ORIGINAL RESEARCH PAPER

Oncology

RETROSPECTIVE STUDY ON RISK HABITS AMONG BUCCAL MUCOSA CARCINOMA PATIENTS IN SRCC, JAIPUR

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ABSTRACT

Background: Oral cancer incidence depends on both qualitative and quantitative factors wherein the incidence of oral cancer in patients with smoking and tobacco chewing habit is 8.4 times higher than that of patients with no habit.
Aim: To understand about the prevalence of oral cancer in population of Jaipur. Material and methods: All 160 cases of Squamous cell carcinoma diagnosed histopathologically, since April 2018 to December 2018, were retrieved from the archives and a retrospective study was conducted. Results: Incidence in the age group of 41-50 (33.75%) and 50 cases (31.25%) were seen to be <40. Among individuals with habit, 82.5% were tobacco chewers and smoking was prevalent in about 10%.
Conclusion: The prevalence of buccal mucosa carcinoma was higher in the elderly male. Thus, the study showed etiologic clues for prevention of buccal mucosa carcinoma in Rajasthan.

INTRODUCTION

Oral squamous cell carcinoma shows geographical variation with respect to the age, sex, site, and habits of the population.[1] In South East Asia, the high incidence was due to risk habits of smoking, betel quid, and tobacco chewing habits. The mixed habits act as synergistic effect, with higher risk than independent risk habits.[2] India had highest incident rate of oral cancer; it was aptly labeled oral cancer capital of the world with an estimated 1% of the population having oral premalignant lesions.[3]

In India, oral cancer was one of the most common cancers highly prevalent due to betel quid, tobacco, and pan masala chewing habits. These habits had cultural importance in traditional and religious ceremonies.[4],[5] The descriptive data for each specific geographic area were important for understanding the extent of the problem, determining which groups within the population were at highest and lowest risk, and relating the burden of disease to that of other diseases to evaluate the allocation of resources for research, prevention, treatment, and support services.[6] Therefore, this descriptive study was conducted to evaluate risk habits among buccal mucosa carcinoma patients reported between April to December 2018 in Mahatma Gandhi Hospital, Jaipur,.

MATERIALS AND METHODS

The case history and biopsy report files were retrieved from the archives of the hospitals from April 2018 to December 2018.. 160 cases of OSCC were selected for the study. The data extracted from the 160 records were reviewed for clinical and histological features of OSCC. Patients with malignancies of the salivary glands,oropharynx, nasopharynx and hypopharynx and metastatic tumors were excluded from the study. Demographic data such as gender, age, site of occurrence, tobacco smoking, alcohol consumption and tobacco chewing were obtained from patient records. In addition, details of the clinical staging and histopathological grading were obtained from histopathology records. Clinical staging of tumors was carried out using the 7th AJCC tumor, node, metastasis (TNM) classification of malignant tumors. The tumors were histopathologically graded by cell differentiation into well differentiated, moderately differentiated and poorly differentiated categories as per the World Health Organization criteria.[7] The tabulation and descriptive statistics of the study were carried out using GNU PSPP 1.0.1 (https://www.gnu.org/software/pspp/), an open source software for statistics. Chi-square test was carried out by the statistician to compare the descriptive statistics across cases (>40 and ≤40 years of age).

Results [Table 1] summarizes the basic characteristics of oral cavity carcinoma patients. The study included 160 oral cavity carcinoma patients between April 2018 and December 2018. There were more males 146 (91.25%) than females 14 (8.75%) in the study population. Of 160 patients, 50 (31.25%) of the study participants were in the young age group (<40 years) and remaining 110 (68.75%) were in the old age group of ≥ 40 years. Amongst both males 64 (43.84%) and females 7 (50%) gingivo-buccal sulcus was the most common site. The least common site was seen to be lip with only 10 (6.25%) patients.

Table 1: Baseline characteristics of Oral carcinoma patients

Characteristic		Number of participants (n=160)	Frequency %
Gender	Male	146	91.25
	Female	14	8.75
Age	<40	50	31.25
	>40	110	68.75
Risk Habits	Tobacco	132	82.25
	Smoking	16	10
	Alcohol	6	3.75
	Nil	24	15
Tumor Location	GBS+BM	71	44.38
	Tongue	38	23.75
	RMT	17	10.63
	FOM	13	8.13
	Palate	11	6.88
	Lip	10	6.25

The overall prevalence of drinking alcoholic beverages, tobacco chewing, smoking and nonhabits were 6 (3.75%), 132 (82.25%), 16 (10%) and 24 (12.5%), respectively.

[Table 2] summarizes the prevalence of habits by gender and age. Of 160 patients, the highest patients 132 (82.25%) had tobacco chewing habits. Habits of alcohol beverages consumption were prevalent in 6 participants 10 (6.25%). Thus, the present study revealed significant difference of risk habits in gender and age groups of participants by Chi-square analysis at $P < 0.001$.

Table 2: Association of risk habits according to gender and age groups of participants

Characteristic	Male n (%)	Female n (%)	<40 years n (%)	>40 years n (%)

Risk Habits	Smoking	15(10.27)	1(7.14)	43(86%)	89(80.9%)
	Alcohol	5(3.42)	1(7.14)	3(6%)	3(2.73%)
	Tobacco	124(84.35)	8(57.14)	43(86%)	89(80.9%)
No Habits		20(13.7)	4(28.57)	9(18%)	13 (11.8%)

TNM staging was carried out for all of 160 cases. Of these, 76 (47.5%) were assigned to Stage T2, 14 (8.75%) to T1, 50 (31.25%) to T4 and T3 20 (12.5%)I, respectively. A summary of TNM staging of all oral squamous cell carcinoma cases is provided in [Table 3].

Table 3: A summary of tumor/node/metastasis staging of oral squamous cell carcinoma cases

TNM classification	Frequency % (n=160)
T1	14 (8.75%)
T2	76 (47.5%)
T3	20 (12.5%)
T4	50 (31.25%)
N+	37 (23.13)

DISCUSSION & CONCLUSION

In India, oral cancer is a major public health problem.[8] It is a multifactorial origin; age, gender, illiteracy or low education level, working in agricture sector, low monthly household income, marital status, smoking, chewing tobacco, drinking, and dietary habits were considered as significant contributing factors modifying the multistage process of carcinogenesis.[9]

Many Indian studies showed that oral squamous cell carcinoma was highly prevalent because of chewing betel quid alone/with tobacco and smoking.[10] Subapriya *et al.* revealed in their study that combination of smoking, chewing, and alcohol had a 11.34-fold higher risk than independent risk of disease.[11]Pratik and Desai showed that 1% of all the screened patients had habits of alcohol consumption, which is lowest when compared with other habits.[12] Similar to earlier reports, the present retrospective study showed a total of 85% prevalence of buccal mucosa carcinoma with regard to risk habits of tobacco smoking, chewing, pan/areca nut chewing, and alcoholism. However, 29.38% had multihabits, which proved to be aggressive than single habits. Further, compared with all habits, alcohol prevalence reported with lowest of 3.75% buccal mucosa carcinoma patients. This baseline characteristic on buccal cancer provides etiological clues for future hospital-/population-based epidemiological studies.

Although 90% of oral cancer occurs with cause of established risk factor such as tobacco, pan masala, areca nut, and alcohol, the rest of 10% might be risk of dietary factors, poor oral hygiene, poor dental status, denture irritation, genetic predisposition, oncogenic viruses, occupation, exposure to sunlight, hormones (estrogens), and sexual practices.[13] A previous cohort study from Kerala reported the high incidence of buccal mucosa carcinoma among young adults without any risk habits. Another hospital-based ten-year retrospective study from Karnataka reported with 25% habit-free oral cancer patients.[14] Similarly, the present study also identified 24 (15%) habit-free buccal mucosa carcinoma patients between 2 years.

The previous study showed the increased incidence of oral cancer and male predominance in patients aged ≥50 years with multirisk habits of betel quid/tobacco chewing and smoking.[14] In contrary, another study from Rajasthan reported a high prevalence of male than female when compared to smoking and a high prevalence of female than male with smokeless tobacco chewing habits, i.e., 15. The present study also follows the previous reports, indicating a high prevalence of male patients aged ≥40 years with multihabits of tobacco consumption in smoking and chewing form.

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