Section: Otorhinolaryngology

Original Research Article

CLINICOPATHOLOGICAL PROFILE OF ORAL CAVITY AND OROPHARYNGEAL TUMOURS IN NORTH-EAST REGION OF INDIA

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Abstract

Background: India has the highest incidence of oral cancer in the world. The tumours of oral cavity and oropharynx are the commonest head and neck tumours. They are most common in the illiterate section of the society. The study was done to evaluate the clinical and pathological profile of oral cavity and oropharyngeal tumours of patients in North-East region of India. **Materials and Methods:** A cross sectional study was conducted among 130 patients with oral cavity and oropharyngeal tumours attending the outpatient department and wards of the department of Otorhinolaryngology of a tertiary center in Imphal, Manipur. The study was done over a period of two years from September 2016 to August 2018 after obtaining ethical approval from the Research Ethics Board of the institute. The diagnosis was made through biopsy and histopathological studies. **Result:** The mean age of the study population was 45 ± 9.1 years. Male gender had predisposition for oral cavity and oropharyngeal tumours. Oral cavity was more commonly affected than the oropharynx. The malignant tumours mostly presented as non healing ulcer, with tongue being the commonest site of lesion. Squamous cell carcinoma in 46.2% cases was the most common histopathological diagnosis among the malignant tumours in the study. **Conclusion:** Oral and oropharyngeal tumours are common in North-East region of India. There is a need to raise awareness and educate people regarding detrimental effects of tobacco and alcohol consumption. The challenge lies in the prevention and early diagnosis of the disease in order to mitigate the issue.

INTRODUCTION

India has the highest incidence of oral cancer in the world. The tumours of oral cavity and oropharynx are the commonest head and neck tumours.[1] The variations in habits, social customs, diet, occupational exposure, climate, geography, race and genetic factors are multifactorial causes in occurrence of cancers. The usage of tobacco and excess consumption of alcohol remains important risk factors. It is strongly related to social and economic deprivation with highest rates occurring in the most disadvantaged sections of the population.[1] The symptoms of oral cancer include patches, growth, mouth ulcer or sore that bleeds easily and does not heal. The clinical features include dysphagia, difficulty in breathing, throat pain, voice changes, oral bleeding and neck mass. Squamous cell carcinoma is the most common malignancy accounting for majority of the tumours in both the oral cavity and oropharynx.[2] If it is diagnosed at an early stage, oral cancer has better prognosis and may

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be controlled effectively. The real challenge lies in its prevention and early diagnosis.[3]

The culture, tradition, food habits and lifestyle of the people of North-Eastern region of India vary from the rest of the country and there exist only limited data about the pattern of oral and oropharyngeal tumours in this part of the country. So, the study was undertaken to assess the clinicopathological profile of patients with oral and oropharyngeal tumours in the region.

MATERIALS AND METHODS

Study design: A hospital based cross-sectional study was conducted in the outpatient department and wards of Department of Otorhinolaryngology, Regional Institute of Medical Sciences, Imphal, Manipur for a period of 2 (two) years from September 2016 to August 2018. The study was carried out after obtaining ethical approval from the Research Ethics Board, Regional Institute of Medical Sciences, Imphal. The objective of the study was to evaluate the clinical and pathological profile of oral cavity and oropharyngeal tumours of patients attending Regional Institute of Medical Sciences, Imphal.

Inclusion Criteria

Age more than 18 years of both gender with lesion in oral cavity and oropharynx. Those who gave consent to undergo the study.

Exclusion Criteria

Those cases with inflammatory diseases and on treatment were excluded. Those not willing to participate in the study were excluded.

Procedure: The study subjects were 130 patients of both gender with oral cavity and oropharynx tumours. They were assessed by detailed history taking, clinical examination, biopsy and histopathological studies. The patient's history taking was done using a preformed comprehensive proforma. A detailed clinical examination of palpable oral cavity and oropharyngeal lesion was carried out where the site, number, size, shape, consistency, surface, margin, mobility, fixity, laterality and tenderness were noted. Informed consent was taken before the biopsy was performed. Biopsy was done in four ways depending on the location, size and indications for biopsy - Punch biopsy, fine needle aspiration biopsy, incisional biopsy and excisional biopsy as indicated. The sample was sent to pathology laboratory for histopathological studies. Throughout the study total confidentiality was maintained by coding of patient's data. The data collected were documented and analysed statistically to draw a useful conclusion.

Statistical analyses: The collected data was analysed using SPSS (Statistical Package for Social Sciences software) version 21.0. Microsoft word and Excel were used to generate graphs, tables etc. Descriptive statistics like frequency, percentage, mean, standard deviation and proportions were used. A probability value < 0.05 was considered as statistically significant.

RESULTS

The baseline characteristics of the study population is listed in [Table 1]. Out of 130 patients in the study population, 78(60%) were male and 52(40%) were female with male: female ratio being 1.5:1. The age distribution had majority in 60-69 years age group. The mean age of the study population was 45 ± 9.1 years. The educational status had 89(68.5%) patients as illiterate accounting for majority of the study population. The study distribution based on personal habits had 104(80%) patients with pan chewing which was in majority.

In the study, growth in the oral cavity in 93(71.5%) patients was the most common clinical features, followed by non healing ulcer in 69(53%) patients. The most common site of lesion in the study population was tongue in 49(37.7%) patients. The size of the lesion at presentation in 53(40.8%) patients was less than 2 cm which was in majority. The majority of the tumours were located in the oral cavity 117(90%), followed by Oropharynx in 13 (10%).

The histopathological parameters of the study population are listed in [Table 2]. In the study, the prevalence of oral and oropharyngeal tumours had malignant tumours in 72(55.4%) and benign tumours in 58(44.6%). The most common histopathological diagnosis of oral and oropharyngeal tumours in the study among the malignant tumours was squamous cell carcinoma 60(46.2%) and squamous papilloma 28(21.5%) was the most common benign tumours diagnosed.

Table 1: Baseline characteristics of the study population.

Characteristics	Percentage % (n)
Age in years	
20 – 29	13.1% (17)
30 – 39	14.6% (19)
40 – 49	20.8% (27)
50 - 59	17.7% (23)
60 - 69	26.9% (35)
≥70	6.9% (9)
Gender	
Male	60% (78)
Female	40% (52)
Personal habits	

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Pan chewing	80% (104)
Smoking	48.5% (63)
Alcohol	23.8% (31)
All of the above	84.6% (110)
Clinical features	
Non healing ulcer	53% (69)
Growth in oral cavity	71.5% (93)
Bleeding from oral cavity	20% (26)
Swelling of neck	46.9% (61)
Difficulty in swallowing	1.5% (2)
Pain	10% (10)
Site of lesion	
Tongue	37.7% (49)
Buccal mucosa	22.3% (29)
Lips	16.2% (21)
Floor of mouth	5.4% (7)
Hard palate	5.4% (7)
Tonsil	8.5% (11)
Gingivobuccal sulcus	0.8% (1)
Posterior pharyngeal wall	0.8% (1)
Lateral pharyngeal wall	0.8% (1)
Alveolus	2.3% (3)
Location of tumours	
Oral cavity	117 (90%)
Oropharynx	13 (10%)

Table 2: Histopathological parameters of the study population

Characteristics	Percentage % (n)
Nature of tumours	
Benign	44.6% (58)
Malignant	55.4% (72)
Benign tumours	
Squamous papilloma	21.5% (28)
Haemangioma	9.2% (12)
Pyogenic granuloma	7.7% (10)
Fibroma	6.2% (8)
Malignant tumours	
Squamous cell carcinoma	46.2% (60)
Squamous carcinoma in situ	8.5% (11)
Hemangiopericytoma	0.8% (1)

Table 3: Characteristics in relation to the nature of tumours in the study population

Characteristics	Benign	Malignant	P-value
Gender			
Male	29 (22.3%)	49 (37.6%)	<0.05
Female	29 (22.3%)	23 (17.6%)	
Personal Habits			
Pan chewing	38 (29.2%)	66 (50.7%)	
Smoking	16 (12.3%)	47 (36.5%)	<0.05
Alcohol	02 (1.5%)	29 (22.3%)	
All the above	07 (5.3%)	103(79.2%)	
Clinical features			
Non healing ulcer	1 (0.76%)	68 (52.3%)	
Growth in oral cavity	56 (43%)	37 (28.4%)	
Bleeding from oral cavity	4 (3%)	22 (16.9%)	<0.05
Swelling of neck	0	61(46.9%)	
Difficulty in swallowing	0	2 (1.5%)	
Pain	1 (0.76%)	12 (9.2%)	
Site of lesion			
Tongue	14 (10.7%)	35 (26.9%)	
Buccal mucosa	14 (10.7%)	15 (11.5%)	
Lips	21 (16.2%)	0	
Floor of mouth	4 (3%)	3 (2.3%)	
Hard palate	1 (0.7%)	6 (4.6%)	<0.05
Tonsil	4 (3%)	7 (5.3%)	
Gingivobuccal sulcus	0	1 (0.7%)	
Posterior pharyngeal wall	0	1 (0.7%)	
Lateral pharyngeal wall	0	1 (0.7%)	
Alveolus	0	3 (2.3%)	
Location of tumours			
Oral cavity	54 (41.5%)	63 (48.4%)	>0.05
Oropharynx	4 (3.07%)	9 (6.9%)	
Size at presentation(cm)			
<2	42 (32.3%)	11 (8.5%)	
2-4	15 (11.5%)	29 (22.3%)	<0.05

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>4	1 (0.8%)	32 (24.6%)	

Relationship between the characteristics with nature of the tumours

The characteristics in relation to the nature of tumour in the study population is listed in Table 3. In our study, male gender had preponderance for malignant tumours, compared to females. However, equal numbers of male and female had benign tumours, with statistically significant p value <0.05. Pan chewing habit in 104 patients had more association with tumours, of which 66(50.7%) cases were malignant and 38(29.2%) cases were of benign nature.

In the study, oral cavity had preponderance for malignant tumours compared to the oropharynx. Out of a total of 117 cases of oral cavity tumours, 63(48.4%) cases were malignant. The majority of non healing ulcers were malignant tumours 68 (52.3%). However most patients who presented with growth in oral cavity 56 (43%) had benign tumours, with statistically significant p value <0.05.

The relation between the sites and nature of tumours had tongue 35(26.9%) as the commonest site of lesion in malignant cases. While lips 21(16.1%) was the most common site in benign cases, with statistically significant p value <0.05. In the study, most of the benign tumours 42(32.3%) had size less than 2 centimetres, while malignant tumours 32(24.6%) had most size more than 4 centimetres, with statistically significant p value <0.05. [Table 3]

DISCUSSION

In our study of 130 patients with oral and oropharyngeal tumours, the age distribution of the study population had majority in the 60-69 years age group, with a mean age of 45 ± 9.1 years. Bhat SP et al,[4] in a similar study reported majority in the age group of 60-69 years. The study of gender distribution had 60% male and 40% female with male: female ratio being 1.5:1. In a similar study Gupta M et al,[5] reported lesions in 69.5% male and 30.5% female which is comparable with the present study.

In our study, male gender preponderance for malignant tumours was noted. Gupta M et al,[5] in their study reported majority of malignant tumours in male. However, equal numbers of males and females had benign tumours in our study. In contrast to our findings Thakur BS et al,[6] reported male preponderance for benign tumours compared to females.

In terms of educational status, 68.5% patients were illiterate accounting for majority of the study population. Le Campion ACOV et al,[7] in their study reported illiteracy in 72.6% patients. This predisposition to tumours could be due to lack of awareness, poor health education and low socioeconomic status of the illiterate population.

In our study of personal habits, pan chewing had higher association with oral and oropharyngeal tumours. Out of 104 cases exposed to pan chewing, 29.2 % had benign tumours and 50.7% had malignant tumours. In contrast to the findings of our study Acharya S et al,[8] reported higher association of smoking with oral and oropharygeal tumours.

In the study of clinical features, growth in oral cavity 93 (71.5%) was the most common presentation, followed by non healing ulcer in 69 (53%) in the study population. However, most cases with growth in oral cavity (43%) were benign tumours, while the majority with non healing ulcer (52.3%) were malignant tumours. Le Campion ACOV et al,[7] in their study reported ulceration as the most frequent primary lesion in squamous cell carcinoma.

In our study, tongue (37.7%) was the most common site of lesion and the commonest site of malignant tumours (26.9%).While lips (16.2%) was the most common site for benign tumours in the study population. In line with the present study Pires FR et al,[9] reported that the border of the tongue as the most common location of the tumours. In contrast to the findings of our study Thakur BS et al,[6] reported that buccal mucosa was the most common site of lesion.

In our study, the oral cavity was affected more than the oropharynx in both genders. Out of 130 patients, 117 (90%) cases were of tumours in the oral cavity of which 54 (41.5%) were benign and 63 (48.4%) were malignant tumours. Among the 13 cases of oropharynx tumours 4 (3.07%) were benign and 9 (6.9%) cases were malignant tumours. In a similar study conducted by Thakur BS et al,[6] reported tumours in the oral cavity in 24% cases as benign and 75.9% cases as malignant.

In our study, 53(40.8%) patients had lesion size less than 2 cm which was in majority and most were benign tumours. While 33(25.4%) patients had lesion size more than 4 cm where most were malignant tumours.[10] The tumor dimension is used in the TNM (Tumor, Node, Metastasis) staging system and it influences the choice of treatment and outcomes.[11]

In our study, the most common histopathological diagnosis of oral and oropharyngeal tumours in cases of malignant tumours was squamous cell carcinoma in 46.2% cases.[12] Squamous papilloma was the most common benign tumours diagnosed in 21.5% cases. In line with the findings of our study, Sasaki T et al,[13] reported that oral squamous cell carcinoma is most common in men in the 6th to 8th decades of life.

CONCLUSION

Oral and oropharyngeal tumours are common in North-East region of India. They are most common

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in the illiterate section of the society. The high prevalence of oral and oropharyngeal tumours reflects the importance to raise awareness and educate people regarding detrimental effects of tobacco and alcohol consumption. The challenge lies in the prevention and early diagnosis of the disease. There is a need to improve the diagnostic and disease control measures in order to mitigate the issue.

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