

Frequency of Histological Types, Common Sites and Nodal Involvement in Patients of Oral Squamous Cell Carcinoma

Histological Types, Common Sites and Nodal Involvement in Oral Squamous Cell Carcinoma

Presented to Nishtar Institute of Dentistry, Multan

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ABSTRACT

Objective: To find out common site, histological type and nodal metastasis in the SCC patients visiting outdoor of NID.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the department of Oral and maxillofacial surgery (surgical unit 2), NID, Multan, Pakistan from July 2021 to February 2022.

Materials and Methods: Total 112 patients of both genders and all age groups were included. The parameters assessed were site of the lesion, histological type and presence or absence of cervical lymphadenopathy. Diagnosis of SCC was made with proper history, clinical examination and histopathology. The demographic data of all the subjects were recorded on a structured questionnaire; they were also asked about harmful habits like betel nut and quid chewing, snuff dipping, cigarette smoking and alcohol intake.

Results: In our study, age of mostly patients was in between 41-61years. Mean age was 50.7 ± 2.5 . In this study 53.57% were males, in 34.82% of cases lesion was on buccal mucosa and 43.75% patients had well differentiated carcinoma. Most of the patients in this study showed metastasis to lymph nodes N2b (42.85%), while 33.03% patients had no lymph node involvement at all.

Conclusion: Oral SCC affects both genders but the ratio of males is slightly higher. Chiefly, buccal mucosa was involved, common histopathological pattern was Grade I followed by Grade II and several patients reported with associated cervical lymphadenopathy.

Key Words: Oral squamous cell carcinoma, Histopathology, Cervical, Lymphadenopathy

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INTRODUCTION

An oral cancer has considerable impact on the patient's quality of life and is one of the most common causes of death in the world¹. Along with the patients their family also suffers. The whole process of diagnosis to treatment of oral carcinoma is difficult for both the patients and their families. Squamous cell carcinoma of oral cavity and oropharynx is the major cancer of head and neck region².

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Etiology of SCC is multifactorial³, a plethora of factors have been recognized as the predisposing factors of SCC. But in Pakistan habits like chewing betel nut, betel quid, tobacco, gutka and smoking are considered as major risk factors⁴. The incidence of SCC is rising in our country and also other South Asian countries because of low price and easy availability of these hazardous materials.

The habitual of these harmful substances have less or no knowledge about deleterious effects of these substances on their health. Health professionals have to conduct awareness campaigns at local, regional and provincial level. The people should be informed about importance of oral hygiene and side effects of using such substances. They should know that addiction of these substances sometimes results in unfortunate consequences. People must value their lives and the happiness of their loved ones which is associated with them. Our government must take measures that discourage the use of these injurious substances.

Clinically oral SCC may present as an ulcer, exophytic lump or cervical lymphadenopathy⁵.

The sites mainly involved in SCC are; buccal mucosa, lateral borders, dorsum or ventral surfaces of the tongue, hard or soft palate, gingival tissue, floor of the mouth, lip or labial mucosa, alveolar ridge and retromolar region. However, buccal mucosal tissue is a frequent site in South Asians⁶.

The objective of current study was to evaluate the frequency of histological types, also to find out most common site of the lesion and to document the involvement of cervical lymph nodes among the patients of OSCC presented in OPD of oral and maxillofacial department of NID.

MATERIALS AND METHODS

This cross-sectional study was carried out from July 2021 to February 2022 at department of Oral and maxillofacial surgery (surgical unit 2), NID, Multan. Approval was obtained from Institutional ethical committee. Sample size of about 112 patients was in our study. Diagnosis of SCC was made with proper history, clinical examination and histopathology. Informed consent was taken from all the subjects. Both gender of age between 21 to 82 years was part of this study. The demographic data of all the subjects were recorded on a structured questionnaire; they were also asked about harmful habits like betel nut and quid chewing, snuff dipping, cigarette smoking and alcohol intake.

After medical history and thorough clinical examination of the subjects biopsy was done and the specimen was sent to laboratory for the purpose of histopathology. Presence of palpable cervical lymph nodes was also documented. The extent of the lesion and involvement of neck nodes were further evaluated on CT scan or MRI. Data was entered in SPSS 22.

RESULTS

Among 112 subjects, 60 were males and 52 were females. The frequent site of the cancerous lesion observed in this study was buccal mucosa followed by SCC of tongue.

Table No.1: Demographic data

Variables		Number of Patients (n=112)	age (%)	P value
Gender	Males	60	53.57	0.00
	Females	52	46.42	
Age distribution	21-41	18	16.07	0.001
	42-61	74	66.07	
	62-82	20	17.85	
Socioeconomic status	Middle	30	26.78	0.000
	Low	82	73.21	

According to histopathology reports of the subjects, 49 patients had Grade I while 42 patients were suffering from Grade II SCC. Most of the patients in this study

showed metastasis to lymph nodes N2b (42.85%), while 33.03% patients had no lymph node involvement at all.

Table No.2: Clinical presentation

Site	n	%
Buccal mucosa	39	34.82
Labial mucosa/lip	02	1.78
Tongue	27	24.11
Retromolar region	06	5.35
Alveolar ridge	09	8.03
Floor of the mouth	07	6.25
Maxilla and hard palate	22	19.64

Table No.3: Histological types and level of lymph nodes involved

	Presentation	n	%
Histopathology	Grade I = well differentiated SCC	49	43.75
	Grade II = moderately differentiated SCC	42	37.5
	Grade III = poorly differentiated SCC	16	14.28
	Grade IV = undifferentiated SCC	05	4.46
Nodes involved (N)	N0	37	33.03
	N1	16	14.28
	N2a	01	0.89
	N2b	48	42.85
	N2c	10	8.92



Figure No.1: Intra-oral lesion



Figure No.2: Extra-oral clinical presentation

DISCUSSION

Squamous cell carcinoma is a most common malignant cancer of oral cavity. Oral cancers pose a continuous threat to human health and impose a heavy burden on countries. By far cancer is the most common cause of death in developed countries and second most common cause in developing countries⁷.

In Pakistan among cancers of head and neck OSCC has the highest rate of incidence and it is also the most common cancer in males and second most common in females⁸. Majority of the patients, report to health centers in an advance stage of OSCC with poor prognosis.

In our study, age of mostly patients was in between 41-61 years. Mean age was 50.7 ± 2.5 . There is a significant association of age with habits of chewing harmful substances that coincides with some studies published in Pakistan and India^{8, 9, 10, 11}. In this study about 43% patients had habit of smoking which is almost same as study conducted by Schmidt et al¹² who reported that almost 41% had smoking as causative factor of oral squamous cell carcinoma. In our study 32% patients were betel nut or betel quid chewers. Other studies by Huss et al.¹³ and Huang et al.¹⁴ have also suggested that smoking is main cause of oral cancer followed by areca nut chewing which is similar to our study.

Majority of the patients in our study belongs to low socioeconomic status (SES). In this class chewing habits like betel nut, quid and cigarette smoking is considered to be an inexpensive source of entertainment and it is assumed that these substances can enhance alertness, repress hunger and can also increase persons work capacity¹⁵. They lack awareness about dreadful consequences of these carcinogenic substances. Therefore, as health professionals it is our duty to make some efforts in this regard, awareness programs especially in population of low socioeconomic status should be conducted as people of this class are more prone to adapt such habits. These programs will not only help to educate people but also helps health professionals in early diagnosis of oral SCC. This timely identification of oral SCC will minimize the rate of mortality and morbidity. Government should also take strict measures such as to ban import of betel nut and increase the price of cigarettes and betel quid in this way their use could be minimized.

In our study predominant site of lesion was buccal mucosa which was similar to the study of Bhurgri Y et al¹⁶ and Sahaf a et al¹⁷ unlike study by Hernandez et al in which tongue was common site⁶. Deo et al¹⁸ found that buccal mucosa was the most common, whereas lip was the least common site which coincides with the results of our study. Most common histological pattern observed in our study was well differentiated SCC which was similar to study conducted by Tandon A¹⁹.

Nodal status (N) categorization was done as N0 means no regional lymph node involvement, N1 means metastasis in single ipsilateral node size equal or less than 3cm in greatest dimension, N2a is metastasis in a single ipsilateral node which is 3cm to 6cm in size, N2b is metastasis in multiple ipsilateral nodes, N2c means contralateral/bilateral lymph nodes involved but none of which is more than 6cm. N3 is metastasis in a lymph node size more than 6cm without extra-nodal extension or single ipsilateral node or less than 3cm with extra-nodal extension or multiple ipsilateral, contralateral or bilateral lymph nodes of any size with extra-nodal extension.

One limitation encountered in this study was that the selected participants were from Multan and its surroundings therefore, it cannot be considered generalized hence, further studies in this regard should be done in different cities of Pakistan.

CONCLUSION

We concluded that oral squamous cell carcinoma is more in males; age group mostly affected is in between 42-61 years. Frequent site is buccal mucosa followed by tongue. Most of the cases reported at OPD of NID during the time of this study had well differentiated squamous cell carcinoma. Cervical lymphadenopathy was seen in many patients. The incidence of SCC is continuously increasing in our country. To minimize the occurrence and to avoid dreadful consequences of SCC public awareness programs should be scheduled all over the country.

Author's Contribution:

Concept & Design of Study:	Zehra Azher Jawa
Drafting:	Tauseef Zahra, Laila Azher Jawa
Data Analysis:	Laila Azher Jawa, Asif Nazir Ch
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