

Original Research Article

Clinical findings and risk factors associated with oral cancer: a prospective study

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ABSTRACT

Background: Oral cancer is associated with high morbidity and mortality and therefore it represents a grave health problem worldwide. However there is scarcity of the studies in the literature regarding the prognostic factors amongst the subjects. The aim of the present study is to determine the various risk factors and the most commonly affected sites by the oral squamous cell carcinoma amongst subjects of different age groups.

Methods: The present prospective comparative study was conducted at the Department of Radiotherapy at Guru Gobind Singh Medical College and Hospital during a period of three months i.e. from April 2016 to June 2016. Patients were evaluated every week for a period of approximately 2 weeks. Examination of the oral cavity was done using probe and mouth mirror by trained personnel. TNM classification was used to classify tumour. Patient's habits like alcohol and tobacco intake were also recorded. Complete demographic information was obtained from all the patients. All the data thus obtained was arranged in a tabulated form and analysed using SPSS software.

Results: The study included a total of 60 subjects. There were 11 females in the study and 49 males in the study. There were 18.3% (n=11) subjects having cancer of tongue. There were 23.3% (n=14) subjects having cancer of buccal mucosa. Alveolar ridge carcinoma was seen in 8.3% (n=5) subjects. There were 22 patients (30%) having stage III carcinoma. Majority of the subjects i.e. 70% (n= 38) were at stage IV A according to TNM classification.

Conclusions: From the above study we can conclude that there is lack of awareness amongst the people about oral cancer. They mostly present during advanced stage of the disease. Most of the subjects are males, showing there predisposition towards harmful habits.

Keywords: Buccal mucosa, Cancer, Risk factors, Tongue

INTRODUCTION

Oral cancer is associated with high morbidity and mortality and therefore it represents a grave health problem worldwide.¹ Majority of the oral cancers i.e. 90% are squamous cell carcinomas.² The prognosis of this condition is poor and it has a less than 50% 5 year survival rate as majority of cases are diagnosed at advanced cases.³ It affects men in their sixth and seventh decade of life. In today's time there are 4% to 13% of the

cases of oral squamous cell carcinoma that affects subjects younger than 45 years of age.⁴⁻¹⁰ The most frequently affected site is tongue and it is seen generally amongst alcohol and tobacco users.^{4,5} Squamous cell carcinoma of lower lip is generally seen amongst subjects with exposure to sunlight.⁶ There has been differences in the etiological factors that are responsible for causing oral squamous cell carcinoma amongst young and elderly individuals as the young individuals are exposed to the risk factors like sunlight and tobacco for a short period of

time.^{9,11-15} Oral squamous cell carcinoma occurring amongst the younger individuals have an increased aggressiveness and poor clinical prognosis when compared to those affecting the elderly subjects.^{6,7,12,16,17} The prognosis of the condition is determined by the prognostic factors that would in turn determine the biological aggressiveness of the condition amongst the subjects. The various prognostic factors include regional lymph node metastasis, location of tumor and TNM classification.¹⁸ However there is scarcity of the studies in the literature regarding the prognostic factors amongst the subjects. The aim of the present study is to determine the various risk factors and the most commonly affected sites by the oral squamous cell carcinoma amongst subjects of different age groups.

METHODS

The present prospective comparative study was conducted at the Department of Radiotherapy at Guru Gobind Singh Medical College and Hospital during a period of three months i.e. from April 2016 to June 2016. The study included only histologically proven cases of squamous cell carcinoma of the head and neck. The subjects more than 18 years of age were included in the study. All the subjects were informed about the study and a written consent was obtained from all of them. Patients who are unable to understand the protocol and/or unable to provide informed consent were excluded from the study. Patients were evaluated every week for a period of approximately 2 weeks. Information was also obtained regarding the characteristics of the lesion like location of tumour, presence or absence of regional nodal metastasis. TNM classification was used to classify tumour. Patient's habits like alcohol and tobacco intake were also recorded. Complete demographic information was obtained from all the patients. All the data thus obtained was arranged in a tabulated form and analysed using SPSS software.

RESULTS

The study included a total of 60 subjects. There were 11 females in the study and 49 males in the study. The study clearly shows male predominance.

Table 1 shows the age distribution of the subjects. There were 13.3% (n=8) subjects aged between 31-40 years. There were 25% (n=15) subjects aged between 41-50 years. There were 26.7% (n=16) subjects aged between 51-60 years. There were 31.7% (n=19) subjects aged between 61-70 years. There were 3.3% (n=2) subjects aged between 81-90 years. The range of age group in the present study was 35-85 years.

Table 2 shows the distribution of the subjects according to subsite of carcinoma. There were 18.3% (n=11) subjects having cancer of tongue. There were 23.3% (n=14) subjects having cancer of buccal mucosa. Alveolar ridge carcinoma was seen in 8.3% (n=5) subjects. Retromolar trigone carcinoma was seen in 6.7%

(n=4) subjects. There were 7 patients having tonsillar carcinoma. There were 11 patients having base of tongue carcinoma. There were 5% of the subjects having hard palate carcinoma. Posterior wall pharyngeal carcinoma was seen in 6.7% (n=4) subjects.

Table 1: Age distribution of the subjects.

Age	Study subjects	
	Number	Percentage (%)
31-40	8	13.3
41-50	15	25
51-60	16	26.7
61-70	19	31.7
71-80	0	0.0
81-90	2	3.3
Total	60	100.0
Mean±SD	57.033±12.397	
Range	35-85	

Table 2: Distribution of subjects according to subsite.

Subsite	Study subjects	
	Number	Percentage (%)
Tongue	11	18.3
Buccal mucosa	14	23.3
Alveolar ridge	5	8.3
Floor of mouth (FOM)	0	0
Retromolar trigone(RMT)	4	6.7
Tonsil	7	11.7
Base of tongue	11	18.3
Vallecula	1	1.7
Hard palate	3	5
Soft palate	0	0
Posterior wall of oropharynx	4	6.7
Total	60	100.0

Table 3: Distribution of the patients according to TNM staging.

Stage	Study subjects	
	Number	Percentage (%)
III	22	30.0
IVA	38	70.0
Total	60	100.0

Table 3 shows the distribution of the subjects using TNM staging. Of sixty patients, patients presenting with stage IV A disease was slightly more as compared to stage III disease. There were 22 patients (30%) having stage III carcinoma. Majority of the subjects i.e. 70% (n= 38) were at stage IV A according to TNM classification.

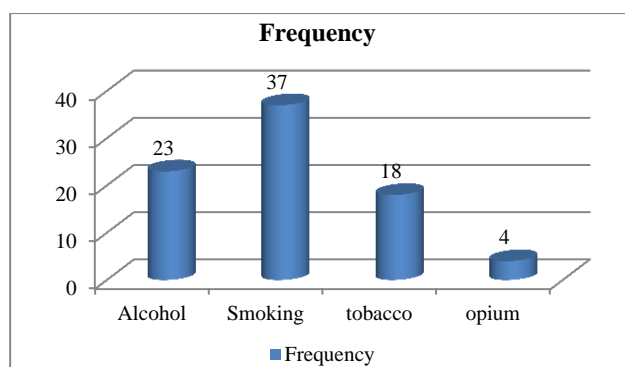


Figure 1: Addictions amongst subjects.

Figure 1 shows addictions amongst the subjects of the groups. Majority of the patients in our study had one or the other addiction. There were 23 patients addicted to alcohol. Smoking was majority of subjects i.e. there were 37 subjects who smoked. Opium addiction was seen in 4 patients. There were 18 subjects addicted to tobacco.

DISCUSSION

Since oral squamous cell carcinomas are associated with high mortality and morbidity, numerous studies should be conducted on the prevalence and risk factors.² The control of the disease is important and there has been little to no improvements in the survival rate over the past 50 years.³ In order to understand the changes in the profile of cancer amongst different geographic areas, epidemiological studies are important.^{19,20} In the present study, males were predominantly affected. There were only 11 females out of 60 that were affected by oral cancer. The studies conducted by Monteiro et al, Falaki et al and Troeltzch et al also showed male predominance in oral cancer. In our study, of sixty patients, patients presenting with stage IV A disease was slightly more as compared to stage III disease.^{11,13,14} There were 22 patients (30%) having stage III carcinoma. Majority of the subjects i.e. 70% (n=38) were at stage IV A according to TNM classification. In a study conducted by Ribeiro et al and Soudry et al there was a high prevalence of oral cancer at advanced TNM stages.^{7,8} In a similar study conducted by Hellen-Bandeira et al, there were 60.5% cases in Stage III and stage IV.²¹ This clearly indicates lack of awareness amongst the subjects and aggressive nature of the condition such that most of the subjects present at advanced stage of the disease. There were 81.6% males in the study.

Majority of the patients in our study had one or the other addiction. There were 23 patients addicted to alcohol. Opium addiction was seen in 4 patients. There were 18 subjects addicted to tobacco. In a study conducted by Oliveira et al, there were 85.3% subjects who had habit of chewing or smoking tobacco.²² In their study, alcohol consumption was seen in 63.5% cases. In our study, There were 18.3% (n=11) subjects having cancer of tongue. There were 23.3% (n=14) subjects having cancer

of buccal mucosa. Alveolar ridge carcinoma was seen in 8.3% (n=5) subjects. Retromolar trigone carcinoma was seen in 6.7% (n=4) subjects. There were 7 patients having tonsillar carcinoma. There were 11 patients having base of tongue carcinoma. There were 5% of the subjects having hard palate carcinoma. Posterior wall pharyngeal carcinoma was seen in 6.7% (n=4) subjects. In a study conducted by Oliveira et al, the most commonly affected site was tongue (42.5%).²² In another study conducted by Hellen-Bandeira et al tongue was the most commonly affected site followed by lower lip.²¹

CONCLUSION

From the above study we can conclude that there is lack of awareness amongst the people about oral cancer. They mostly present during advanced stage of the disease. Most of the subjects are males, showing there predisposition towards harmful habits. They are frequently addicted towards tobacco and alcohol consumption.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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