aerodigestive tract in South Asian Countries. Tendency for premalignant and malignant lesions is further enhanced by the poor general health and nutrition of the population in addition to life style habits such as tobacco chewing and alcohol usage.

It is highly essential for local examination and proper diagnostic work up in these patients presenting with oral lesions. Identification of premalignant lesions will be of great help in further management of these patients.

Local oral examination, application of toluidine blue to suspected lesion, cytological study, and tissue biopsy are used to investigate these cases. Oral lesion biopsy is usually indicated to rule out causes of white patches. It also helps to determine the detailed histologic examination to grade the presence of any epithelial dysplasia. The sites of a leukoplakia lesion that are preferentially biopsied are the areas that show induration, redness, erosive or ulcerated areas. These areas are more likely to show any dysplasia than homogenous white areas.[1-3] Majority of the cancers that occur in the oral cavity are oral squamous cell carcinomas (OSCC) arising from the squamous epithelial lining of buccal mucosa, tongue, the floor of mouth, palate and lip. We have taken up this study to present the cliniopathological spectrum of oral cavity lesions.

AIM AND OBJECTIVES OF THE STUDY:

The objective of this study is to evaluate clinicopathological spectrum of oral cavity lesions at our tertiary care hospital.

MATERIALS AND METHODS

Source of data: This study was conducted at Dept. of General Surgery in collaboration with Department of Dentistry.

Study population: We included the subjects in the age group of >1 year and <60 years presenting with oral lesions to OPD of Dentistry at our hospital.

Study Design: It is a cross-sectional observational study.

Inclusion criteria: We included the subjects presented to our OPD with oral lesions who has undergone diagnostic biopsy.

Exclusion Criteria: We excluded the patients with non-diagnostic biopsy, those with incomplete information.

Data Collection: A detailed history-taking including age, sex, complaints and duration of symptoms, site, side etc. and with thorough clinical examination relevant investigations for consistency, diagnosis, benign or malignant was done and appropriate management has been done for these patients. All relevant investigations were done. Biopsy was done at the Dept. of General Surgery under local Anaesthesia and the tissue was sent to pathology department for histopathological examination.

Statistical Analysis: All the data was entered into Microsoft excel sheet and SPSS version 17 was used. Descriptive statistics were presented as frequency, percentage, mean, standard deviation using tables.

RESULTS:

We included a total of 100 subjects based on inclusion and exclusion criteria in the age group >1 year and <60 years, who presented oral lesions to our OPD.

Table 1: Baseline Characteristics of Subjects

VARIABLES	Number 100	Percentage
GENDER		
Male	68	68
Female	32	32
AGE GROUP		
1 – 10 yrs.	1	1
11 – 20 yrs.	8	8
21 – 30 yrs.	10	10
31 – 40 yrs.	12	12
41 – 50 yrs.	37	37
51 – 60 yrs.	32	32

It is evident from the table 1 68% were males and 32% were females and majority of the subjects (37%) belong to the age group of 41-50 years followed by 51-60 years.

Table 2: Shows Distribution of Oral Cavity lesions based on FNAC and HPE

Type of Oral Cavity lesion	Number of Subjects	Percentage
Non-neoplastic	36	36
Benign	19	19
Pre-malignant	17	17
Malignant	28	28

It is evident from the above table that 36% had non-neoplastic lesion, 19% had benign lesion, 17% had pre-malignant and 28 % had malignant lesions.

Table 3: Shows Distribution of types of oral cavity cancer by HPE

HPE findings	Number of Subjects (36)	Percentage
SCC	25	69.44
Mucoepidermoid cancer	2	5.55
Basal cell carcinoma	1	2.77
Sarcoma	0	0
Carcinosarcoma	1	2.77
Small round cell tumor	4	11.11

Adenoid cystic carcinoma	1	2.77
Verrucous carcinoma	2	5.55
Melanoma	0	0

It is evident from the above table that the most common malignant tumour was squamous cell carcinoma 69.44% followed by small round cell tumour 11.11%.

DISCUSSION

In our cross-sectional study, we included a total of 100 subjects based on inclusion and exclusion criteria presenting to our OPD with oral cavity lesions, out of which 68% were males and 32% were females and majority of the subjects (37%) belong to the age group of 41-60 years. The study by Mehrotra R et al, in 2006 showed maximum number of cases were in 6th decade. The male predominance was noted by Dietrich T, et al. Present study showed male predominance with 65.78% while in female 34.21%.[4-5]

We evaluated all the subjects for oral cavity lesions with diagnostic biopsy and subjected for HPE. Among these subjects 36% had non-neoplastic lesion, 19% had benign lesion, 17% had pre-malignant and 28 % had malignant lesions. The most common pre-malignant lesion was leucoplakia, followed by oral lichen planus, oral sub mucous fibrosis, actinic cheilitis respectively and none had eryhthoplakia.

Leucoplakia defined by the WHO working group as keratotic white patch or plaque that cannot be scrubbed off and cannot be characterized clinically or pathologically as any other disease. The leucoplakia remains the most common premalignant lesion having prevalence of 2.6% globally. The various etiological factors implicated are tobacco, alcohol, chronic irritation, human papilloma virus infection, ultraviolet radiation, hot spicy foods etc. It has the strongest association with the use of tobacco in various forms like chewing tobacco (as in paan, paan masala, gutka, zarda), heavy smokers etc. There is risk factor leads to hyperplastic or dysplastic squamous epithelial lesions which progress to carcinoma in situ to invasive squamous cell carcinoma.[6-9] On clinical examination, various types of leucoplakia were described as homogenous and non-homogenous. They appear as flat, thin, nodular, proliferative verrucous types. Lesions are mostly unifocal but can be multifocal.

These lesions can be found in any part of oral mucosa with most frequent site is buccal mucosa. Out of 48.4% malignant lesions 94.7% of the subjects had squamous cell carcinoma followed by other cancers as mentioned in the table. The most common malignancy was Squamous Cell carcinoma, which is concordance with the study done by Modi D et al. Adenoid Cystic Carcinoma are the salivary gland neoplasm observed in the oral cavity when arising from minor salivary glands. Many diagnostic tests are used to detect oral cavity malignancies like vital staining, oral cytology, light-based detection, or oral spectroscopy. But histopathology is still the gold standard and most used technique for diagnosis.[10-12] Factors considered to be associated with oral cancer are tobacco smoking, alcoholic consumption, betel quid chewing, poor oral health, and human papillomavirus infection. Distinct cultural practices such as betel-quid chewing and varying tobacco and alcohol use patterns among Asian Populations are considered to be predisposing factors for alarming increasing incidence rates. Alcohol can act as a local and systemic risk factor by increasing the oral mucosa's permeability, dissolving lipid components of the epithelium, causing epithelial atrophy and interference in DNA synthesis and repair; it has genotoxicity and mutagenic effects and also affects the liver's ability to clear chemical carcinogens.

CONCLUSION

In our cross-sectional study, we included a total of 100 subjects based on inclusion and exclusion criteria presenting to our OPD with oral cavity lesions, out of which 68% were males and 32% were females. Among these subjects 36% had non-neoplastic lesion, 19% had benign lesion, 17% had pre-malignant and 28 % had malignant lesions. The most common pre-malignant lesion was leucoplakia, followed by oral lichen planus, oral sub mucous fibrosis, actinic cheilitis respectively and none had eryhthoplakia.

REFERENCES

1. Elango JK, Gangadharan P, Sumithra S, Kuriakose MA. Trends of head and neck cancers in urban and rural India. Asian Pacific J Cancer Prevention. 2006;7(1):108-12.

2. Sankaranarayanan R, Ramadas K, Thomas G, Muwonge R, Thara S, Mathew B, et al. Effect of screening on oral cancer mortality in Kerala, India: a cluster randomized controlled trial. Lancet. 2005;365(9475):1927-33.

3. Warnakulasuriya S, Johnson NW, Waal VDI. Nomenclature and classification of potentially malignant disorders of the oral mucosa. J Oral Pathol Med. 2007;36:575-80.

4. Mehrotra R, Gupta A, Singh M, Ibrahim R. Application of cytology and molecular biology in diagnosing premalignant and malignant oral lesions. Molecular Cancer. 2006;5(11):476-98.

5. Dietrich T, Reichart PA, Scheifelea C. Clinical risk factors of oral leucoplakia in a representative sample of the US population. Oral Oncol. 2004;40:158-63.

6. Mishra M, Mohanty J, SenguptaS, Tripathy S. Epidemiological and clinicopathological study of oral leucoplakia. Ind J Dermatol Venerol Leprosy. 2005;71(3):161-5.

7. Sharma P, Saxena S, Aggarwal P. Trends in the epidemiology of oral squamous cell carcinoma in western UP: an institutional study. Ind J Dent Res. 2010;21(3):316-9.

8. Mehta FS, Pindborg JJ, Gupta PC, Daftary DK. Epidemiologic and histologic study of oral cancer and leucoplakia among 50,915 villagers in India. Cancer. 1969;24:832-49.

9. Khandekar SP, Bagdey PS, Tiwari RR. Oral cancer and some epidemiological factors: A hospital based study. Indian J Community Med. 2006;31:157-9.

10. Modi D, Laishram RS, Sharma LD, Debnath K. Pattern of oral cavity lesions in a tertiary care hospital in Manipur, India. J Med Soc. 2013;27(3):199.

11. Reidy J, McHugh E, Stassen LF. A review of the relationship between alcohol and oral cancer. Surgeon. 2011;9(5):278-83.

12. Wahi PN, Kapur VL, Luthra UK, Srivastava MC. Submucous fibrosis of the oral cavity. 2. Studies on epidemiology. Bull World Health Organ. 1966;35(5):793-9.