Clinicopathological Study of Oral Carcinoma

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Abstract

Background:
Oral carcinoma is thought to be the sixth most common form of cancer-causing up to 50% of all malignancies in parts of India and South-East Asia. It is the second killer in both developed and developing countries. The 5-year survival rate for oral carcinoma is only 50%. Over 90% of all primary malignant tumors of the oral cavity are squamous cell carcinoma.

Objective:
The study was aimed to see the clinical and histopathological pattern of oral cancer

Methods:
In this cross-sectional study 30 patients with carcinoma of oral cavity from the Department of Oral and Maxillofacial Surgery, Dental Unit, Rangpur Medical College and Hospital, Rangpur were included, the period from October 2018 to September 2019. The patients were examined pre-operatively and in the post-operative period. The surgical specimen was sent for Histo-pathology.

Results:
The majority of the patients were in the age group of 61-70 years where the male-female ratio was 1:1.4. The majority of the patients complained of soreness/ irritation and ulceration in the oral cavity followed by pain, difficulty in mastication, odynophagia, dysphagia, spitting of blood. About the site of the lesion overall involvement of buccal mucosa (53.3%) was the most affected part. The majority of the patients came in their late-stage (96.67%) and histopathologically all were of squamous cell cercinoma.

Conclusion:
Squamous cell carcinoma was the predominant type of oral cancer and buccal mucosa was the commonest site of origin for these cancers. It was usually a disease of elderly people. And the commonest symptom was irritation or soreness.

Keywords: Oral Carcinoma, Biopsy

Introduction:

Oral cancer is the sixth most common cancer and a frequently occurring cancer worldwide.[1] It is one of the most challenging malignancies of the head and neck regions that reportedly affect more than half million people every year worldwide.[1] Especially oral squamous cell carcinoma (OSCC) is responsible for 85% of all oral cancer which affects its site or origin and can spread to cervical node, lungs, liver, and bones.[2] During the year 2012, three million oral cancer patients (both sexes) have been identified, of which 145,000 cases were fatal.[2] The incident rates of oral cancer are lower in the developing countries than in the developed countries.[1] In India, the incident rate of oral cancer is 12.6% per one million populations and remains the most common cancer in other Asian countries. The 5-year survival rate of early stage oral cancer patients is approximately 82%, and the advanced stage is about 20%. From 1983

to 2006, the 5-year survival rate increased in developed countries such as the USA although the same time, a negative trend is noticed in some countries such as Brazil, Egypt, Japan, UK, and the Netherlands where the number of causality has increased due to oral cancer.[1] In the developing world after stomach and cervical cancer, oral cancer is the third most common cancer.[3] Annually 378,500 new cases of intra-oral cancer are diagnosed worldwide.[3] Chewing betel, paan and areca is known to be a strong risk factor for developing oral cancer in many Asian countries.[4,5] In India where such practices are common, oral cancer represents up to 40% of all cancers, compared to just 4% in UK.[6] As per international classification of diseases oral cancers include cancers of lips, tongue, gums, floor of mouth, cheek mucosa, palate and other parts of mouth.[7] The prevalence of intra-oral cancer appears to be rising in many countries but the prevalence of lip cancer appears to be decreasing, especially in younger people.[8] During its earliest stage, oral cancer may be totally asymptomatic or it may present with mild irritation. When the lesion becomes more advanced and ulcerated pain usually occurs. So oral cancers are notorious for their late presentations. Associated symptoms include bleeding, poor dental fit, Dysphagia, odynophagia and trismus.[9] Incisional biopsy is essential to confirm the diagnosis. A biopsy must be performed on any oral mucosal lesion suggestive of carcinoma and those ulcer that does not heal within 2–3 weeks.[10] Early detection of neoplasms is necessary to reduce morbidity and mortality associated with oral cancers. Dentists play a major role in the early detection of oral cancers, thus increasing the survival rates of patients.

Methods:

In this cross sectional study, thirty cases of oral carcinoma were included from the Department of Oral and Maxillofacial Surgery at the Dental Unit of Rangpur Medical College and Hospital, Rangpur within the period of October 2018 to September 2019.Histopathologically confirmed cases of oral cancer were included in this study in different age and sex groups belonging to different socio-economic conditions. The aim of the current study were to see the age wise prevalence and to assess the clinical and histopathological patterns of oral cancers.

Results:

Table-I showed the majority cases (30%) were in the 60-70 years of age and female (53.3%) are more affected than male (46.7%)

Table-I: Socio-demographic characteristics of study subjects (n=30)

Socio-demographic character	Number	Percentage
Age (Years)		
21-30	1	3.3
31-40	6	20
41-50	6	20
51-60	6	20
61-70	9	30
70+	2	6.7
Total	30	100
Sex		
Male	14	46.7
Female	16	53.3
Total	30	100

Table-II showed the clinical presentation of oral squamous cell carcinoma where ulceration and irritation (82.7%) of oral cavity is the chief complain followed by 55.1% complain of difficulty in mastication, 24.1% odynophagia, 20.6% dysphagia and spitting of blood 13.7%.

Table-II: Distribution of study subjects according to Clinical features (n=30)

Clinical features	Number	Percentage
Irritation	24	82.7
Ulceration	24	82.7
Pain	22	75.8
Burning sensation	8	27.5
Trismus	16	55.1
Bleeding	4	13.7
Normal health	9	31.0
Emaciated	14	48.2
Debilitated	5	17.2
Referred pain	10	34.4
Pain on swallowing	7	24.1
Difficulty in swallowing	6	20.6

Table-III showed different site of oral cavity affected by squamous cell carcinoma where buccal mucosa with involving retromolar trigone is the predominant site (23.3%) of involvement followed buccal mucosa (16.7%), alveolar mucosa (13.4%), Tongue (13.4%), retromolar trigone (10%), buccal mucosa with involving mandibular alveolar mucosa (6.7%), buccal mucosa with involving lip (3.3%), buccal mucosa with involving retromolar trigone and maxillary alveolar mucosa (3.3,%), floor of mouth (3.3%), palate (3.3%) and lip (3.3%).

Table-III: Distribution of study subjects according to site of primary tumour (n=30)

Site	Number	Percentage
Buccal mucosa	5	16.7
Buccal mucosa with involving mandibular alveolar mucosa	2	6.7
Buccal mucosa with involving Retromolar trigone	7	23.3
Palate	1	3.3
Tongue	4	13.4
Floor of the mouth	1	3.3
Lip	1	3.3
Retromolar trigone	3	10.0
Alveolar mucosa	4	13.4
Buccal mucosa with involving lip	1	3.3
Buccal mucosa with involving with retromolar trigone and maxillary Alveolar mucosa	1	3.3
Total	30	100

In this study, histopathologically all the oral cancer was squamous cell carcinoma (SCC). Table-IV showed the staging of carcinoma where majority of the cases were diagnosed at late stage, stage IV (56.7%).

Table-IV: Distribution of study subjects according to Stage at first diagnosis (n=30)

Stage	Number	Percentage
Stage II	1	3.3
Stage III	12	40
Stage IV	17	56.7
Total	30	100

Discussion:

Oral cancer (OC) is responsible for highest incidence among Asian countries and it is the commonest cancer in India which accounts for 50–70% of total cancer mortality.[11] It is the sixth most common cancer worldwide.[1,2,12] A total of 30 purposively selected patients of oral cancer were included in the present study. Among them, highest (30%) were found in the 61-70 years age group which is in accordance with a study[13] in Islamabad. The risk of developing oral cancer increases with age.[14] In this study 56.7% cases were above 50 years of age where as in UK the majority of cases (86%) occur in people aged 50 or above.[15] In previous studies[16] maximum occurrence of oral squamous cell carcinoma reported in 41-50 years age group. Another study at Netherland reveals less than 4% incidence in the age group below 40 years[17] where in our study 23.3% incidence in this age group. This indicates presentation of oral cancer in our country at a relatively earlier age which may be due to frequent use of betel leaf and areca nut in younger people. In our study 46.7% were male and fifty three 53.3% were female which is in accordance with some studies[18] where female patients are more affected than male patients. Gender ratio is observed in India and Thailand where male to female ratio is 1:2.0 and 1:1.56 respectively[19] which is also in accordance with our study. This might be due to the habit of chewing betel quid with tobacco in these females. Due to betel quid and tobacco chewing habits south Asian countries such as India, Sri Lanka, Pakistan, Bangladesh, and Taiwan report the highest incidence rates of oral cancer in the World.[20] In contrast to the present finding, there are some western studies[21] in which oral cancer is more frequent in males than females. It might be due to in western countries high consumption of smoked tobacco and alcohol are very popular and these habits are more common in males than females. Tobacco and alcohol consumption are the most

determinant etiological factors.[22] But there are some studies in France and Slovakia which show incidence of oral cancer is decreasing among men and increasing among women.[23] Almost all the patients presented with multiple symptoms & 82.7% of the patients complain of soreness or irritation in the oral cavity, 82.7% complain of ulceration in the oral cavity, 55.1% complain of difficulty in mastication, 24.1% odynophagia, 20.6% dysphagia and spitting of blood 13.7% which is almost equal with other studies.[9,24] When compared the involvement of different sites in the current study, buccal mucosa with involving retromolar trigone was found to be the predominant site with 23.3% involvement, followed buccal mucosa (16.7%), alveolar mucosa (13.4%), tongue (13.4%), retromolar trigone(10%), buccal mucosa with involving mandibular alveolar mucosa (6.7%), buccal mucosa with involving lip(3.3%),-buccal mucosa with involving retromolar trigone and maxillary alveolar mucosa (3.3,%), floor of mouth (3.3%), palate (3.3%) and lip (3.3%). In our study lesions involving another regions total 40% of the malignancies, what indicates that sometimes due to a late diagnosis. In many Asian countries for developing oral cancer chewing betel leaf and areca nut is known to be a strong risk factor.[25] A study found buccal mucosa to be the site at greater risk of malignancy in pan-tobacco chewers as compared to other intraoral sites.[26] The main reason is there has relationship between smokeless tobacco use and risk of buccal cancer.[27] In our study overall involvement of buccal mucosa (53.3%)which was the most affected site. This might be due to all of the patients of our study have pan-tobacco chewing habit. There are some Asian studies[9,28] which also reported that buccal mucosa as the predominant site of involvement. In contrast of the present finding, there are some western studies[21,29] found tongue as the most affected site of oral carcinoma. The main reason might be due to in the west high consumption of smoked tobacco and alcohol, tongue and floor of the mouth are the predominant oral cancers.[30] And Smoking tobacco and alcohol drinking habits are very popular in western countries.In the present study, 100% of the lesions were squamous cell carcinoma. Study at Ayub medical college, Abottabad showed that 94% of the all oral malignancies were squamous cell carcinoma[31] which is consistent with our finding. There are also some studies[9,21,32] where SCC is predominant of all oral cancers. The majority of OSCC were diagnosed at a late phase[33], in stages III or IV[34], which markedly decreases the chances of survival and hampers significantly patient's normal life. In our study, analysis of the staging of the patients revealed that 3.3% of the lesions were in early stage and 96.7% were late stage which is almost in similar with some studies in elsewhere of the world.[35,36] This is also in accordance with the results from other studies[21,29] but contrast with some recent studies[37] regarding oral cancer in Spain where most of patients had stage I or II tumors. One of the reasons for this was related with the possible low awareness for oral cancer.[38]

Conclusion:

Squamous cell carcinoma was the predominant type of oral cancer. Elderly people and female were mostly affected. Irritation or soreness was the commonest symptom. Buccal mucosa was the commonest site of lesion. Majority of the patients had late stage cancer.

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