

A Histopathological Study of Oral Cavity Lesions

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ABSTRACT

Background: Oral cavity is most common site for both non-neoplastic and neoplastic lesions. Most of the lesions are asymptomatic. Oral cancer is a major health problem in developing countries and hence it is important to examine precancerous lesion of oral cavity meticulously as they potentially develop into carcinomas.

Objectives: To study various types of neoplastic and non-neoplastic lesions of oral cavity with reference to age, sex and site of lesion.

Material and Methods: This was a prospective study carried out in a Department of Pathology, MGM medical College Kamothe, Navi Mumbai. Total 80 Cases oral cavity lesions were studied.

Results: Out of 80 cases 24 (30%) were non-neoplastic and 56 (70%) were neoplastic lesions. Male predominance was seen in both the lesions. The most of the non-neoplastic lesions were seen in age group of 0-10 years and 21-30 years while neoplastic lesions were seen in 51-60 years of age group. Out of 56 Neoplastic lesions benign (12%), premalignant (29%), and malignant lesions (59%). Most common site of involvement in non-neoplastic lesion was palatine tonsils while majority of benign and premalignant lesions were seen in buccal mucosa (5% and 12% respectively). Tongue (20%) was the most common site for malignant lesions. Maximum cases of tonsillitis (14%) were seen in non-neoplastic lesions. Squamous cell carcinoma was seen in 39% of cases.

Conclusion: Early detection of premalignant lesions can prevent further complication. Hence, not only clinical examination but also histopathological examination which is a gold standard for various lesions of oral cavity.

Key words: Non-neoplastic lesions. Premalignant lesions, Squamous cell carcinoma.

INTRODUCTION

Oral cavity is significantly more prone to an enormous number of environmental insults because of its exposure to the external environment and making it common site for many tumour and tumour like lesions. ¹ Oral cancer is a major public health problem in many parts of the world, more so in developing countries.²

Majority of the lesions usually are silent and asymptomatic, however,

overlapping clinical presentations are noted with various other systemic disorders thereby causing difficulty in clinical diagnosis.^{1,3} Chewing tobacco, smoking and consumption of alcohol have become common social habits in India.⁴ There are other predisposing factors which can develop oral malignancy such as ill-fitting dentures, sharp broken teeth which results in constant irritation of oral mucosa.^{3,6} One of the most common malignant lesion of oral cavity is Squamous cell carcinoma which in

its initial stages can mimic benign lesions thereby affecting the accuracy of diagnosis and management leading to unfavourable prognosis.

AIMS AND OBJECTIVES

To study neoplastic and non-neoplastic lesions of oral cavity with reference to age, sex and site distribution.

MATERIAL AND METHODS

This was a prospective study over the period of two years which included 80 cases which was conducted in of Department of Pathology Mahatma Gandhi Mission Hospital Navi, Mumbai. Specimen during above period consisted of excisional and incisional biopsies. They were received in 10% formalin and sections were processed and embedded in paraffin after grossing. Multiple serial sections of 4-5 microns thickness were obtained from the paraffin block and then stained with Haematoxylin and Eosin.

RESULTS

In present study total number of 80 lesions of oral cavity were included (n=80), out of which 24(30%) cases belong to non-neoplastic lesions and 56 (70%) cases were of neoplastic lesions.

Neoplastic lesions are further divided into benign, premalignant and malignant lesions. Out of 56 neoplastic lesions, 33cases of malignant lesions (59%) followed by 16 cases of premalignant (29%) and 7 cases of benign lesions (12%). In present study, oral lesions were seen predominantly in males (58%) than females (42%). (Table 2). Most of the cases had habit of smoking, chewing tobacco and alcohol consumption.

In non-neoplastic lesions, majority of cases were seen in age group of 0-10 years and 21-30 years, while predominantly benign, premalignant and malignant lesions were seen in age group of 41-50 years,31-40 years and 41-60years.(Table 1)

Table 1: Age wise distribution of both non-neoplastic and neoplastic lesions of oral cavity.

Age(Years)	Non neoplastic lesions	Neoplastic lesions			Total(%)
		Benign	Premalignant	Malignant	
0-10	06	00	00	00	06 (8%)
11-20	02	00	00	00	02(3%)
21-30	06	01	02	02	11(13%)
31-40	05	01	05	06	17(21%)
41-50	03	02	02	09	16(20%)
51-60	01	02	04	09	16(20%)
61-70	00	00	03	07	10(12%)
71-80	01	01	00	00	02(3%)
Total	24	07	16	33	80(100%)

Table 2: Gender wise distribution of both non-neoplastic and neoplastic lesions of oral cavity

Sex	Non neoplastic lesions	Neoplastic lesions			Total
		Benign	Premalignant	Malignant	
Male	13(16%)	04(5%)	09(11%)	20(25%)	46(58%)
Female	11(14%)	03(4%)	07(9%)	13(16%)	34(42%)
Total	24(30%)	07(9%)	16(20%)	33(41%)	80(100%)

Table 3: Site wise distribution of non-neoplastic and neoplastic lesions of oral cavity

Site of the oral lesions	Non-neoplastic lesions No. of cases(%)	Neoplastic lesions			Total cases (%)
		Benign lesions No. of cases(%)	Premalignant lesions No. of cases(%)	Malignant lesions No. of cases(%)	
Palatine tonsils	11	00	00	00	11(13%)
Buccal mucosa	01	04	10	12	27(34%)
Dorsum of tongue	03	00	02	04	09(11%)
Lateral border of tongue	02	00	03	04	09(11%)
Ventral surface of tongue	00	01	00	08	09(11%)
Palate	00	00	00	02	02(3%)
Floor of mouth	02	01	00	00	03(4%)
Gingio-buccal	00	00	00	02	02(3%)
Gingiva	01	00	01	00	02(3%)
Lip	03	01	00	01	05(6%)
Retromolar triagone	01	00	00	00	01(1%)
Total	24(30%)	7(8%)	16(20%)	33(42%)	80(100%)

The buccal mucosa and tongue were common site involved by oral lesions. The Palatine tonsils were the most common site involved in non-neoplastic lesions. Amongst neoplastic lesions buccal mucosa was predominantly involved in benign lesions and premalignant lesions, while tongue was more commonly affected in malignant lesions.(Table-3)

Tonsillitis was the most common lesion of non-neoplastic oral cavity lesion followed by pseudoepitheliomatous hyperplasia. In neoplastic lesions, hemangioma was predominant in benign lesions while mild dysplasia was observed in premalignant lesions. Squamous cell carcinoma accounts 39% of total oral cavity lesions. (Table-4)

Table:4- Histopathological diagnosis of oral cavity lesions

	Oral lesions	No of patients
	Tonsilitis	11(14%)
	Pseudoepitheliomatous hyperplasia	6(7%)
Non-Neoplastic Lesions	Inflammatory lesion	2(3%)
	Pyogenic granuloma	2(3%)
	Mucocele	1(1%)
	Mucous retention cyst	1(1%)
	Ranula	1(1%)
Benign lesions	Squamous papilloma	2(3%)
	Hemangioma	4(5%)
	Lipoma	1(1%)
	Leucoplakia	4(5%)
	Mild Dysplasia	5(6%)
Premalignant Lesions	Carcinoma In Situ	2(3%)
	Oral submucous Fibrosis	2(3%)
	Erythroplakia	1(1%)
	Severe dysplasia	1(1%)
	Oral Lichen Planus	1(1%)
Malignant Lesions	Squamous cell carcinoma	31(39%)
	Basal cell carcinoma	1(1%)
	Mucoepidermoid carcinoma	1(1%)
	Total	80(100%)

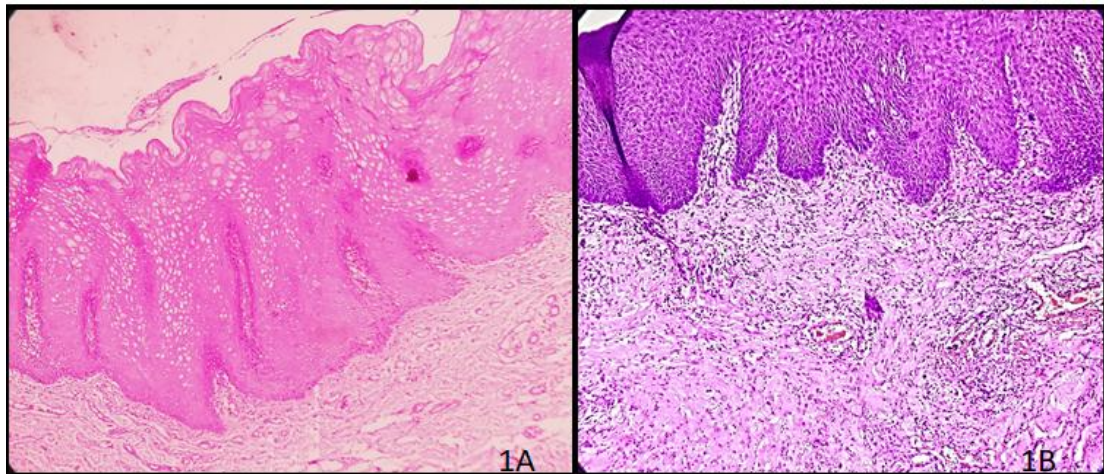


FIGURE 1A: PHOTOMICROGRAPH OF PSEUDOEPITHELIOMATOUS HYPERPLASIA H AND E 100X

FIGURE 1B: PHOTOMICROGRAPH OF MILD DYSPLASTIC STRATIFIED SQUAMOUS EPITHELIUM ALONG WITH INFLAMMATORY INFILTRATE. H AND E 100X

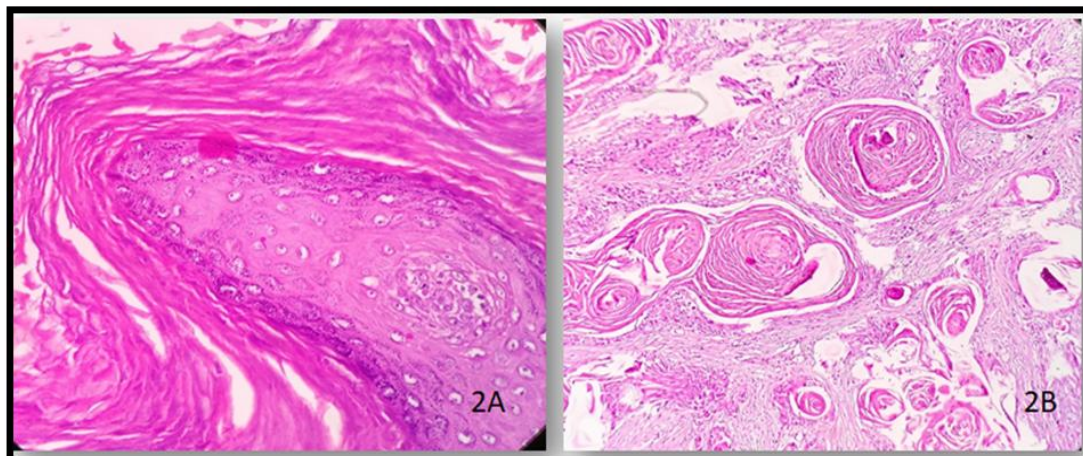


FIGURE 2A: PHOTOMICROGRAPH LEUKOPLAKIA SHOWING HYPERKERATOSIS, ORTHOKERATOSIS AND MILD DYSPLASIA H AND E 400X

FIGURE 2B: PHOTOMICROGRAPH SHOWING SQUAMOUS CELL CARCINOMA WITH KERATIN PEARLS H AND E 400X

DISCUSSION

Out of 80 cases 24(30%) cases were of non-neoplastic lesions while 56(70%) cases were of neoplastic lesions. In this study it was noticed that maximum cases of non-neoplastic lesions observed were lied between the age group of 0-10 years and 21-30 years that was further followed by the age group of 31-40 years. Study done by R Laishram et al³, Khan Y et al⁸ and Singh Manjit et al⁹ all these cases were found with non-neoplastic lesions that were in their third decade while with Bhalekar S et al⁷ maximum cases with an age group of 31-45 years

The neoplastic lesions are divided into benign, premalignant and malignant lesions. In the present study benign lesions were seen most commonly in 5th and 6th decade (2%), however other studies like Al Khateeb et al¹⁰, Kadeh et al¹¹ showed occurrence of benign lesions in the 2nd to 4th decade. R Laishram et al³ and R Agarwal et al⁵ showed maximum number cases in the 3rd and 4th decade

In the present study premalignant lesions were observed in 31-40 years of age group which was comparable with study done by Bhalekar S et al⁷(31-45 years). However other studies such as Gupta M et al¹², S Selvi et al¹³ and S Jagtap et al¹⁴ showed maximum incidence in age group of 41-50,40-60 and 50-59 respectively.

Malignant lesions from present study were seen in 41-50 years and 51-60 years age group. Present study is in concordance with study done by Bhalekar S et al⁷, R Agarwal et al⁵ in which maximum incidence of oral malignant lesions were seen in age group of 46-60 years, while study of D Prasan¹⁵ and R Laishram et al³ showed maximum malignant oral lesions lied in age group of 61-70 years.

Our study showed male preponderance in both non-neoplastic and neoplastic lesions of oral cavity. The findings were similar to study done by Khan Y et al⁸ of non-neoplastic lesions, while findings of M Gupta et al¹², R Mehrotra et al² were comparable with present study for benign

lesions, and M Gupta et al¹², S Masamatti et al¹⁶ showed male cases were more common than females in premalignant and malignant lesions of oral cavity.

The most common sites in non-neoplastic lesion in our present study was palatine tonsils (13%), however in the study of R Laishram et al³ and Bhalekar S et al⁷ buccal mucosa was the commonest site for non-neoplastic lesions. D Bajracharya et al¹⁷ observed that gingiva was the most common site involved for non-neoplastic lesions. Present study is in concordance with Bajaracharya et al¹⁷, Keche PN et al¹⁸, Bhalekar S et al⁷ however in study by R Laishram et al³ gingiva was the commonest site for benign lesions of oral cavity. Other studies such as Bhalekar et al⁷, Misra et al¹⁹, S. Jagtap et al¹⁴ reveal buccal mucosa as the commonest site in premalignant lesions which is similar to present study. Tongue is most common site involved in malignant lesions, similar findings are observed in R Mehrotra et al², Iype EM et al²⁰, Giri P et al²¹, R Laishram et al³.

The most common lesion in oral cavity is squamous cell carcinoma (39%) which were in concordance with the study conducted by S Masamatti et al¹⁶, Iype EM et al²⁰, S Selvi et al¹³, D Prasan¹⁵. Tonsillitis was the most common amongst the non-neoplastic lesions followed by pseudoepitheliomatous hyperplasia. Bhalekar S et al⁷ showed 10% of pseudoepitheliomatous hyperplasia.

CONCLUSION

Oral cavity lesions are frequently asymptomatic to begin with and so can be missed clinically hence the timely and accurate identification of various oral lesions becomes vital for prevention of morbidity and mortality. Owing to the rising prevalence and incidence of oral malignancies, importance of oral hygiene with routine checkups, spectrum of oral lesions seen and their precise time bound diagnosis should be emphasised upon in society. Histopathological examination is still the gold standard for confirmation the

nature and the origin of oral cavity lesions cannot be determined by clinical examination alone.

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