

Original Research Article

Clinical profile of the patients with oral squamous cell carcinoma: a tertiary institutional study

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ABSTRACT

Background: Oral cancer consists of a group of neoplasms affecting any region of the oral cavity. This term is commonly used interchangeably with oral squamous cell carcinoma (OSCC), representing the most frequent of all oral neoplasms. Factors affecting the development of the oral squamous cell carcinoma are tobacco use, alcohol consumption, low socio-economic status, poor hygiene, poor diet, viral infection like HPV, ill-fitting dentures, jagged teeth.

Methods: An institution based retrospective observational study was conducted in the department of ENT, GMC Jammu, including the records of the patients with oral squamous cell carcinoma admitted from June 2016 to July 2019. 80 patients of oral carcinoma were included in the study.

Results: Male to female ratio was 5.1:1. Mean age of presentation was 49.2±4.1 with most of the cases presenting in the 6th decade. 27 (33.75%) patients had history of chewing tobacco alone, 17 (21%) had smoking with chewing tobacco and 10 (12.5%) smoking with alcohol. 52% patients presented with growth of tongue (52%) followed by buccal mucosa (17.5%) and other sites. Histopathological grading of OSCC showed predominance of well differentiated cancer in 44 cases (55%).

Conclusions: Cases of OSCC are increasing day by day in young generation due to increasing exposure to the risk habits which are easily accessible to them.

Keywords: Oral cavity, Squamous cell carcinoma, Tongue, Risk factors

INTRODUCTION

Oral cancer includes a group of neoplasms affecting any region of the oral cavity. Oral cancer usually represents around 5% of all the human malignancies.¹ It is 8th most common cancer in the world and comes among top three cancers in India.^{2,3} It is potentially a deadly and distressing disease with increasing incidence worldwide and poor survival rates.^{4,5} In certain countries, such as Sri Lanka, India, Pakistan, and Bangladesh, oral cancer is the most common cancer. In India, more than 50% of all cancers are oral cancer. It is most commonly seen among male and the third most common among female

population.⁶ In some parts of India, oral cancer is the most common type of cancer. India harbours about 20% of the world's oral cancer cases with 1% of its population having oral premalignant lesions. India is also labelled as oral cancer capital of the world.⁷

Oral cancer consists of a group of neoplasms affecting any region of the oral cavity. This term is commonly used interchangeably with oral squamous cell carcinoma (OSCC), representing the most frequent of all oral neoplasms.⁸ Oral cancer is a multifactorial disease with the most important risk factors being tobacco, excess consumption of alcohol, and betel-quid usage.⁶ However,

several studies have reported surprising increase in the incidence of oral cancer in patients with no exposure of tobacco and alcohol.^{9,10} In recent times, there has been an increasing trend of OSCC development in females and young adults. Factors affecting the development of the oral squamous cell carcinoma are tobacco use, alcohol consumption, low socio-economic status, poor hygiene, poor diet, viral infection like HPV, ill-fitting dentures, jagged teeth.^{6,11} A small percentage of cases with OSCC are those who do not use tobacco. Smoking and smokeless tobacco also has been demonstrated as etiological factors for OSCC in the literature.¹²

Oral cancers have a significant impact on the patient's quality of life, because of the functional loss that results with the treatment modalities even with the highest care provided nowadays.¹³ Over last few decades, mortality and morbidity of OSCC has not changed due to its high degree of local invasiveness and a high rate of metastasis.¹⁴

The present retrospective observational study was done with an aim to evaluate the demographic and clinical profile of the patients presenting with oral squamous cell carcinoma in our institute.

METHODS

An institution based retrospective observational study was conducted in the department of ENT, GMC Jammu, including the records of the patients with oral squamous cell carcinoma admitted from June 2016 to July 2019. The study was commenced after the approval from the institutional ethical committee. The study group consisted of 80 patients. Demographic data, regarding the age, sex, habits of patients, detailed clinical history, examination and histopathology of the lesion, was obtained from the hospital records. The histopathological grading of the OSCC was done as per the world health organization (WHO) criteria based on cell differentiation: well differentiated, moderately differentiated and poorly differentiated [wahi pn].¹⁵ Statistical analysis of the data was carried out by using the software SPSS 17.0.

RESULTS

A total of 80 patients with oral squamous cell carcinoma met the inclusion criteria of the study. 75% patients reported from rural areas and remaining 25 % patients were from urban areas. Male to female ratio was 5.1:1. Most of the cases were in the 6th decade (Table 1). 27 (33.75%) patients had history of chewing tobacco alone, 17 (21%) had smoking with chewing tobacco and 10 (12.5 %) smoking with alcohol (Table 2). 52% patients presented with growth of tongue (52%) followed by buccal mucosa (17.5%) and other sites as shown in (Table 3). Histopathological grading of OSCC is presented in the (Table 4) showing predominance of well differentiated cancer in 44 cases (55%). Management of the patients is shown in (Table 5).

Table 1: Age group of presentation of oral squamous cell carcinoma.

Age group (in years)	Males	Females	Total (%)
21-30	1	1	2 (2.5)
31-40	14	4	18 (22.5)
41-50	21	3	24 (30)
51-60	25	2	27 (33.75)
61-70	6	-	6 (7.5)
71-80	-	1	1 (1.25)
81-90	-	2	2 (2.5)
Total	67 (83.7%)	13 (16%)	80

Table 2: Habits of the patients.

Habits	No. of patients (%)
Tobacco chewer	27 (33.75)
Smoker+tobacco chewer	17 (21)
Smoker+alcoholic	10 (12.5)
Smoker+alcoholic+tobacco chewer	6 (7.5)
Smokers	6 (7.5)
Tobacco chewer+alcoholic	6 (7.5)
Tobacco chewer+alcoholic	6 (7.5)
Alcoholic	2 (2.5)
Snuff inhalation	2 (2.5)
No habit	4 (5)
Total	80

Table 3: Primary site of occurring of OSCC.

Site	Males	Females	Total (%)
Tongue	39	3	42 (52)
Buccal mucosa	10	4	14 (17.5)
Soft/hard palate	6	-	6 (7.5)
Retromolar area	4	-	4 (5)
Floor of mouth	4	2	6 (7.5)
Gingivobuccal sulcus	2	2	4 (5)
Lip (lower)	2	2	4 (5)
Total	67	13	80

Table 4: Histopathological diagnosis of the OSCC.

Histopathological type	No. of patients (%)
Well differentiated OSCC	44 (55)
Moderately differentiated OSCC	24 (30)
Poorly differentiated OSCC	6 (7.5)
Verrucous carcinoma	4 (5)
Other types	2 (2.5)
Total	80

Table 5: Management options used for OSCC based on site and stage of the tumor.

Growth	Surgical intervention	RT (post)	RT+CT (post)	Only RT	RT+CT	Pallative RT
Tongue (n=42)	Partial glossectomy±SOND (T ₁ , N ₀ M ₀)- 12	-	4			
	Partial glossectomy+neck dissection (T ₁ N ₁ M ₀)- 10	4	6	4	4	2
	Hemi glossectomy+neck dissection (T ₂ N _{0,1} M ₀)- 10	2	8			
Buccal mucosa (n=14)	Local excision with split skin graft reconstruction with SOND- 2					
	WLE with flap reconstruction with neck dissection-4	1	4	3	3	2
Gingivobuccal sulcus (n=4)	Local excision with split skin graft with SOND- 2					
	Local excision with segmental mandibulectomy with SOND- 2	4	-	-	-	-
Lower lip (n=4)	WLE with flap reconstruction with SOND- 4	4	-	-	-	-
Hard/soft palate (n=6)	-	-	-	2	3	1
Floor of mouth (n=6)	Local excision with flap reconstruction with SOND- 1	-	1	1	2	2
Retromolar area (n=4)	-	-	-	1	3	-

RT: radiotherapy, CT: chemotherapy, SOND: supra-omohyoid neck dissection, WLE: wide local excision

DISCUSSION

Oral cancer is a rapidly growing life-threatening global issue.¹⁶ Patients affected by oral cancer may remain socially and functionally handicapped for the rest of their lives. Rising mortality rates among the young individuals due to oral cancer have provoked the researchers to undergo a comprehensive research.¹⁷

In our study group, oral squamous cell carcinoma occurred predominately in males with M:F ratio of 5.1:1 with age ranging from 27 years to 82 years. High male to female ratio may be due to their high-risk habits of smoking, chewing tobacco and consumption of alcohol in our study. Similar kind of ratio has been reported in studies conducted in different parts of our country.¹⁸⁻²⁰ Tondon et al., in their study reported M:F ratio of 3.6:1 in 98 patients with OSCC. Similarly, another study of demographic analysis found prevalence of OSCC in age group between 40 and 59 years with M:F ratio of >1.²¹

Tobacco smoking carries a six-fold risk of developing oral cancer compared to not smoking. Alcoholics are also six times more likely to develop than the non-drinkers. The risk increases to fifteen-fold in case of combination of both.²² Similarly, combined effect of chewing and smoking tobacco increases the risk of cancer compared to that with chewing or smoking alone.²³ HPV infection can be considered as the cause of OSCC in those patients in which there is no history of tobacco either in smoke or smokeless form.²⁴

In the present study, most of the patients were indulged in tobacco chewing (33.75%) followed by smoking plus tobacco chewing (21%). Overall, tobacco chewing alone or in combination of other habits was seen in 77.5% of the total study group. Duration of addiction to various forms of tobacco ranged from 15 to 30 years in most of the patients. Tobacco consumption is culturally and socially embedded habit in our society. Males are more indulged in these habits compared to females. Tobacco chewing is common in our part of the country in the form of chutki, gutkha, khaini, betel quid (paan) and tobacco smoking can be seen in the form of bidi, hukka, cigarettes etc. tobacco used locally in the oral cavity lead to direct contact between the carcinogens and irritants with the oral mucosa thereby leading to the development of cancer at the site of contact. In addition to these risk factors overall health and oral hygiene also play an important factor.

Oral cancer can involve any site in the oral cavity. The tongue is common site of presentation for OSCC in developed countries and buccal mucosa is common site of presentation in developing countries. Tongue (52%) was the most common site found in our study followed by buccal mucosa (17.5%). Similarly, Andisheh-Tadbir et al, in their study of 181 patients, demonstrated growth of tongue in 34.3%, the most common site.²⁵ Some other Indian studies reported buccal mucosa and the gingivobuccal mucosa as the common site of OSCC presentation.^{13,19}

On histopathological examination, well differentiation squamous cell carcinoma (WDSCC) outnumbered other types based on cell differentiation i.e. in 55%. Tondon et al and Sahaf et al, also reported predominance of WDSCC in 66.33% and 68.4% cases in their respective studies.⁵ In contrary to that, other studies reported predominance of moderately differentiated SCC.^{26,27}

Surgery remains the first line of management in cases of resectable disease, followed by radiotherapy. Chemotherapy is an adjunct to the principal curative modalities of surgery and radiation.²⁸ The treatment depends on the site, the extent of the primary tumor, and lymph node metastasis and may include surgery alone, radiation therapy alone, or combination of the above.^{29,30} In the present study, partial glossectomy was done in T₁ lesions with N₀ neck with selective supra-omohyoid neck dissection (SOND). Most early cancers of the tongue can be treated equally well with surgery or radiation therapy, therefore the method chosen to treat the neck is dependent on the mode that has been selected for the primary tumor. When the primary tumor is treated with radiation, regional lymph nodes at risk are incorporated into the field of treatment.³¹ Wide local excision with reconstruction and neck dissection was done in carcinoma of gingivobuccal sulcus, floor of mouth and lower lip in T₁ and T₂ lesions followed by postoperative chemo-radiation.

CONCLUSION

It is concluded from the present study that OSCC is more common in males and most common in the age group 4th-6th decade. Exposure to the tobacco either in smoke or smokeless form is the main factor for development of OSCC. Carcinoma of tongue is the common site of involvement. Histopathologically, well differentiated squamous cell carcinoma is the most common type. As newer modalities of treatment of OSCC are continuously introduced with recent advances, the financial and emotion burden on patients and their family is detrimental. Cases of OSCC are increasing day by day in young generation due to increasing exposure to the risk habits which are easily accessible to them.

As our main focus is on providing the best modalities of treatment for better prognosis, preventive steps must be taken side by side by awareness programs to decrease the rate of occurrence of OSCC.

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