

Histopathological Spectrum of Oral Cavity Lesions at A Tertiary Care Hospital in South India

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ABSTRACT

Background: Oral cavity lesions are usually asymptomatic. Oral cancer is the most common type of cancer among males in India. Proper management of patients begins with an accurate diagnosis and histopathology is considered as the gold standard. The objective is to study the pattern of oral cavity lesions in a tertiary care hospital, Kannur, Kerala.

Methods: A 1 ½ year retrospective study was carried out and included all the oral cavity specimens received in the Department of Pathology. The parameters analyzed were age, gender, site & histopathological diagnosis of the lesion. H & E slides were reviewed.

Result: A total of 107 cases were studied. Age ranged from 5 years to 90 years. Males and females were equally affected (M:F = 1.05:1). Buccal mucosa was the commonest site involved. 24 cases (14 malignant, 10 benign and 4 premalignant) were neoplastic and the rest were non neoplastic. Squamous cell carcinoma (11.2%) was the most common malignant lesion with favoured sites being buccal mucosa followed by tongue and tonsil.

Conclusion: Good clinical examination combined with accurate histopathological study is essential to confirm the nature of the lesion.

Keywords: Oral Lesion, Buccal Mucosa, Squamous Cell Carcinoma

Introduction

Oral cavity lesions are usually asymptomatic. Most of the lesions are non neoplastic with the commonest being retention cyst, inflammation, fibromas etc. [1] Oral cancer is the most common type of cancer among males in India. It represents 4 % of the total body cancer in males and 2 % of all the cancer in females. [2] Among malignancies, squamous cell carcinoma is the most common. Early stages of malignancy may mimic benign lesions. Proper management of patients begins with an accurate diagnosis and histopathology is considered as the gold standard. [1]

Materials and Methods

A 1 ½ year retrospective study was carried out in the Department of Pathology, Kannur Medical College after obtaining approval from Institutional Ethics Committee. Sample size included all the oral cavity specimens received during the period of study. The parameters analysed in the study were age, gender, site and histopathological diagnosis of the lesions. H&E slides were re-stained and reviewed independently by two pathologists.

Result

A total of 107 cases were analyzed. Age ranged from 5 – 90 years. Youngest was a 5-year-old female who presented with chronic tonsillitis and the oldest was a 90 year old male with non-specific ulcer in buccal mucosa (Table 1). Males and females were almost equally affected in our

study (1.05:1). Buccal mucosa was the commonest site involved (56%) followed by tonsil (25%). 8 cases were noted in lip (7.6%), 5 on alveolus (4.6%), 4 in tongue (3.7%), 3 on floor of mouth and one on palate. Malignant lesions were restricted to buccal mucosa, tongue, tonsil and minor salivary glands in floor of mouth. All the tongue lesions turned out to be malignant (Table 2).

Majority of the non-neoplastic lesions were tonsillitis (24.2%) followed by lichen planus (17.7%)(Fig1) and benign keratosis (11.2%). Rest of the non-neoplastic lesions included non-specific ulcers, retention cysts, mucocoeles, radicular cyst, inflammatory papillary hyperplasia, epulis, periapical granuloma and inflammatory pseudotumor.

Among the benign neoplasms pyogenic granuloma/capillary hemangioma (Fig 2) was the commonest, followed by 2 cases of fibroma and 1 case of neurofibroma.

Premalignant lesions encountered were 3 cases of submucosal fibrosis and a case of carcinoma in situ of buccal mucosa.

Malignant lesions included 12 cases of squamous cell carcinoma (Fig 3) & 1 case each of adenoid cystic carcinoma (Fig 4) and mucoepidermoid carcinoma of minor salivary gland. Of the 12 cases of squamous cell carcinomas, 6 were in buccal mucosa (30%), 4 in tongue (33.3%) and 2 in tonsil. Site of origin of both malignant salivary gland tumors were floor of mouth (Table 3).

Table 1: Age distribution of oral cavity lesions.

Age in yrs	Non-neoplastic	Benign	Premalignant	Malignant
<20	17(15.9%)	2 (1.9%)	0	0
20-40	16(14.9%)	5(4.7%)	0	0
40-60	24 (22.4%)	2(1.9%)	3(2.8%)	5(4.7%)
60-80	17(15.9%)	2(1.9%)	1(0.9%)	9(8.4%)
>80	4(3.74%)	0	0	0

Table 2: Distribution of non-neoplastic lesions, benign and malignant neoplasms.

Site	Non-neoplastic	Benign	Pre malignant	Malignant
Mucosa	42(39.2%)	6(5.6%)	4(3.7%)	6(5.6%)
Lip	5(4.7%)	3(2.8%)	0	0
Alveolus	4(3.7%)	1(0.9%)	0	0
Tonsil	26(24.2%)	0	0	2(1.9%)
Tongue	0	0	0	4(3.7%)
Palate	1(0.9%)	0	0	0
Floor of mouth	1(0.9%)	0	0	2(1.8%)

Table 3: Spectrum of histopathological diagnoses.

Type of lesion	Number	Percentage
Non-neoplastic		
Chronic inflammatory lesion	38	35.5%
Lichen Planus	19	17.7%
Benign keratosis	12	11.2%
Cyst	8	7.5%
Epulis	2	1.8%
Benign		
Pyogenic granuloma	6	5.6%
Fibroma	2	1.8%
Neurofibroma	1	0.9%
Hemangioma	1	0.9%
Premalignant		
Submucosal fibrosis	3	2.8%
Carcinoma-in situ	1	0.9%
Malignant		
Squamous cell carcinoma	12	11.2%
Mucoepidermoid carcinoma	1	0.9%
Adenoid cystic carcinoma	1	0.9%

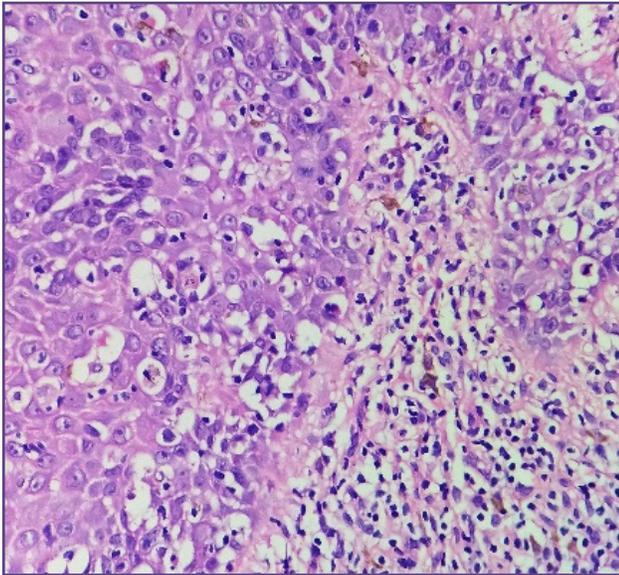


Fig. 1; Lichen planus : showing basal vacuolar damage and lymphocytic infiltrate(H&E, 400x).



Fig. 2: Capillary hemangioma: showing lobules composed of capillaries (H&E, 100x).

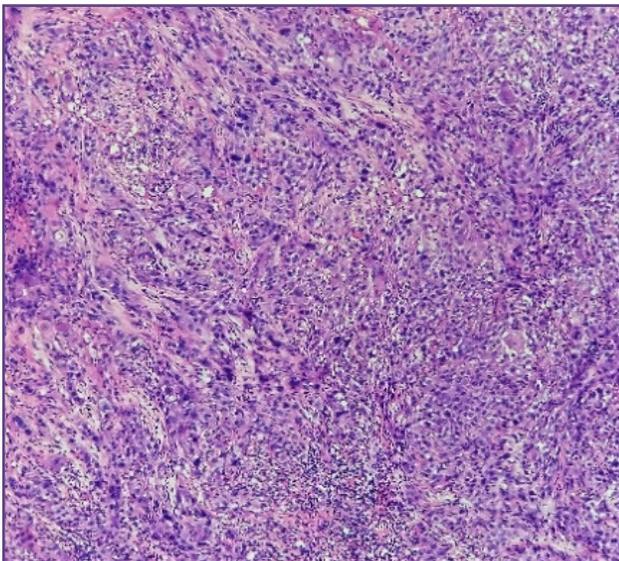


Fig. 3: Squamous cell carcinoma : islands and nests of neoplastic squamous cells (H&E, 400x).

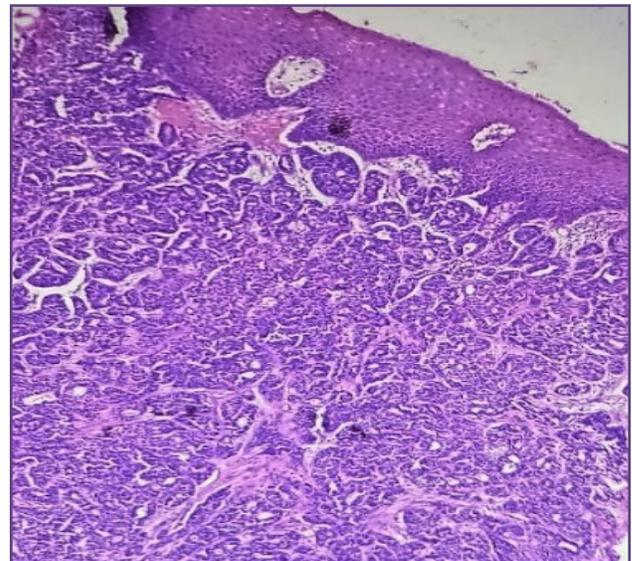


Fig. 4: Adenoid cystic carcinoma: neoplastic cells arranged in cribriform pattern (H&E, 400x).

Discussion

In the present study of 107 cases, patient's age ranged from 5 to 90 years. Pediatric patients presented with only benign and inflammatory entities like tonsillitis and pyogenic granuloma. The youngest case of malignancy was a 45-year-old, whereas oldest being 66 years. This age range is in concordance with the findings of Kosam et al.^[3]

Distribution of cases among males and females were found to be equal which is contradicting the findings in similar studies. Agrawal et al, and Kosam et al found that males

were more affected than females.^[2,3] Probable reason for the irony in our study may be due to the easy accessibility of health services in Kerala and increased awareness about diseases due to high literacy rates in the state. Sex ratio of 1.4:1(M: F) was observed by N J Naderi et al which included only reactive lesions.^[4] There was no significant sex difference in the study done by Fierro-Garibay C et al in Spain and Modi et al had more cases among females than males.^[5,6] However, prevalence of malignancy was less in females than males, which was similar to that reported by Patil PB et al, Bhat et al & Durazzo et al.^[7-9] This seconds

the fact that males engage more in habits like smoking tobacco and pan chewing.

Most common site for development of oromucosal lesion was buccal mucosa which is similar to that reported by Modi et al, Mehta et al and Mehrotra et al. [6,10,11] Buccal mucosa is the most common site for malignancy followed by tongue & tonsils. This result correlated with many studies like Kosam et al and Gambir et al whereas Modi et al & Mirbod et al [3,12,6,13] reported tongue as the most common site for malignancy. [3,12,6,13] Lip was found to be the most common site for benign neoplasms.

With regard to the histopathological diagnoses, lesions were divided into non neoplastic, benign and malignant neoplasms. Most common non neoplastic lesion encountered was tonsillitis followed by lichen planus and benign keratoses. Rivera et al had similar findings. [14] Lichen planus showed higher prevalence in our study (19%) when compared to Claudia et al (6.3%) and Satoress et al (4.9%). [5,15] Reason for higher prevalence could be due to increased dependence on histopathology to establish the clinical diagnosis.

Benign keratotic lesions showed a prevalence of 10.2% which was similar to other studies like Kosam et al and Mehta et al (14% in both). [3,10] Full thickness dysplasia/carcinoma in situ was noted in only one case whereas Issac et al found 8.6% of cases with dysplasia in his series. [16] Pyogenic granuloma was the most common benign neoplasm encountered with most common location being on lip. Kosam et al, Modi et al and Gupta et al had similar findings. [3,6,12]

There were only 4 premalignant conditions discovered in the study which included 3 cases of submucous fibrosis and one case of carcinoma in situ with equal distribution among both sexes.

14 cases of squamous cell carcinoma were identified with the most common site being buccal mucosa followed by tongue. This was in correlation with the findings of Kosam et al and Gupta et al. [13,12] Other malignant lesions encountered were one case each of mucoepidermoid carcinoma and adenoid cystic carcinoma arising from minor salivary glands of floor of mouth.

Conclusion

Majority of lesions of oral cavity were non-neoplastic. Squamous cell carcinoma was the commonest malignant lesion. Reason for higher prevalence of lichen planus needs to be validated by a detailed study. Good clinical examination combined with accurate histopathological study is essential to confirm the nature of the lesion.

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