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Clinical and histopathological study of oral cancers in a tertiary care hospital, Tumakuru

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Abstract

India is a country where chewing pan, beetle-areca with lime is common among all age group. External and local irritation of buccal mucosa is associated with high risk of cancer. It may begin as a local lesion or by metastasis or by local extension from neighbor structure. Biopsy and histopathology is definitive tool for diagnosing such lesions. The present study is a retrospective study done involving patients of three years in a tertiary referral hospital in Tumakuru.

The objective of the study is to know the prevalence, type of cancer affecting the individuals.

A total of 168 oral cancer patients were observed during the study, showed increased risk in males. Peak incidence was seen in individuals belonging to 35-55 year age group. Most common site of lesion was buccal mucosa followed by tongue. Most common type of cancer was squamous cell carcinoma followed by basal cell carcinoma and other minor types.

Keywords: Oral cancer, Histopathology, SCC, BCC

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Introduction

The statutory advertisement before any movie show gives us clear picture and fear of oral and lung cancer caused by most addictive substance tobacco. Though chewing or inhaling tobacco is a known etiological agent for many cancers, in this present study we consider only oral lesions caused by this. Oral cancer may begin as local lesion in any of the oral tissues, by metastasis from distant part of body, or by extension from neighboring structures. Oral mucosa and tongue are the most common sites for oral cancers.(1) Oral cancer ranks third among cancers, first and second being stomach and cervical cancers respectively. Around 3,78,500 fresh intra-oral cancer are diagnosed annually in the world.(2) Chewing pan, gutkha, tobacco and areca is considered as one among the strongest risk factors for oral cancers.(3,4) In India oral cancers represents 40% of all cancers, where as only 4% in western countries. In developed world oral cancer is among the top ten most common cancers.(5) Oral cancers include lesions of lips, cheek mucosa, gums, tongue, palate, floor and other parts of mouth as per international classification of diseases.(6) The prevalence of intra-oral cancer is on a rise in younger generation.(7) Incision biopsy and appropriate staining is the best diagnostic tool for diagnosing and confirming the type of oral cancer. Any oral lesion including non healing ulcer of more than 2-3weeks must be subjected for biopsy for early diagnosis and management.(8) Many studies are required in affected areas of world. This study aims at analysis of prevalence, age wise distribution, type and pattern of oral lesions in a tertiary referral hospital at Tumkur.

Materials and Method

This was a retrospective study performed at department of Pathology SI MS & RH for a period of three years from January 2013 to December 2016. The study group included patients attending Surgery OPD with complaints of ulcer and lesions of the oral cavity. After collecting the detailed clinical history of the patients they were subjected to biopsy and histopathology examination irrespective of their age and sex. Only definitely confirmed cases by histopathology were included in the study. Those required re-examining and non consented cases were excluded. A prepared questionnaire was used to collect the clinical data including age, sex of patients and site of cancer/lesion. After biopsy, histopathological study was done to know the type of cancer and degree of differentiation. Data collected was analyzed using suitable statistical methods.

Observations

A total of 168 biopsies were confirmative, which contribute to 3.76% of all malignancies during the study period.

Table 1: Sex wise distribution

Sex	No. of Cases	Percentage
Male	108	64.29
Female	60	35.71
Total	168	100.0

Present study comprised of 108 (64.29%) males, and 60 (35.71%) females. The male female ratio was 1.8:1.

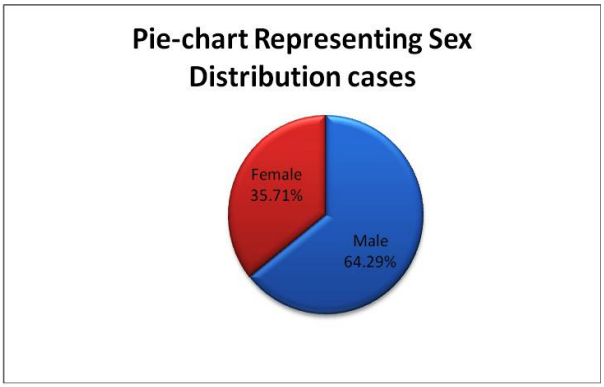

Fig. 1

Table 2: Age wise distribution

Age Group (Years)	No. of Cases	Percentage
Birth - 15	01	00.59
16 – 30	07	04.17
31 – 45	17	10.11
45 – 60	83	49.04
61 – 75	54	32.14
> 75	06	03.57
Total	168	100.0

A total of 137 (81.5%) cases were present in age group of 45-75 years and a peak surge in 45-60 yrs age group. A boy was reported in below 15 yr category. Twelve of the seventeen cases in 31-45 age groups were males, showing early onset in males.

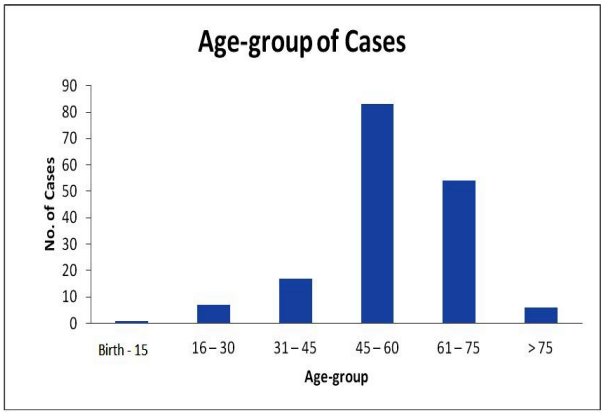

Fig. 2

Table 3: Cancerous lesion types

Types	No. of Cases	Percentage
Sq Cell Ca.	154	91.67
Basal Cell Ca.	10	05.95
Adenoid Cystic Ca.	03	01.79
Muco Epidermoid	01	00.60
Total	168	100.0

Out of 168 cases, 154 (91.67%) were squamous cell carcinoma, 10 (5.95%) were basal cell carcinoma. Minority 4 cases showed adenoid and muco-epidermoid carcinoma.

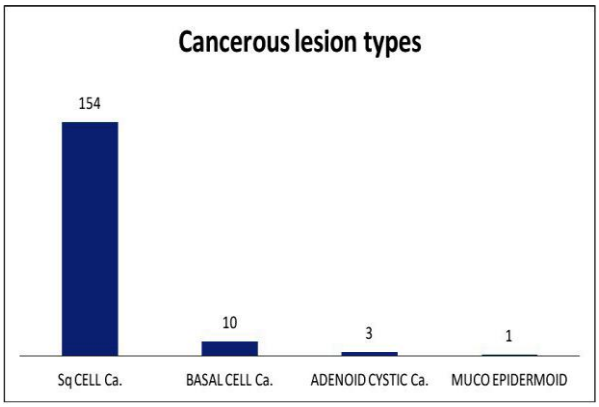

Fig. 3

Table 4: Degree of differentiation of SCC

Degree of Differentiation	No. of Cases	Percentage
Well	84	54.54
Moderate	59	38.31
Poor	11	07.15
Total	154	100.0

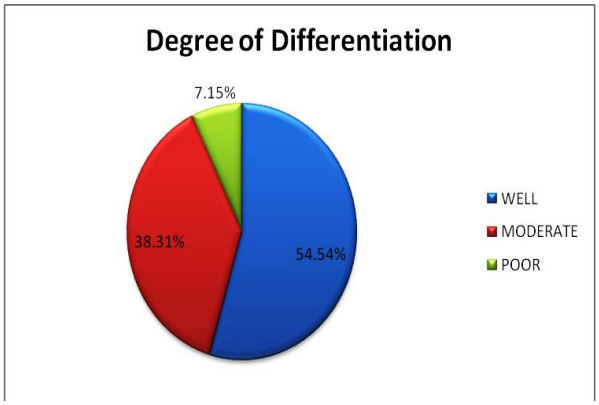

Fig. 4

Table 5: Site of lesion

Site of Lesion	Male	Female	Total
Tongue	29	15	44
Buccal Mucosa	45	32	77
Lips	06	02	08
Gums	02	04	06
Floor of Mouth	14	06	20
Alveolus	01	0	01
Palate	03	0	03
Others	08	01	09

Most common site of occurrence of lesion was buccal mucosa, followed by tongue and floor of mouth.

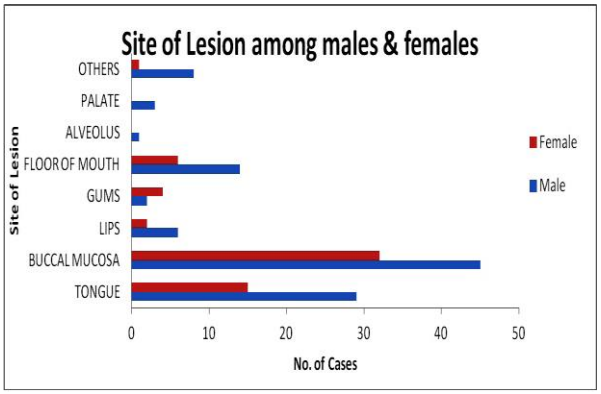

Fig. 5

Table 6: Associated habits

Habits	No. of Cases
Pan	64
Tobacco	81
Areca + Beetle Nut	54
Alcohol	28
Combination of all and Smoking	86
Nil	01

Most of the victims had one or the other habits, most of the victims had more than three combinations like smoking, chewing and alcohol for more than five years. However one male less than15yrs with no such habits also showed squamous cell carcinoma.

Discussion

The incidence of oral cancer at any age is comparatively low in Western countries at 2-6% of all malignancies. In India, the rate is as high as 30-40%.[9] Except one female all had one or the habits like chewing tobacco (n=81), areca with beetle (n=54), pan (n=64), alcohol (n=28) and smoking (n=86). Smoking was predominant in males, though few females admitted this on repeated questioning. A combination of habits was seen in most of cases (n=86). The minimum period of exposure to these agents was 5 years and maximum was 12 years. Maximum incidence of Squamous Cell Carcinoma (n=154) can be attributed to above mentioned habits. Site of Squamous Cell Carcinoma is buccal mucosa (n=45), followed by tongue (n=29), floor of mouth (n=14), palate (n=3) and alveolus (n=1).

People having above mentioned habits and agriculturist from Pavagada were diagnosed as Basal Cell Carcinoma (n=10). Lips (n=8) was the maximum site of occurrence, followed by one male over right temporal region and another near outer cantus of right eye.

Four cases of salivary gland tumors were confirmed by biopsy. There were three case of Adenoid Cystic carcinoma in submandibular salivary glands and one case of Muco Epidermoid Tumor in sublingual salivary gland. However these victims also had history of chewing tobacco, pan and one case of combination of habits.

Oral cancer which is on a high rise may present as a tiny white/red spot at the site of mechanical irritation or anywhere in the mouth. It can affect any site and of any age group.

In the present study male to female ration was 1.8:1, the same male preponderance was reported in many other studies done in Europe[10] and Pakistan.[11,12]

In this study, total of 137 (81.5%) of cases were present in age group of 45-75 years and a peak surge in 45-60 yrs age group. The risk of cancer increases with age and duration of exposure to habits.[13]

In the present study squamous cell carcinoma showed high prevalence, which was a familiar result in many other studies.[14,15]

It is to conclude that squamous cell carcinoma is the most common type of oral cancer and can present at any age. However risk/prevalence increases with age and duration of exposure to etiological agents.

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