

TUMOUR AND TUMOUR LIKE CONDITIONS OF ORAL CAVITY IN RELATION TO HISTOPATHOLOGY

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ABSTRACT

BACKGROUND

The oral cavity shows many types of non-neoplastic and neoplastic lesions. It is liable for different types of epithelial, mesenchymal and lymphoid tumours.¹ It is also prone for injury, trauma or constant irritation by teeth and odontogenic tissue leading to tumour like lesions. They show spectrum of lesions varying from benign cystic lesions, vascular tumours, AV malformations, fibromas, ameloblastoma and malignant tumours. The commonest epithelial malignancy being squamous cell carcinoma.

MATERIALS AND METHODS

This is a retrospective study for a period of 3 years from 2014 to 2017. All the biopsy specimens received in the department of pathology of a tertiary care centre were included in the study. Tissues were routinely grossed and subjected to paraffin embedded processing. The section was stained with haematoxylin and eosin. Results were tabulated. Statistical method adopted was multivariate analysis on excel sheet.

RESULTS

During this period 11728 biopsies were received at the department of pathology, 257 were tumour and tumour like lesions in the oral cavity and constituted 2.91% of the lesions.

CONCLUSION

Majority of the studies showed high prevalence of being malignant lesions in the oral cavity. In the present study 94% of cases were malignant lesion especially squamous cell carcinoma with predominance in female population. Majority of the cases had history of chewing betel nut and tobacco especially in the rural and tribal areas.

KEYWORDS

Oral Cavity, Benign Conditions, Leukoplakia, Dysplastic Changes, Verrucous Carcinoma, Squamous Cell Carcinoma, Oral Hygiene, Vitamin Deficiency.

HOW TO CITE THIS ARTICLE: Jagadev S, Jenna P, Tumour and tumour like conditions of oral cavity in relation to histopathology. J. Evid. Based Med. Healthc. 2018; 5(34), 2512-2516. DOI: 10.18410/jebmh/2018/518

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The oral cavity shows many types of non-neoplastic and neoplastic lesions. It is liable for different types of epithelial, mesenchymal and lymphoid tumour.¹ It is also prone for injury, trauma or constant irritation by teeth and odontogenic tissue leading to tumour like lesions. They show spectrum of lesions varying from benign cystic lesions, vascular tumours, AV malformations, fibromas, ameloblastoma and malignant tumours. The commonest epithelial malignancy being squamous cell carcinoma.

In South East Asia oral squamous cell carcinoma account for 40% of all cancers compared with approximately 4% in developed countries. The commonest cause is

tobacco and alcohol abuse. In coastal regions reverse smoking is quite common along with betel nut chewing. There is broad variation in the prevalence of oral precancerous and cancerous lesions.^{2,3} The present study aims at knowing the prevalence of tumour and tumour like lesions of oral cavity with emphasis on knowing the histopathological variants.

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Financial or Other, Competing Interest: None.
Submission 03-08-2018, Peer Review 08-08-2018,
Acceptance 16-08-2018, Published 20-08-2018.
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 DOI: 10.18410/jebmh/2018/518



lesions in the oral cavity and constituted 2.91% of the lesions.

The age of the patients ranged from 14 to 87 years. Among malignant oral tumours the youngest person recorded for squamous cell carcinoma was 27-year-old female. The oldest person with malignant lesions was male aged 87 years with clinical diagnosis of carcinoma tongue. Benign tumours did not have any predilection to any particular age group. They occurred between 2nd to 6th decade (Table 1). The prevalence of tumour like lesions was 2.72% benign neoplasms (2.72%) and malignant lesions was 94.55% (Table 2).

Age Group in Years	Number of Lessons	Percentage
0-9	2	0.77
10-19	2	0.77
20-29	8	3.11
30-39	20	7.78
40-49	56	21.78
50-59	77	29.96
60-69	66	25.68
70-79	22	8.56
80-89	4	1.55
Total	257	100.00

Table 1. Age Distribution of Tumour and Tumour like Lesions of Oral Cavity

Lesions	Numbers	Percentage
Non neoplastic lesions (Tumour like conditions)	7	2.72
Capillary haemangiomas	7	2.72
Malignant lesions	243	94.55

Table 2. Distribution of Various Types of Tumour and Tumour like Lesions of Oral Cavity

In the malignant lesions the male: female ratio was 1: 1.76; with female preponderance. The commonest site of occurrence of malignancy was cheek (65.43%) followed by tongue (11.11%) and oropharynx (8.23%) (Table 3). High incidence of tumours in carcinoma cheek in females more than males is attributed to the chewing of tobacco and betel nut which has carcinogenic effect. In the remaining tumours the high incidence was in males and due to smoking and alcoholism. More than 2/3rd of cases had poor oral hygiene. Faulty dentition was present in 10% of cases and 40% of the individuals were economically poor associated with dietary and vitamin deficiencies. History of reverse smoking was seen in 10% of cases (Table 4).

Site	Sex		Total
	Male	Female	
Cheek	35	124	159
Palate	7	3	10
Tonsil	4	1	5
Tongue	20	7	27
Oropharynx	13	7	20
Alveolar ridge	2	6	8
Retromolar region	4	2	6
Lip	3	5	8
Total	88	155	243

Table 3. Site and Sex Distribution of Oral Cancer

Data	Number of Lesions	Percentage
Age		
<30 yrs.	95	36.96
>30 yrs.	162	63.03
Sex		
Males	89	34.63
Females	168	65.36
Habits		
Smoking & Alcohol	80	31.12
Pan and tobacco	115	44.74
Alcohol & Smoking	30	11.67
No Habits	32	12.45
Occupation		
Farmers	110	42.80
Labours	105	40.85
Others	42	16.34
Diet		
Mixed Diet	216	84.0
Vegetarian	41	15.95

Table 4. Clinical Data of Tumour and Tumour Lesion like of Oral Cavity

The histopathological variants were; out of 243 malignant lesions 3 were verrucous carcinoma which showed papillary frond of atypical squamous epithelium with marked hyperkeratosis, parakeratosis and acanthosis.

Among 240 squamous cell carcinoma 27 were moderately differentiated squamous cell carcinoma, 4 cases were poorly differentiated carcinoma and all remaining cases belonged to well differentiated squamous cell carcinoma.

Out of 7 cases of Haemangiomas 6 occurred on the tongue and one on the lower lip. Morphology was capillary haemangioma in 6 cases and one case showed mixed pattern both capillary and cavernous pattern, clinically the haemangiomas appeared as soft slightly elevated lobulated encapsulated masses.

A male aged 20 years presented with ulcer of about 1 cm on the dorsal surface of the anterior tongue with undermined edges. It was painful. On microscopic examination showed caseating granulomas with rim of lymphocytes and a diagnosis of tuberculosis granuloma was given.

A female aged 25 years presented with cystic lesion on the dorsolateral surface of anterior tongue. It was about 1½ cm in diameter. Histopathological examination showed cyst lined by cuboidal epithelium with wall showing mucinous glands and inflammatory cells with macrophages. Another female aged 40 years presented with a cystic lesion 2 cm in diameter on the under surface of the anterior tongue. In both the cases the diagnosis was mucous cyst.

In 4 cases with diagnosis of leukoplakia, two cases occurred on the left lateral border of tongue, one on the mucosa of right cheek and one on the gum over upper incisors. Histologically two were dysplastic type (Table 5).

Histopathology	Number of Lesions	Percentage
Leukoplakia	4	1.55
Mucous cysts	2	0.77
Tuberculous Granuloma	1	0.38
Capillary Haemangioma	7	2.72
Squamous cell carcinoma	240	93.38
Verrucous carcinoma	3	1016
Total	257	100

Table 5. Histopathological Variants in Tumour and Tumour like Lesions

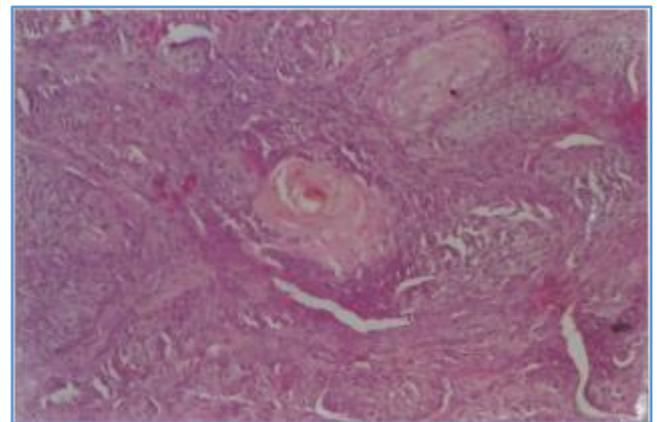


Figure 3. Carcinoma of Tongue (10x)



Figure 4. Carcinoma of Tongue (40x)



Figure 1. Carcinoma of Left Tonsil 3 Months Duration

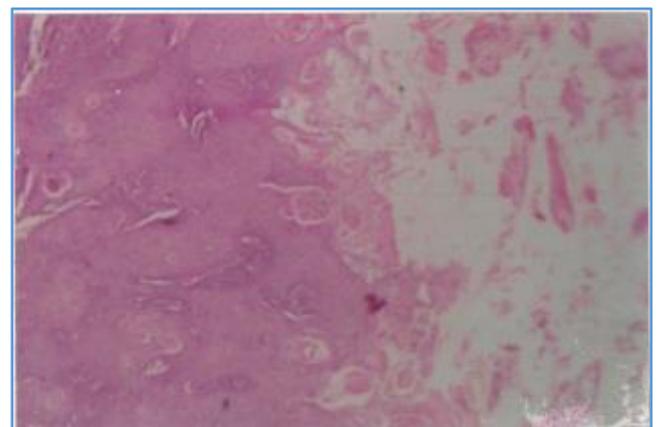


Figure 5. Carcinoma of Lip



Figure 2. Carcinoma of Tongue 4 Months Duration

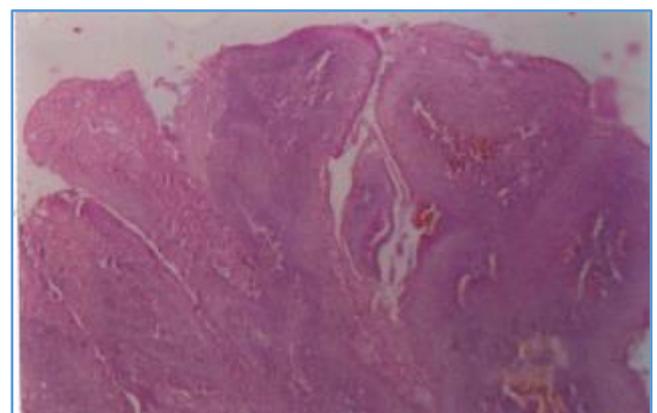


Figure 6. Verrucous Carcinoma

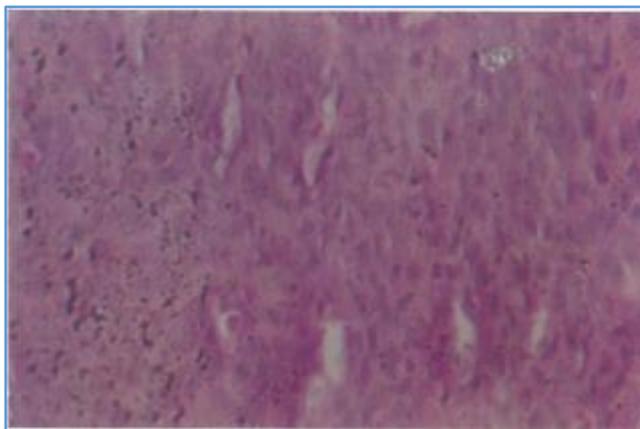


Figure 7. Verrucous Carcinoma (40x)

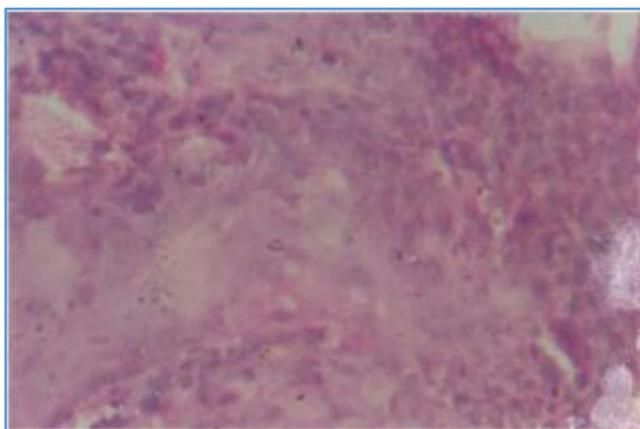


Figure 8. Granuloma TB Oral Cavity (40x)

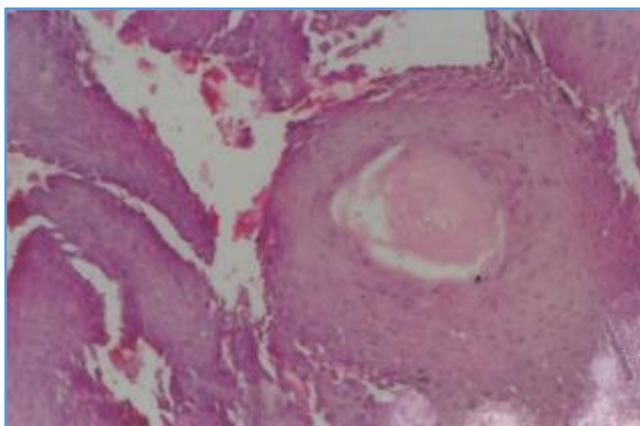


Figure 9. Leukoplakia (10x)

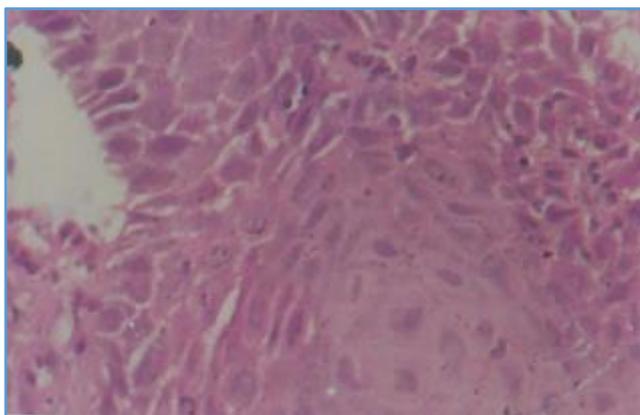


Figure 10. Leukoplakia (40x)

DISCUSSION

Basher A et al⁴ analysed 303 biopsies from oral cavity. In their study 86.3% lesions were benign and 12.8% lesions were malignant. Among the tumour like lesions pyogenic granulomas (lobular capillary haemangioma) was seen in 26.4% of cases followed by giant cell epulis (13.8%). Haemangioma constituted 4.9% of the lesions. Malignant tumour were more frequent after age of 50 years, squamous cell carcinoma was the commonest with predominance in males. Piattelli A et al⁵ and Maarten P, et al⁶ in their study documented 2 cases of verrucous carcinoma.

Ono Y et al⁷ analysed 792 benign oral lesions. Mucous cysts constituted 8.08% of cases and haemangiomas of 7.82%.

Smita Surendra Masamatti et al⁸ analysed 95 cases of tumour like lesions in the oral cavity, they constituted 14.8% of all oral biopsies. Among tumour like lesions pyogenic granulomas was the commonest lesions (47.38%) followed by mucocele (26.32%). Majority of the lesions were located on gingiva (38.94%) followed by lower lip (28.42%). Males were more commonly affected than females.

Manisha A Atram et al⁹ analysed 215 cases of tumour and tumour like lesions of oral cavity, 69.97% were malignant tumour, 9.76% were benign tumour and 14.88% were tumour like lesions.

The age range was from 5 to 85 years with a mean age of 52 years. Lesions were more common in male (68.37%) and the females (26.38%). The male to female ratio was 2.1:1. The most common site was tongue (28.83%) majority were well differentiated squamous cell carcinoma. In benign tumours haemangioma was the commonest lesion. Mucocele was the commonest tumour like lesion. Dysplasia was seen in 12 patients.

In the studies done by M.N. Khanna¹⁰ and S.P. Khandelwar,¹¹ the peak age incidence of oral lesions was in 6th decade. The incidence of malignant oral lesion was commonly associated with Tobacco and Gutka. Majority of studies showed predominance of males, but a study conducted by Prakash C Gupta¹² showed female predominance due to social and cultural practice of pan and chewing habits.

Oral cavity lesions can occur at any part of lips, gums, buccal mucosa, tongue, hard and soft palate. N.M. Khanna et al¹⁰ documented the commonest site of the lesion is in the lip. The study by Manisha A et al⁹ showed 79.2% were well differentiated and moderately differentiated carcinoma, 1.48% tumours were poorly differentiated. This was similar to certain international studies.¹³ They documented 5 cases of verrucous carcinoma. Manisha A et al⁹ documented one case of peripheral giant cell granuloma in a male patient of 25 years of age.

In the study done by Rich and Radden,¹⁴ he analysed 244 cases of oral squamous cell carcinoma, 23% occurred in the floor of the month, 23% on the tongue, 21.2% on the mandibular alveolus, 11.5% in the retromolar area, 9% on the lips and 4.5% on buccal mucosa. In the study done by Chen et al¹⁵ 40.2% involved tongue, 6.1% buccal mucosa, 24.2% floor of mouth 2.7% retromolar area, 9.3% maxillary

area, 11% palate and 5.6% in the other site of the body. In this study moderately differentiated carcinoma was 54.3%, well differentiated squamous cell carcinoma 29.1% and poorly differentiated was 16.6%.

In the present study females were affected more than males which is contrary to studies in literature except for one study by Prakash C Gupta¹² showed female preponderance of Carcinoma cheek outnumbered the rest of the lesions which naturally have more predilection of female gender due to excessive consumption of smoking betel nut areca a form of Gutka. More than half of the cases had definite history of chewing pan and tobacco. Some had history of intake of alcohol and reverse smoking especially from rural and tribal areas. Bad oral hygiene was present in large number of cases and many belonging to poor socio-economic conditions. More than 50% of cases had past history of Leukoplakia and submucosal fibrosis which gradually transformed into malignant condition, over a course of 10-15 years. 257 oral lesions were analysed 243 cases were malignant tumours, 7 were benign tumours and 7 were tumour like lesions.

Benign tumours had no predilection for age. The commonest lesion was capillary haemangiomas and tongue was the common site. In tumour like lesions there were 4 cases of leukoplakia, 2 showed dysplasia 2 showed hyperplasia and one case of tuberculous granulomas was reported on histopathology and 2 cases of mucous cyst. Malignant tumour constituted 94.4% of cases, 1.16% of cases were verrucous carcinoma and rest were squamous cell carcinoma. Carcinoma cheek constituted major number of case with male preponderance.

CONCLUSION

Majority of the studies showed high prevalence of being malignant lesion in the oral cavity. In the present study 94% of cases were malignant lesions especially squamous cell carcinoma with predominance in female population. Majority of the cases had history of chewing betel nut and tobacco especially in the rural and tribal areas.

Fifty percent of the cases had past history of leukoplakia or submucosal fibrosis which are premalignant lesions. Awareness and good screening practices at the level of primary health centre are very much needed to decrease the prevalence of malignancy.

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