ORIGINAL ARTICLE

Histological Patterns of Oral Squamous Cell Carcinoma in patients of Oral Cancer

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ABSTRACT

Aim: To identify the different histological patterns and to evaluate various clinical findings of oral squamous cell carcinoma.
Study design: Cross sectional hospital based study.
Setting & duration: Department of Biochemistry BMSI, in collaboration with Clinical Oncology Department of JPMC, Karachi. One year from February 2014 to February 2015.
Methods: A total of 34 cases presenting with oral squamous cell carcinoma were included in this study, irrespective of age and gender. Recurrent cases after surgery or chemo-radiotherapy and other malignant condition apart from oral squamous cell carcinoma were excluded from this study. The socio-demographic details and clinical manifestations were recorded on a proforma. Statistical analysis was done by using SPSS 19.
Results: This study was included on 34 patients of oral squamous cell carcinoma out of these 23 were male and 11 were female. Mean age was 47.47 years with Std. deviation ± 17.97, ranging from 20-to-72 years.The commonest site of lesion was the buccal mucosa 32.35% followed by tongue was 17.64%, left cheek 14.70%, right cheek 14.70%, submandibular 14.70% and lip was 5.88% respectively. Clinical appearance of lesion showed that 73.52% of lesions were ulcerative type and histologically 64.70% were well differiented oral squamous cell carcinoma
Keywords: Oral Squamous Cell Carcinoma, well-differentiated, ulcerative lesion.

INTRODUCTION

Worldwide the oral squamous cell carcinoma is the commonest type of malignancy in Head and Neck region. It represents 95% of all forms of head and neck cancer. Unfortunately over the last decade its incidence has increased by 50%. Pathogenesis of oral squamous cell carcinoma is multistage process which simultaneously involves the dysplasia, precancerous lesions, carcinoma situ, invasion and metastasis[1].

Oral cancer is now considered as a debilitating and lethal disease with generally increasing incidence and consistently low survival rates for the last two decades. It is a cause of great concern all over the world and a major threat to public hospitals in Pakistan[2]. Oral cancer is the major cause of fear, morbidity and mortality all over the world. It is the most common malignancy internationally but in the Pakistan it is the second most common as per recent records of cancer registry of Shaukat Khanum Memorial Hospital[3,4].

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The oral cancer incidence is higher in Southeast Asian countrieswhich accounts for 15% of all new cancer cases in Pakistanas compared to 3% detected world wide[5,6]. The previous studies have shown the occurrence of oral cancer involves the middle and older age groupsbut in recent years studies have shown younger age of incidence while the 90% histological type of oral cancers are of squamous cell carcinoma[7].

Majority of cases have reported that the tongue and floor of mouth are the most common sites involved in oral squamous cell carcinoma, followed by the buccal mucosa, cheeks, submandibular and lips[8,9]. OSCC has a multifactorial etiology with contributions of both genetic and environmental influences, suggesting an overwheling role of the latter[10]. Tobacco and alcohol are globally accepted and well documented strongest risk factors throughout the world. They are the most prevalent risk factors of oral cancer in the western countries with a multiplicative synergistic effect that has been shown in a number of international literatures[11,12]. In developing Asian countries present a different scenario with greater prevalence of smokeless tobacco, betel quid, areca nut and its substitutes as major carcinogenic influences[13].

The aim of this study was to report the socio-demographic and histological findings from the diagnosed cases of oral squamous cell carcinoma in collaboration with Clinical Oncology Department of JPMC, Karachi.

MATERIALS & METHODS

This study was included on 34 cases of oral cancer over a period of one year i.e. from February 2014 to February 2015. It was cross sectional study conducted at the department of Biochemistry BMSI, in collaboration with Clinical Oncology Department of JPMC, Karachi. The patients of adult age and either gender with oral malignancies were included in this study. Recurrent cases after surgery or chemotherapy/radiotherapy and other malignant conditions apart from oral squamous cell carcinoma were excluded from this study. The socio-demographic details and personal information, including their habits were recorded on structured proforma. The mode of clinical presentation of their lesion like site, side and morphology were documented in written. All the patientswere evaluated for histopathological examination through a biopsy procedure after a written informed consent and theirhistological details of lesion were recorded on same proforma.

The data was analyzed statistically on SPSS (Statistical package for social science) version 19. The result was given as frequency, mean, standard deviation and percentage.

RESULTS

This study was included on34 patients of squamous cell carcinoma of oral cavity. Out of these 23(67.7%) were males and 11(32.3%) were females and male to female ratio was 2:09 (Fig. 1). Mean age was 47.47years with Std. deviation ±17.97, ranging from 20-to-72 years (Fig 2).

Most common sites of lesion werethe buccal mucosa 32.35% followed by tongue 17.64%, cheeks 17.64% and lips5.88 % respectively (Table 1). The clinical appearance of lesionswas 73.52% ulcerative while 20.58% exophytic and only 5.88% verrucous type in nature (Table 2).

Histologically 64.70% was well differentiated oral squamous cell carcinoma followed by 32.35% moderately differentiated and 2.94% poorely differentiated squamous cell carcinoma respectively (Table 3).

Fig. 1: Gender distribution (n=34)

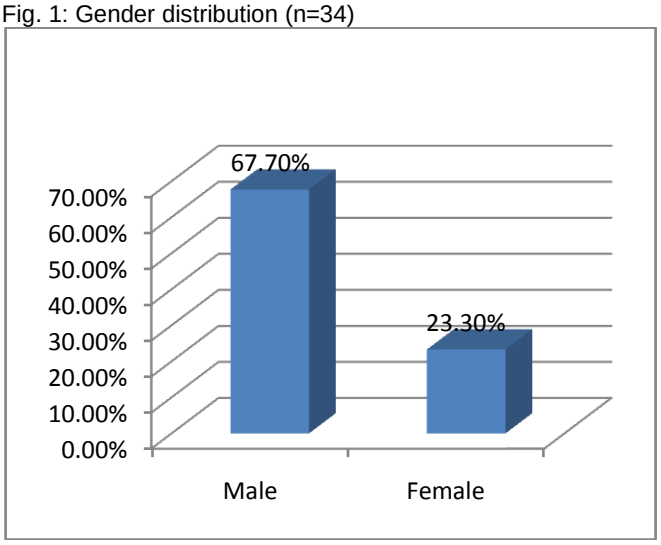
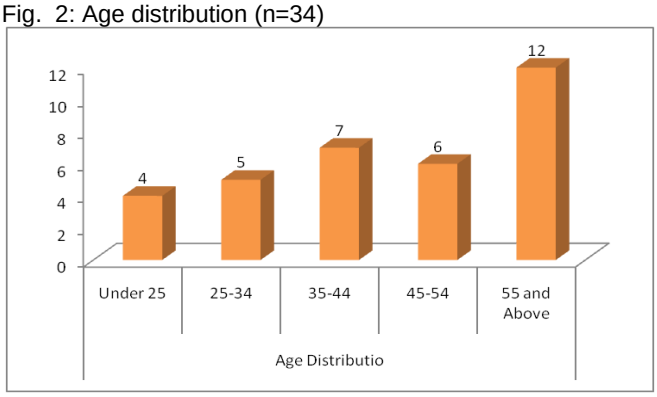


Fig. 2: Age distribution (n=34)



Mean = 48.21, Std Dev = 17. 97

Table 1: Site of the lesion (n= 34)

Site of lesion	n	%age
Buccal Mucosa	11	32.35
Tongue	6	17.64
Left cheek	5	14.70
Right cheek	5	14.70
Sub mandibular	5	14.70
Lips	2	5.88

Table 2: Morphological presentation of lesion (n= 34)

Morphological Presentation	n	%age
Ulcerative lesion	25	73.52
Exophytic lesion	7	20.58
Verrucous	2	5.88

Table 3: Histological pattern of Oral squamous cell carcinoma (n= 34)

Histological Type	n	%age
Well differentiated	22	64.70
Moderately differentiated	11	32.35
Poorly differentiated	1	2.94

DISCUSSION

The squamous cell carcinoma of oral cavity is considered as one of the most common forms of oral cancer with significantly reduced survival rate of five years and it shows a difference in geographical incidence 3-6% in western countries and 30-40% in eastern countries. The clinical examination of oral cavity is easy sothe existence of premalignant or malignant lesions can be easily identified in its early stages but unfortunately the oral canceris diagnosed in its late stage. Despite the recent diagnostic and therapeutic improvements, there is a very poor prognosis of patients in such type of tumors. It is probably due to different biological behavior of these tumors, which shows variable degrees of aggressiveness, independently of clinico-pathological parameters of certain prognostic importance such as TNM staging and histological grading[14].

According to the regional literature the M:F ratio for oral cavity cancers has been reported from 3.6:1[15],3.46:1[16] & 2.1:1[17] respectively while the M:F ratio in our study was 2.09:1 which is in close association with above studies. Local studies had also reported the similar finding to this study[18]. Thus it is clear that the incidence of oral cancer in males is still more than twice that of the incidence in females. This can be explained owing to the higher intake of tobacco either smoked or un-smoked and chewing of betel quid (gutka), areca nut (chaliya) in males as compared to females which is exactly in agreement with our study findings.

According to this study the age ranging from 20-72 years, with mean age as 47.47 years, which is easily comparable to local and regional studies. International studies state higher mean age, Ascani[19] reported as 66.6 years as mean age group in their study whereas Worrall[20] in his audit of oral cancer reported seventh decade as most common age group which is in contrast to our observation and other regional studies. Chen[21] as a retrospective study showed 52 years as a mean age. Mehrotra[22] has reported 50-59 years age group as most common, which is closer to our findings. Isaac[23] has also mentioned the similar mean age group in his research.

The oral cavity cancers can affect any site of the oral mucosa and such lesions can invade into various continuous areas. The present result shows that the most commonly affected site was the buccal mucosa followed by the tongue, cheeks, submandibular region and the lips were least involved respectively. Although the tongue is considered the most common site for carcinoma of oral cavity in America and Europe[24,25] but the buccal mucosa is the most common site for OSCC in south eastern Asia, due to habits of areca nut and tobacco chewing[26]. In the study of Effion et al has shown that the lower and upper gingivas were the most common affected sites in their sample[27]. Regarding the most common affected site of oral cavity, there is a world wide variation in data reported by different region. Most of studies report either buccal mucosa or tongue as the most common sites of oral squamous cell carcinoma.

According to this research clinical appearance of lesion presented ulcerative type as most frequent appearance of carcinoma of oral cavity. Approximately 73.52% of cases has ulcerative appearance had followed by the exophytic type 20.58% of cases and only 5.88% of the cases were presented with verrucous appearance. Najeeb[28]showed in his study majority of the patients presented with an ulcer, while Zaki[18] and Zakai[29] elaborated in his study that 47% of cases were presented with mixted ulcerative and exophytic appearance. Regarding histopathological type of oral tumors, in our study indicated a clear predominance of well differiented squamous cell carcinoma was found in 64.70% of cases followed by moderately differentiated squamous cell carcinoma was found in 32.35% and poorly differentiated squamous cell carcinoma in 2.94% of studied patients. The international studies have reported that the majority of the cases were of well differentiated squamous cell carcinoma while similar observation was recorded by Iype[30] and he documented 52.6% of cases were of well differentiated squamous cell carcinoma. Findings of other local researchers are in consistence with that of ours, Isaac[31] and khan[32]have documented 66% and 67.5% of their cases respectively as well differiented squamous cell carcinoma. Najeebin his analysis of squamous cell carcinoma of tongue have documented as moderately differentiated squamous cell carcinoma as most frequent histological type. However Ascani documented majority of his cases as poorely differentiated squamous cell carcinoma. The fact that majority of the patients in most studies present with advanced stage illustrates the need for preventive and early-detection strategies as he is often the first person to encounter a patient with oral ulcer. Suspicious lesions should be properly biopsied thereby permitting early diagnosis and treatment of oral cancer for the better prognosis.

CONCLUSION

The oral squamous cell carcinoma occurs predominantly in males. Buccal mucosa was the most common site of the lesion in our community due to indulged the habit of tobacco chewing. Ulcerative type was the dominant clinical presentation whereas

histologically well-differentiated SCC type was most common histopathological pattern.

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