ORIGINAL ARTICLE

Clinical profile of oral squamous cell carcinoma patients attending a tertiary care hospital

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Abstract

Oral cancer is one of the most common cancer and constitute a major public health problem. It is estimated that more than 90% of all oral neoplasms are oral squamous cell carcinoma. The purpose of the study was to evaluate the clinical profile of patients with oral squamous cell carcinoma for gender, age, education, occupation, personal habits, site of lesion and histological grading. Two hundred and sixteen confirmed cases of oral squamous cell carcinoma were included in this study. It was conducted over a period of two years from July 2009 to June 2011 in the department of Dental Surgery of Khulna Medical College Hospital. Male female ratio was 1.5: 1. Mean age was 50.46 years. Correlation between two variables ie. level of education and histomorphological pattern of the lesion were found to be statistically nonsignificant (P>0.05). The commonest age of presentation was in the fifth decade of life. Most of the cases reported at advance stages of the disease which often leads to delay in the management. Majority of patients (70.73%) presented with well differentiated squamous cell carcinoma. Tobacco chewing was the major cause for the development of oral carcinoma.

Introduction

Oral cancer includes a group of neoplasm affecting any region of the oral cavity, pharyngeal regions and salivary glands. However this term tends to be used interchangeably with oral squamous cell carcinoma (OSCC) which represents the most frequent of all oral neoplasms. It is estimated that more of 90% of all oral neoplasms are oral squamous cell carcinoma (OSCC).[1] World wide, oral cancer accounts for 2% - 4% of all cancer cases. In some regions, the prevalence of oral cancer is higher, reaching the 10% of all cancers in Pakistan and around 1.5% in India.[2] In 2004-2009 over 300,000 new cases of oral and oropharyngeal cancer were diagnosed worldwide. During the same period, over 7,000 affected individuals died of these Cancers.[3]

Of all the oropharyngeal malignancies reported in the USA between 1973 and 1987, apart from lesions of the salivary glands, gingival, nasopharynx, nasal cavity and sinuses, more than 95% were squamous cell carcinomas.[4] Upper aerodigestive tract alcohol and tobacco related oral squamous cell carcinomas are thus the major head and neck cancers.[5] The greatest risk factors for oral cancer in the western world is the use of tobacco and alcohol.[6] Oral cancer is a major public health issue worldwide. The incidence of

Oral Squamous Cell Carcinoma remains high.[7] The suffering, disfigurement and death associated with oral cancers is definitely avoidable. Oral cancer have a multifaceted etiology.[8] Smoking, tobacco chewing and alcohol consumption are widely considered to be major preventable risk factors. Knowledge of the varied presentation and an experienced eye can go a long way in preventing the high morbidity and mortality associated with oral cancer.[9] The percentage of 5 year survival for patients with OSCC varies from 40-50%. Regardless of the easy access of oral cavity for clinical examination, OSCC usually diagnosed in advance stages. Most common reasons are the initial wrong diagnosis and the ignorance from the patient or from the attending physician.[10] Regarding this issue, a few study have been done in our country but this does not reflect actual scenario.

The purpose of the study was to evaluate the clinical profile of patients with oral squamous cell carcinoma.

Materials and Methods:

A retrospective study of 216 patients with oral squamous cell carcinoma was carried out in the

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department of dental surgery, Khulna Medical College Hospital, over a period of July 2009 to June 2011. All the histopathologically confirmed oral carcinoma patients were included in this study. Specimen was collected and histopathological report was done by an expert histopathologist. The data pertaining to these patients were entered in a standardized questionnaire. This included age, gender, habits of tobacco ingestion, site of the lesion and histologically grading of tumour. The total sample size was grouped into seven age groups ranging from 11 years to 80 years. A statistical analysis was done on the data collected and the results were formulated.

Results

There were 216 cases of squamous cell carcinoma of the oral cavity confirmed by biopsy from July 2009 to June 2011. One hundred thirty patients (60.19%) were males and eighty six were females (39.81%). The male female ratio was 1.5:1. The highest affected age groups were those between 51 and 60 years, followed by 41 to 50 years. Patients at their fifth decade of life were most commonly affected. The mean age was 50.46 years and range was I I to 80 years.

Table I
Age group distribution of the patient.

Age in years	No. of cases	Percentage
11-20	4	1.85
21-30	10	4.63
31-40	20	9.25
41-50	56	25.93
51-60	84	38.89
61-70	40	18.52
71-80	2	0.93
Mean 50.46	Median 52.43	SD± 3.78

The occupation of the respondent was recorded and most frequent occupation was farming followed by self employing and it was 35.98% and 21.81% respectively.

Table II
Occupation of the patient.

Occupation	No. of cases	Percentage
Farming	78	35.98
Labour	36	16.90
Self employed	48	21.81
Retired person	19	8.78
House keeper	35	16.53

The personal habits revealed that most of the patients were tobacco chewers (36.11%) followed by 18.98% were both habit of tobacco chewing and smoking. 13.43% had habit of smoking, tobacco chewing and alcohol consumption. 4.63% did not have any of these three habits.

Table III
Personal habits of the patient.

Habits	No. of cases	Percentage
Tobacco chewers	78	36.11
Smoking	33	15.28
Alcohol	10	4.63
Tobacco+Smoking	41	18.98
Tobacco+Alocohol	15	6.94
Tobacco+Alocohol+Smoking	29	13.43
No habit	10	4.63

The most frequently involved site was mandibular alveolus (48.61%) followed by buccal mucosa (21.61%). Tongue and maxiary alveolus was 18.06% and 4.17% respectively.

Table IV
Site of lesion

Site	No. of cases	Percentage
Buccal Mucosa	46	21.30
Mandibular Alveolus	105	48.61
Maxillary Alveolus	39	4.47
Tongue	9	18.06
Lip	39	3.70
Floor	8	2.78
Palate	3	1.38

The histomorphological pattern showed that majority of the patients had well differentiated squamous cell carcinoma (70.73%) followed by poorly differentiated and undifferentiated 22.05% and 7.28% respectively.

Table V
Histomorphological pattern of the lesion

State of differentiation	No. of cases	Percentage
Poorly differentiated	47	22.05
Well differentiated	153	70.73
Undifferentiated	16	7.28

It was revealed from the study that mostly affected group were upto SSC level and the number was 130. According to the histomorphological pattern this group showed that highest percentage and it was 60.20%.

Table VI

Correlation between level of education and histomorphological pattern of the lesion.

Educational level	Morphological status		
	Poorly differenti-ated%	Well differenti-ated%	Undifferen-tiated %
Upto S.S.C	32 (14.82)	91(41.14)	7(3.24)
H.S.C	15 (6.95)	45 (20.83)	4 (1.85)
Above H.S.C	6 (2.76)	14 (6.48)	2 (.93)

Discussion

Understanding the epidemiology and the risk factors for oral cancers can help early identification and prompt treatment of patients with oral cancers. Worldwide, oral cancer is estimated to be the sixth most common cancer, prevalence being highest in Indo-Pak subcontinent. Early diagnosis of oral cancer is important as it leads to early institution of therapy that translates in a better prognosis. Late diagnosis and detection is directly proportional to increased morbidity and mortality.

The male female ratio was almost same like most of the other studies. Pinhold et al observed almost equivalent numbers between men and women (1-2:1).[12] There is significant bias in the incidence of oral cancer amongst males, which can be attributed to the easy acceptance of habits by males the habits of tobacco and betel nut as a means of stimulants renders males more susceptible to oral cancers.

In our study mean age was 50.46 (+3.78) years. Predictably in our study, the most affected age group was 51-60 years. According to US National Cancer Institute SEER program the mean age of diagnosis of oral cancer is 65 years. Sankaranarayan et al. found that the peak age frequency of occurrence in India is at least a decade earlier than that described in the western literature.[13] Gupta et al observed an increase in the incidence of oral cancer in the younger (less than 50 years) age group.[14] Epidemiological study of oral cancer in India by Chattopadhyay et al and Mathew et al reported in developing countries, oral cancer may affect younger men and women more frequently than seen in the western. world.[15] The high prevalence of the addiction to tobacco chewing among young adult men and women may explain the stable trend in oral cancer incidence in this group. We would like to state here that, case of which tobacco and as related products are available at very affordable prices and Paan or betel quid is leading to people adopting this pernicious habit in this Country.[16]

It was revealed from our study that farming was the most frequent occupation and the second in the study of Al modovar et al. This can be explained as farmers are more indulged toward tobacco addiction as nicotine acts as the stimulator for them. As reported by Antonewdes et al. these patients generally have suamous cell carcinoma of the lip which can be explained by the higher UV ray exposure.

A study in western country, reported that the most common site was buccal mucosa. followed by the retromolar area, floor of mouth, lateral border of tongue, labial mucosa and palate.[17] In this study mandibular alveolus was the most frequent site because most of the patients tend to keep the tobacco in the form of quid in the buccal sulcus with close proximity to alveolus. Other studies have shown that the lip is the most constant site of squamous cell carcinoma in the oral cavity.[18]

About 66% patients were associated with habits of tobacco, alcohol and smoking. Andre et al. observed a deleterious effect of the consumption of alcohol even with non-smokers or casual smokers.[19] In our study 29 patients reported with combined habituation with alcohol, smoking and tobacco. Sanghvi et al. observed that the risk ratio for oral cancers were four-fold in chewers, two-fold in smokers and four-fold in chewers and smokers both.[20] Warnakulasuriya in his paper opined that, other than major risk factors like tobacco, alcohol and betel quid, several emerging risk factors namely heredity and familial risk, medicinal nicotine use, HIV infection, alcohol containing mouth washes are likely to be associated with oral cancer.

A study in Cordoba, Argentina, reported that, both patients and professionals were responsible for the delay in diagnosis. The study indicated that the professional delay was the most associated variable to the stage of tumour. In our study majority of patients (70.73%) presented with well differentiated OSCC, 22.09% presented with poorly differentiated and 7.28% with undifferentiated OSCC. This can be attributed to the fact that because of poverty, illiteracy and possibly restoring to home remedies, all leading to delay by the patients. Most of the patients have to earn their living by daily wages and the loss of working days means a loss of wages. Hence, these patients attended hospital much later compared to western data.[21]

Correlation using chi-square test between two variables-level of education and histomorphological

pattern of the lesion were done. But the corelation was found statistically nonsignificant (P>0.05). Although, it was found that patients with tobacco habits were at higher percentage risk of developing cancer. It was showed from the study that well differentiated squamous cell carcinoma takes highest percentage in all levels of education and it was 42.14% in cases of upto S.S.C level, 20.83% in cases of H.S.C and 6.48% in cases of above H.S.C level

Conclusion

The commonest age of presentation was in the fifth decade of life. Mandibular alveolus was the most commonly affected site. Most of the patients had associated habits of tobacco. Majority of the cases were reported at the advanced stage that depicts the negligence of the health care among the population. Widely spread educational campaigns against determinant factors of oral cancer are urgent in order to reduce oral cancer incidence rates.

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