



A SINGLE CENTRE PROSPECTIVE CASE SERIES STUDY OF HISTOPATHOLOGICAL PATTERN OF ORAL MALIGNANCY

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ABSTRACT

Background: In India where chewing betel, paan and areca are common, oral cancer represents up to 40% of all cancers. It may arise as a primary lesion originating in any of the oral tissues, by metastasis from a distant site of origin, or by extension from a neighboring anatomical structure. A tissue biopsy and microscopic examination of the lesion confirms the diagnosis and malignancy of oral cancer.

Objectives: To see the clinical and histopathological pattern of oral cancer.

Material and Methods: This was a prospective case series studies carried out at Histopathology Department of Pathology, Jawaharlal Nehru medical college, Bhagalpur. Detailed clinical histories of the patients were recorded and their histopathology was performed using haematoxylin and eosin (H&E) stain. Clinical data collected included the age, sex of patient and intra-oral site of cancer.

Histopathological data included type of cancers and their degree of differentiation. The inference was drawn from this record.

Results: A total of 291 oral mucosal biopsy reports were studied which constituted 6.6 % of all malignant tumours reported during this period. Among the 291 cases studied, 276 (95.0 %) cases were of squamous cell carcinoma (SCC), 8 (2.74 %) were of basal cell carcinoma (BCC) and 7 (2.4 %) each was of adenoid cystic carcinoma, mucoepidermoid carcinoma, adenocarcinoma and undifferentiated carcinoma.

Tongue was the commonest site involved in 119 (40.89 %) cases, with a male to female ratio of 1.25: 1, followed by buccal mucosa including 93 (31.96 %) cases.

Conclusion: Squamous cell carcinoma is the predominant type of oral cancer and tongue is the commonest site of origin for these cancers. In our patients oral cancer presented at a relatively early age group.

KEYWORDS : Oral cancer, mucosal biopsy, Histopathology.

INTRODUCTION

Oral cancer may occur as a primary lesion originating in any of the oral tissues, by metastasis from a distant site of origin or by extension from a neighboring anatomical structure such as the nasal cavity or the maxillary sinus. Most oral cancers begin in the tongue and buccal mucosa. In the developing world oral cancer is the third most common cancer after stomach and cervical cancer. An estimated 378,500 new cases of intra-oral cancer are diagnosed annually worldwide.

In many Asian countries chewing betel, pan and areca is known to be a strong risk factor for developing oral cancer. In the developed world it is regarded as one of the ten most common cancers in the world. Oral cancers include cancers of lips, tongue, gums, floor of mouth, cheek mucosa, palate and other parts of mouth as per international classification of diseases.

he prevalence of lip cancer appears to be decreasing, but the prevalence of intra-oral cancer appears to be rising in many countries, especially in younger people. Incision biopsy, when appropriately stained, is essential to confirm the diagnosis. A biopsy must be performed on any oral mucosal lesion suggestive of carcinoma, including any ulcer that does not heal within 2-3 weeks. Studies on oral cancers are required more in such parts of the world, where these cancers are most common.

MATERIALS AND METHODS

This was a prospective case series study performed at pathology department of Jawaharlal Nehru Medical College, Bhagalpur. Detailed clinical history of the patients was recorded and histopathology was performed using haematoxylin and eosin (H&E) stain. All biopsies of oral cancers of both sexes and all ages were included.

Only diagnosed cases of oral cancers were included in the study. Clinical data collected included the age, sex of patients and intra-oral site of cancer. Histopathological data included type of cancer and its degree of differentiation. The inference

was drawn from this record.

The biopsy specimens were received in 10% formal saline. After gross examination (as per record) the tissues were processed for paraffin embedding under standardized conditions. The sections were stained with haematoxylin and eosin stains (H & E Stain).

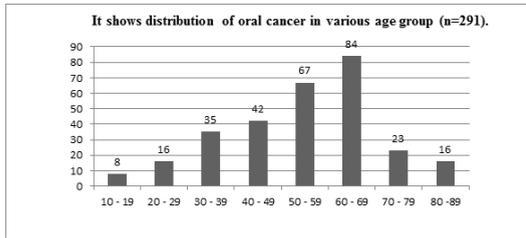
RESULTS

A total of 291 oral mucosal biopsy reports were registered in the study that constituted 6.6% of all malignant tumours reported during this period. Males were 178 and females were 113, with male to female ratio of 1.57: 1. The ages ranged from 18-25 years with a mean age of 53 (SD \pm 15.16) yrs. Males showed slightly lesser age at presentation i.e. 51.11 (SD \pm 13.48) years as compared to females having 55.16 (SD \pm 13.48). 190 patients (65.29 %) patients were above 50 years of age and 101 (34.71 %) patients were below 50 years of age. The distribution according to age is shown in figure 1. Out of 291 cases studied 276 (95.0 %) cases were of SCC. BCC was seen in 8 (2.74 %) cases while 7 (2.4 %) cases each of adenoid cystic carcinoma, mucoepidermoid carcinoma, adenocarcinoma and undifferentiated carcinoma were found. No malignant melanoma or metastatic tumour was seen.

Table 1: Frequency of oral cancers according to site.

Site	Males	Females	Total	Percent age(%)	M:F Ratio
Tongue	66	53	119	44	1.25 : 1
Buccal Mucosa	59	34	93	36	1.74 : 1
Lips	15	6	21	28	2.5 : 1
Gums	7	3	10	30	2.33 : 1
Floor of mouth	8	4	12	33	2 : 1
Alveolus	3	2	5	40	1.5 : 1
Palate	4	2	6	33	2 : 1
Oral cavity *NOS	16	9	25	36	1.78 : 1

* NOS: Not otherwise Specified

Table 1 shows distribution of tumors according to site of involvement.

Tongue was the commonest site involved in 119 (40.89 %) cases, with a male to female ratio of 1.25: 1, followed by buccal mucosa including 93 (31.96 %) cases.

DISCUSSION

Oral cancer often starts as a tiny, unnoticed white or red spot or sore anywhere in the mouth. It can affect any area of the oral cavity including the lips, gums buccal mucosa, tongue and the hard or soft palate. When a dentist, physician or other medical professionals may suspect a particular lesion as malignant, the only definitive method for determining this is through biopsy and microscopic evaluation of the cells in the removed sample. In the present study the frequency of oral cancers in males and females was in a ratio of 1.57:1, showing male predominance. This is consistent with certain European studies which show male predominance. Majority of local studies from India also showed male predominance. In high-risk countries such as Sri Lanka, India, Pakistan and Bangladesh, oral cancer is the most common cancer in men and may account for up to 30% of all new cases of cancer compared to 3% in the UK and 6% in France.

This indicates presentation of oral cancer in our country at a relatively earlier age which may be due to frequent use of pan and areca nut in younger people. SCC with varying differentiation was the commonest oral cancer (95.0 %) in our study which is similar to other such studies. Most cases of SCC (48%) were moderately differentiated, 45% cases were well differentiated whereas only 7% were poorly differentiated. The commonest site of origin of oral cancers in this study was tongue (40.89 %). This is similar to certain other international and local studies. It was followed by buccal mucosa (31.96 %). Cancer of the lip has a different geographical distribution from other oral cancers and the highest incidence rates are reported in white populations in Canada and Australia. Cancer of the lip is rare in non white populations.

Lip cancer is particularly linked to outdoor occupations such as farming and fishing and there are twice as many male as female cases. It is thought that the use of cosmetics helps to protect the female lip from damaging UV light.

In our study lip cancer was seen in 7.22 % of cases only. Five (23.80 %) of them were of BCC and all the cases were males. Other tumors were of minor salivary gland origin including adenoid cystic carcinoma from the palate, mucoepidermoid carcinoma and adenocarcinoma from floor of mouth and buccal mucosa.

It is concluded that Squamous cell carcinoma is the predominant type of oral cancers and tongue is the commonest site of origin for these cancers. In our patients oral cancer presented at a relatively early age.

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