

# Reasons for Delayed Presentation in Patients of Oral Squamous Cell Carcinoma: A Prospective Study

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## ABSTRACT

**Aim:** Evaluation of reasons for delayed presentation in patients of oral squamous cell carcinoma

**Study design:** Cross sectional study

**Duration and setting:** Oral & Maxillofacial Surgery Department, Liaquat University of Medical and Health Sciences Jamshoro from January 2019 to March 2020.

**Methodology:** The Patients with oral ulcer were examined and a brief history was taken. Biopsy was taken to confirmed diagnosis of oral squamous cell carcinoma (OSCC). A structured questioner was used to take details from patients regarding the first signs or symptoms they noticed. The Patients were asked for their first consultation from health professionals after noticing the signs and symptoms and how long they had waited between first noticing the symptom and seeking advice. The SPSS version-16 was used for analysis of results.

**Results:** A total 85 biopsy proven cases were included in this study. the most common presentation of OSCC was seen in 4<sup>th</sup> (29%) and 5<sup>th</sup> (32%) decade of life. The sign and symptoms were observed as 52% cases reported with multiple complains like pain, ulcer, bleeding and lump as the top most reason for seeking dental /medical treatment followed by ulcer as 13%. Males 23% and females 38% visited in 17-20<sup>th</sup> week. Majority of males 41% and females 48% came for medical advice in 4<sup>th</sup> and 5<sup>th</sup> month. Majority of males 52% and females 52% were unaware of oral cancer initiation. The relationship was significant (p=0.001) between gender and reasons for delay.

**Conclusion:** Male gender and age groups of 4<sup>th</sup> & 5<sup>th</sup> decayed are the commonly involved in OSCC. Pain in association with ulcer, bleeding and lump was the main reason for presentation with OSCC. Main reason was unawareness of oral cancer in local population. The reasons for delayed presentation showed significant association with gender.

**Key words:** Oral Squamous cell carcinoma, Biopsy, Etiology

## INTRODUCTION

Globally the burden of cancer patients are increasing day by day, and recent figures documented that cancer is the 2<sup>nd</sup> cause of death in the world and approximately one in six mortalities is because of lethal cancers. Third world countries reported 70% of deaths from any body part cancer.<sup>1</sup> Oral cancer is increasing by the time in south east Asia. Oral cancer is considered as the 6<sup>th</sup> most common cancer globally.<sup>2</sup> The cases of oral cancer were diagnosed about 355,000 around the globe in 2018. The death occurred in 177,000 cases. The case of OSCC increased by 6 % in United States from 1999-2015<sup>2</sup>.

OSCC develops from pre-malignant conditions includes leukoplakia, erythroplakia, oral lichen plan us, and submucous fibrosis of the oral cavity.<sup>3</sup> Common oral sites are buccal mucosa, retromolar trigone, tongue, floor of mouth, vestibule, hard and soft plate, alveolar gingival. It usually appear as trouble-free white patches, than with passage of time it progress to red patches, than an ulcer, and continues to grow. Any ulcer that present in oral cavity for more than fourteen days despite the causative factors has been removed, gives strong suspicious for developing oral Squamous cell carcinoma. Early lesions are usually

not associated with nodal metastasis but loco regional nodal and distant metastasis seen in large lesions or the lesion appeared in oral cavity and ignored for prolog time.<sup>4</sup> Oral cancer has one of the lowest survival rate as compared to other types of cancers like breast, skin, testis, prostate, uterus, and urinary bladder cancers with survival rates of 50% or less.<sup>5</sup> Common risk factors in our society include tobacco, smokeless tobacco, areca nut, snuff and alcohol use. Other risk factors include HPV infection.<sup>6</sup>

Early Diagnosis of oral cancers is paramount for better prognosis, but unfortunate large number of population seeks their treatment in very late stage of disease. Morbidity and mortality is also increased because of late stage presentation.<sup>7</sup> To establish a diagnosis of squamous cell carcinoma a histopathological evaluation of concerning area is required. After confirmation extension of diseases can interpret by investigation with CT scan, MRI and PET. The types of treatments will depend on the size, locations, and spread of the cancer taken into consideration with the general health of the person.<sup>4</sup>

Surgery is the main stay for management of oral squamous cell carcinoma, along with additional options to avoid recurrence, radiation therapy, chemotherapy, or

targeted therapy can be used. Prognosis of cancers depends upon etiology and tumor behavior or stage of tumor at the time of presentation. It has been observed by Carrie D. Llewellyn, because of delay in presentation (patient delay) or diagnosis (professional delay) many cases reach to cancer management centers at the stage of three or four.<sup>8</sup> In developing countries, oral squamous cell carcinoma is a leading cause of mortality due to late diagnosis. Public awareness programs are important for avoiding delay that is an important determinant of survival and helps in seeking early medical advice. This is of particular significance for oral cancer, given that there is no formal population screening for oral cancer in the Pakistan. Little has been reported about the reasons for delay in presentation. Although the few studies involving patients of all ages report conflicting findings, with various factors such as gender, absence of pain, difficulties in self-examining some sites for oral cancer.<sup>9,10</sup> The aim of this paper is to evaluate the reasons for delayed presentation in patients of OSCC seeking treatment at tertiary care hospital

## MATERIALS AND METHODS

Departmental permission was taken and approval from ethical review committee was also sought. Informed written consent regarding use of data for study was taken on their 1st visit. Patients with oral ulcer were examined and a brief history was taken. Biopsy was taken to confirm diagnosis of OSCC. Cases of OSCC of the lip, intra-oral sites like alveolus, buccal mucosa, tongue, hard and soft palate, retro molar area were included and the cases of salivary glands tumors, nasopharynx, hypopharynx area and already treated cases were excluded.

A structured questionnaire was used to take details from patients regarding the first signs or symptoms they noticed. The Patients were asked for their first consultation from health professionals after noticing the signs and symptoms and how long they had waited between first noticing symptom and seeking advice. The additional demographic data was also collected. The data was analyzed by SPSS version 16. The frequency and percentage were calculated for categorical variables like age groups, gender, marital status, site and sign and symptoms while the age is also presented as mean and standard deviation. The chi-square test was applied to check the statistical significant difference for delayed presentation among patients diagnosed as OSCC at 95% confidence interval and p-value  $\leq 0.05$  was set as significant.

## RESULTS

A total 85 biopsy proven cases were included in this study. The age of patients were divided in five groups, the most common presentation of OSCC was seen in 4<sup>th</sup> (29%) and 5<sup>th</sup> (32%) decade of life. The mean age was  $2.62 \pm 1.12$ . Male and female were 75% and 25% respectively. The married (85%) patients were in majority. The most common involved site of OSCC was buccal mucosa as 51% followed by retromolar region, alveolus and tongue (Table 1)

The sign and symptoms were observed as 52% cases reported with multiple complaints like pain, ulcer, bleeding and lump as the top most reason for seeking dental /medical treatment followed by ulcer 13%, functional problem 9%, tooth mobility 6% and lump 6% (Figure-1)

Table 1: Distribution of age groups, gender, marital status and site

CHARACTERISTICS	NUMBER	%
AGE GROUPS		
20-30 Years	15	18
31-40 Years	25	29
41-50 Years	27	32
51-60 Years	13	15
61-70 Years	5	6
GENDER		
Male	64	75
Female	21	25
MARITAL STATUS		
Single	13	15
Married	72	85
SITE DISTRIBUTION		
Buccal mucosa and vestibule	43	51
Retromolar region	12	14
Alveolus	11	13
Floor of mouth	6	7
Tongue	7	8
Palate	3	2
Lip	3	2
TOTAL	85	100

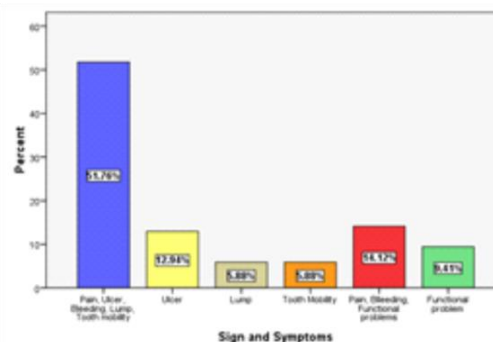


Figure 1: Sign and Symptoms among patients of OSCC

Table 2: Relationship of gender with time duration

Time duration	Gender		Total	P- value
	Male	Female		
0-4 Weeks	2	-	2	0.334
	3.1%	-	2.4%	
5-8 Weeks	5	-	5	
	7.8%	-	5.9%	
9-12 Weeks	6	-	6	
	9.4%	-	7.1%	
13-16 Weeks	10	3	13	
	15.6%	14.3%	15.3%	
17-20 Weeks	15	8	23	
	23.4%	38.1%	27.1%	
21-24 Weeks	26	10	36	
	40.6%	47.6%	42.4%	
TOTAL	64	21	85	
	100.0%	100.0%	100.0%	

Self-reported delay from first signs or symptoms to seeking professional advice is ranged from 1<sup>st</sup> week to 24<sup>th</sup> weeks. Males 23% and females 38% visited in 17-20<sup>th</sup> week. Majority of males 41% and females 48% came for

medical advice in 4<sup>th</sup> and 5<sup>th</sup> month. The relationship of was in-significant ( $p=0.334$ ) between gender and duration (Table-2).

Reasons for primary delay were identified as 52% 'unaware about disease processes, 24% 'lack of availability of medical or dental staff' 14% 'visited to non-medical professional persons'. The majority of males 52% and females 52% were unaware of oral cancer initiation. The relationship was significant ( $p=0.001$ ) between gender and reasons for delay among patients suffering from OSCC (Table-3)

Table 3: Relationship of Gender with Reasons of delay

Reasons for Primary Delay	Gender		Total	p-value
	Male	Female		
Unaware about oral cancer	33 51.6%	11 52.4%	44 51.8%	0.001
Lack of availability of medical staff	20 31.2%	1 4.8%	21 24.7%	
Visited non medical professionals	3 4.7%	9 42.9%	12 14.1%	
Others	8 12.5%	0 .0%	8 9.4%	
Total	64 100.0%	21 100.0%	85 100.0%	

## DISCUSSION

The main center of attention of this research was to determine the reasons for primary delay in receiving medical advice for oral Squamous cell carcinoma. Early diagnosis is related to better outcome if the disease is treated at earliest after diagnosis. The main advantages for early diagnosis and treatment are improved survival rates, preserve function and esthetics.

OSCC is considered as a public health problem the death ration is increasing day by day.<sup>2</sup> This type of cancer is relatively common around the globe including Pakistan. Squamous cell carcinoma of the oral cavity was the second most common cancer in Karachi. The report Published by health department of Sindh in 2020 that shows marked increase in frequency of oral cancers in all over Sindh province of Pakistan.

A total of 85 cases were reported in study period. The males were affected as 75% and females as. The male/female ratio was 2.56:1.<sup>11</sup> Gender is one of the important factor for delayed presentation of oral cancer. Our study showed that women presented their cases at late stage as compared to men. This is similar to the studies conducted by Urooj et al<sup>12</sup> and not in agreement with the results of Taiwan study where they reported 5.62:1 male to female ratio. Gender discrimination, male dependent society, unawareness of cancer in our society may be the reason for delay in seeking treatment with cancer of the head and neck. Though the men were considered to be at high risk for oral cancer, and most of the patients in our study were men. It is usually observed that they are more consuming tobacco as compared to female.

In our study the most common affected age group was from 31 to 50 years. Studies conducted at Karachi<sup>12</sup>

and Lahore<sup>13</sup> are similar with our findings however the results of this study are in contradiction with the study conducted in India where they reported common affected site was tongue at early age.<sup>14</sup> Consumption of alcohol and its synergetic effects on oral cancer is common in India and prohibited in Pakistan; could be one of the reasons for lesser number of cases with SCC of tongue which is rare and late affected area. In other multicenter study conducted simultaneously at Canada, Korea, Iran, Taiwan, Thailand reported the common age group was from 5<sup>th</sup> to 6<sup>th</sup> decade of life.<sup>15</sup>

Sign and symptoms of disease are important because OSCC is painless in initial stage of disease but once lesion enlarge to sufficient size and involve certain vital structures like nerve then it becomes painful. In our study majority of patients were presented with pain and pain along with ulcer, lump, tooth mobility that is also an indication that lesion at initial presentation was of sufficient size and invaded structures. These results are in contradiction with study of Australia. Most participant of that study felt ulcer at initial presentation.<sup>16</sup> On the other hand our findings are in with study reported by Anwar et al.<sup>11</sup>

In our study buccal mucosa and vestibule was the common site of OSCC. It might be due to these sites are commonly used to hold smokeless tobacco for longer time in oral cavity. Carcinogenic effects are well established and documented in multiple studies that it is directly related to contact time with surface. This common site has also been reported by Urooj et al.<sup>12</sup> Our study is in contradiction with the studies of western countries, where the common affected sites are reported as tongue and floor of mouth that accounts almost 50% of cases. More over buccal mucosa, gingivae, retromolar area are less frequently affected areas.<sup>17</sup>

This is probably the first study conducted in the Pakistan focusing the reasons for delayed presentation. It is observed in our study that patients commonly presented between 9 to 16 weeks after appearance of initial sign and symptoms and this delayed presentation usually progress the lesion in advanced clinical stage (i.e. III or IV). These results are similar to other studies.<sup>8,18,19</sup> Cancer of oral cavity is almost always appearing as noticeable early changes of mucosa such as ulcer, erythroplakia, leukoplakia, bleeding and pain. Thorough clinical examination can pick up early and or invasive lesion within short time. However, in our study the majority of patients were diagnosed at the late stage, this might be due to unawareness of disease, patients are considering oral lesions as infection of tooth or mucosa, additionally lack of availability of hospitals in far-flung areas of Sindh, with poor socio economical condition of patients probably is other main reason of delayed presentation. As a consequence of all these factors people used self and inappropriate medication while substantially increasing the duration of diagnostic delay.

This study was conducted in only one tertiary care hospital, with limited sample size. We believe that many patients may not be able to report in any hospital before they die. The problem may be more severe than we have documented in this study. Large sample size and multi center studies are needed to cover this ignorant population.

It was also a limitation of a study that we could not document the stages of diseases at presentation.

## CONCLUSION

It is concluded with in the light of limitations that male gender and the age ranges 4<sup>th</sup> & 5<sup>th</sup> decayed are the commonly involved in OSCC. Pain in association with ulcer, bleeding and lump was the main reason for presentation with OSCC to seek care from tertiary care hospital. The average delay in seeking medical advice was three months after initiation of sign and symptoms and unawareness of oral cancer in local population may be the cause of delayed presentation. The reasons for delayed presentation showed significant association with gender. This is very important in developing countries to start oral screen clinics at larger scale in every part of country to detect asymptomatic cases of OSCC. Prevention and early detection is the only solution to combat this lethal disease.

## REFERENCES

1. GBD 2015 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet* 2016; 388 (10053):1659-1724.
2. Padma R, Paulraj S, Sundaresan S. Squamous cell carcinoma of buccal mucosa: Prevalence of clinicopathological pattern and its implications for treatment. *SRM J Res Dent Sci* 2017;8:9-13.
3. Edge SB. *AJCC cancer staging manual*. American Joint Committee on Cancer (7th ed.). New York: Springer, 2010.
4. Robert RM. *Oral and maxillofacial pathology: a rationale for diagnosis and treatment*. Stern, Diane. Chicago: Quintessence Pub. Co. 2003.
5. Jafari A, Najafi Sh, Moradi F, Kharazifard M, Khami M. Delay in the diagnosis and treatment of oral cancer. *J Dent (Shiraz)* 2013;14(3):146-50.
6. Kreimer AR, Clifford GM, Boyle P, Franceschi S. Human papillomavirus types in head and neck squamous cell carcinomas worldwide: a systematic review. *Cancer Epidemiol Biomarkers Prevention* 2005; 14(2): 467–75.
7. Alahapperuma, L., Fernando, E. Patient-linked factors associated with delayed reporting of oral and pharyngeal carcinoma among patients attending National Cancer Institute, Maharagama, Sri Lanka. *Asian Pacific J Cancer Prevention* 2017; 18(2): 321-25
8. Llewellyn CD, Johnson NW, Warnakulasuriya S. Factors associated with delay in presentation among younger patients with oral cancer. *Oral Surg. Oral Med. Oral Pathol Oral Radiol Endod* 2004; 97, 707–13.
9. Basharat S, Shaikh BT, Rashid HU, et al. Health seeking behaviour, delayed presentation and its impact among oral cancer patients in Pakistan: a retrospective qualitative study. *BMC Health Serv Res* 2019;19(1):715.
10. Zhang X, Liu D, Dong H, Li Y, Zhang Y, Wang X, Zhang B, Bian L. Factors associated with delay in presentation among patients for oral cancer. *J Comparative Effectiveness Res* 2019;8(12):1003-71.
11. Anwar N, Pervez S, Chundrigar Q, Awan S, Moatter T, et al. Oral cancer: Clinicopathological features and associated risk factors in a high risk population presenting to a major tertiary care center in Pakistan. *PLOS ONE* 2020; 15(8): e0236359.
12. Urooj A, Mirza T, Ali A, Agha MA, Rasool S. Frequency of head and neck lesions according to histopathologic diagnosis. *J Dow Univ Health Sciences Karachi* 2011; 5:70-3.
13. Haq ME, Abid H, Hanif MK. Frequency of pattern of oral maxillofacial carcinoma. *Annals* 2009;15:171-5.
14. Iype EM, Pandey M, Mathew A, Thomas G, Sebastian P, Nair MK. Squamous cell carcinoma of the tongue among young Indian adults. *Neoplasia* 2001; 3:273-7.
15. Dhanuthai K, Rojanawatsirivej S, Thosaporn W, Kintarak S, Subarnbhesaj A, Darling M, et al. Oral cancer: A multicenter study. *Medicina oral, patologia oral y cirugiabucal*. 2018;23(1):e23.
16. Rogers SN, Vedpathak SV, Lowe D. Reasons for delayed presentation in oral and oropharyngeal cancer: the patients perspective. *Br J Oral Maxillofac Surg* 2011; 49, 349–53.
17. Warnakulasuriya, Global epidemiology of oral and oropharyngeal cancer. *Oral Oncol* 2009; 45(4): 309-16.
18. Feller L, Lemmer J. Oral squamous cell carcinoma: epidemiology, clinical presentation and treatment. *J Cancer Ther* 2012;3:263–8.
19. Scott SE, Grunfeld EA, McGurk M. Patient's delay in oral cancer: a systematic review. *Community Dent Oral Epidemiol* 2010;34, 337–43.