

A bird's-eye view of pathologist over diagnostic confusion of oral cavity lesions

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Abstract

Introduction: Oral cavity can be host to multitude of neoplastic, premalignant or non neoplastic pathological lesions. Diagnosis of lesions of oral cavity is always of interest to clinician and pathologist and rely on clinical appearance of lesions. There can be variation in diagnosis of clinical lesion with histopathology. Many oral carcinomas arise within the sites that previously had premalignant lesion. Incidence of oral cancers in population has increased among younger generations related to habits and lifestyle. These lesions during clinical presentation are misleading and create diagnostic dilemma owing to age, sex and distribution of lesions. Understanding distribution of oral mucosal lesions helps to diagnose lesions of oral cavity. Purpose of this study is to observe the variation in clinical diagnosis with histopathological diagnosis in patients with inflammatory, premalignant, benign and malignant lesions of oral cavity and oropharynx and also clinical distribution of lesions of oral cavity and oropharynx lesions by histopathology.

Observations: Out of total 105 lesions, ulcer in oral cavity seen in 58 (55.23%) of patients, followed by swelling or feeling of lump in oral cavity in 36 (34.29%) of patients and foreign body sensation in 23 (21.90%) of patients with tongue as most frequent site for most of lesions of oral cavity accounting in 33 (31.43%) of cases, and less frequently lesions were seen in retro molar trigone area in 2 (1.90%) patients. Histopathological diagnosis of premalignant, non neoplastic and inflammatory lesions was made in 24 (22.85%) cases, benign tumours were diagnosed in 14 (13.33%) cases and rest of 67 (63.81%) lesions were malignant. Mucocele were seen in five (4.76%) cases, radicular cyst was seen in one (0.95%) case of female patient and four cases of Leukoplakia with one case showing mild dysplasia. Among benign tumours 11 (10.47%) patients presented with gingivitis turned out to be squamous papillomas were seen in five (4.76%) cases, fibroma was diagnosed in four (3.80%) cases, pyogenic granuloma was diagnosed in four (3.80%) cases most commonly seen over gingiva and myoepithelioma of minor salivary gland was observed in one (0.95%) case over soft palate. Out of 67 cases of malignant lesions squamous cell carcinomas were seen in 59 (88.05%) cases followed by verrucous carcinoma in 3 (4.47%) cases, 2 (2.99%) cases were basaloid squamous cell carcinomas, mucoepidermoid carcinoma was seen in 2 (2.99%) cases and 1 (1.49%) case of adenoid cystic carcinoma was seen. Majority of squamous cell carcinomas cases in study were well differentiated in 49 (73.13%) cases followed by moderately differentiated in 16 (23.88%) cases and poorly differentiated in 2 (2.99%) cases. Malignant transformation of tonsil tissue post operatively was observed in 1 (0.95%) patients on histopathology. One (2.5%) case of myoepithelioma was seen in 60 years male over soft palate.

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Conclusion: Of all oral biopsies reported in study, increasing trend of malignancies in lower age groups of population making it an emerging threat to community and highlighting need to take effective measures to increase public awareness about risk factors and consequences of this condition. Screening programmes targeted to population over 25 years are recommended to overcome this.

Keywords: Adenoid cystic carcinoma, benign lesions oral cavity and oropharynx, malignancies of oral cavity and oropharynx, myoepithelioma, oral cavity lesions, oropharyngeal lesions, premalignant lesions of oral cavity and oropharynx, pyogenic granuloma, squamous cell carcinoma

INTRODUCTION

Oral cavity can be host to a multitude of pathological lesions which may be neoplastic, premalignant, or non-neoplastic because of the diversified structure.^[1] Diagnosis of lesions of oral cavity is always of interest to clinician and pathologist. Proper management of the patient with the oral lesions starts with an accurate diagnosis. Most of the classification schemes for lesions of the oral cavity rely on clinical appearance of lesions. However, there can be a variation in diagnosis of their clinical lesion with histopathology. In spite of ready accessibility of the oral cavity to direct clinical examination, the diagnosis of these lesions still are often misleading and undetected until a late stage.

Lesions involving oral cavity is very common in India involving tongue, lips, floor of mouth, hard and soft palate, gingiva and buccal mucosa.^[2] Clinically oral cavity lesions are increasing and is related to the usage of tobacco, pan and related products. Many oral carcinomas arise within the sites that previously had a premalignant lesion. Over the years, the incidence of oral cancers in the population has increased especially among younger generations possibly related to increasing habits and changes in lifestyle. These lesions of oral cavity during their clinical presentation often create a diagnostic dilemma owing to their presentation and distribution of lesions with histopathology.^[3] Comprehensive understanding the distribution of oral mucosal lesions helps us to understand their principles of treatment and management effectively.

The current gold standard for the diagnosis is the histopathological assessment of a tissue biopsy of a suspicious lesion.^[4] An adequate incisional biopsy taken from the lesion can provide over 98% diagnostic accuracy, whether the lesion is premalignant or malignant or benign with available histopathological techniques. However, a histological comparison of oral cavity lesions with clinical diagnosis always differs and points out lacunae in clinical diagnosis. Hence, a diagnostic delay in clinical comparison of lesions with histopathology may further lead to delay in the treatment in malignancies and thus proper assessment

of premalignant and benign lesions proceeding to malignancy is essential.

The purpose of this study is to observe the variation in clinical diagnosis with histopathological diagnosis in patients with inflammatory, premalignant, benign and malignant lesions of oral cavity and oropharynx and also the clinical distribution of lesions of oral cavity and oropharynx lesions by histopathology.

METHODOLOGY

The study was performed in the Department of Pathology and ENT in a tertiary care hospital during June 2012 to May

Table 1: Percentage incidence of the distribution of lesions of oral cavity under broad categories

Major categories	No. of cases	Incidence (%)
Inflammatory non-neoplastic and premalignant lesions	24	22.85%
Benign tumours	14	13.33%
Malignant tumours	67	63.81%
Total	105	100%

Table 2: Comparison of various types of oral lesions and their percentage incidence in 105 cases in the present study

Type of lesions	No. of cases	Incidence (%)
Non-neoplastic lesions		
Radicular cyst	1	0.95%
Mucocoele	5	4.76%
Chronic tonsillitis	14	13.34%
Benign epithelial tumours		
Squamous papilloma	5	4.76%
Benign soft tissue tumours		
Fibroma	4	3.81%
Pyogenic granuloma	4	3.81%
Benign tumour of minor salivary glands		
Myoepithelioma	1	0.95%
Premalignant lesions		
Leukoplakia	4	3.81%
Malignant epithelial tumours		
Squamous cell carcinoma	59	56.19%
Verrucous carcinoma	3	2.87%
Basaloid squamous cell carcinoma	2	1.90%
Malignant tumours of minor salivary glands		
Mucoepidermoid carcinoma	2	1.90%
Adenoid cystic carcinoma	1	0.95%
Total	105	100.00%



Figure 1: Clinical photograph of growth over dorsum of tongue



Figure 2: Cut section of the growth over tongue showing grey white areas

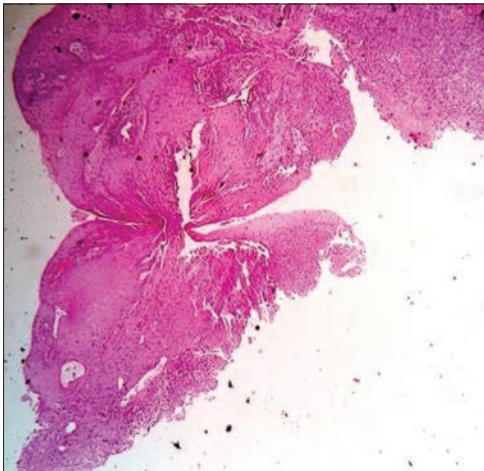


Figure 3: Photomicrograph of squamous papilloma (H&E: 100X)

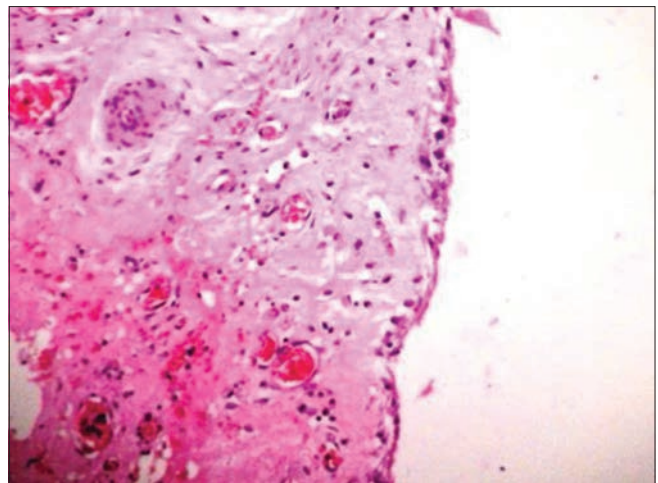


Figure 4: Photomicrograph of radicular cyst (H&E: 100X)

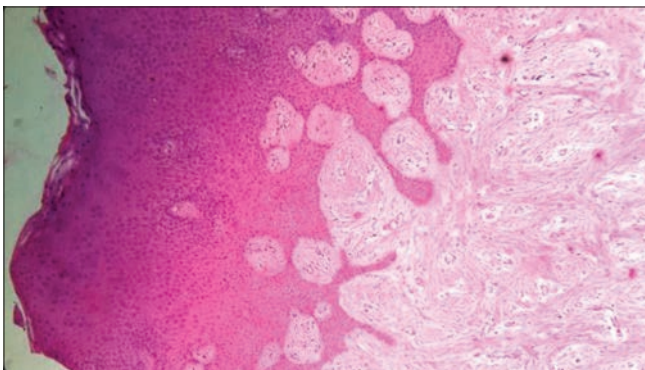


Figure 5: Photomicrograph of fibroma – showing interlacing bundles of fibrous tissue (H&E: 100X)

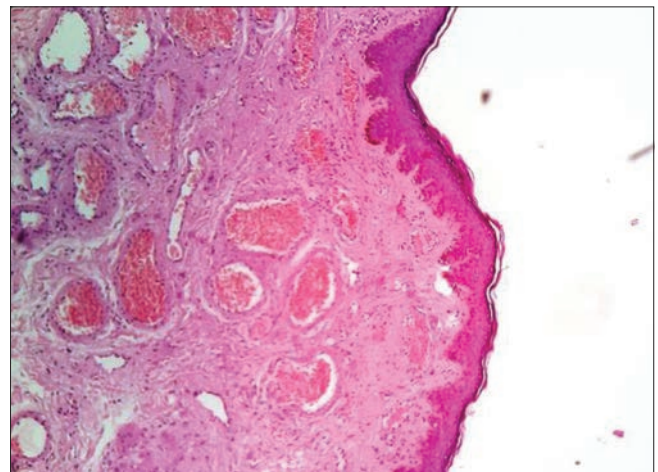


Figure 6: Photomicrograph of pyogenic granuloma – showing numerous thin walled blood vessels (H&E: 100X)

2014 over clinical biopsy specimens of 105 patients of lesions of oral cavity and oropharynx presented for histopathological examination. Patients with growth in oral cavity and oropharynx, undergoing biopsy or surgical treatment with a proper clinical history were included in the study. Patients with improper clinical history and examination, recurrent

malignancies after the treatment and inadequately preserved specimens with handling artifacts were excluded.

Patients having complaint of growth in oral cavity and oropharynx were selected using purposive sampling technique.^[5] Detailed history was recorded in a proforma, regarding age, sex, presenting complaints, habits of chewing tobacco, pan and gutkha, habit of smoking and consumption of alcohol. Thorough examination of oral cavity and oropharynx was done and site of lesion in oral cavity or oropharynx was noted. Biopsy was taken from the lesion and the specimen was transferred to the bottle containing 10% formalin, processed, embedded in paraffin and 3-4 microns thick sections were made. They were stained with Haematoxylin and Eosin stain (H&E). Histopathological diagnosis regarding type and differentiation was made.

OBSERVATIONS AND RESULTS

In the present study out of the total 105 lesions, slight male preponderance was seen with M: F ratio of 1.28:1 as shown in Table 3 with 59 (56.19%) of lesions in males and 46 (43.81%) of lesions in females maximum numbers of oral lesions were diagnosed in the age group ranging from 51 to 60 years 37 (35.23%) as shown in Table 4 below. It was observed from the clinical history of these patients that 27 (25.71%) gave history of smoking, 14 (13.33%) gave history of chewing pan or gutkha, 16 (15.23%) gave history

of consumption of alcohol, 20 (19.04%) gave history of both smoking and alcohol and 5 (4.76%) did not give any habits as evident from Table 6. Based on the clinical history of the patient the most frequent clinical symptom in this study observed was the presence of ulcer in the oral cavity in 58 (55.23%) of patients, followed by swelling or feeling of lump in the oral cavity in 36 (34.29%) of patients and less common symptoms being foreign body sensation in 23 (21.90%) of patients which were shown in Table 5.

Clinical analysis of the site of lesion revealed that the tongue as shown in Figure 1, Figure 2 was the most frequent site for many of the lesions of oral cavity accounting in 33 (31.43%) of the cases, and less frequently the lesions were seen in retro molar trigone area in 2 (1.90%) patients mentioned in Table 7. Histopathological diagnosis of premalignant, non-neoplastic and inflammatory lesions was made in 24 (22.85%) cases, benign tumours were diagnosed in 14 (13.33%) cases and rest of the 67 (63.81%) lesions were malignant as mentioned in Table 1.

Among 24 non-neoplastic inflammatory lesions suspicious of premalignant lesions of oral cavity and oropharynx, Mucocoele were seen in 5 (4.76%) cases in the age groups ranging from 11 to 40 years with average age being 27 years. Radicular cyst as seen in Figure 4 was seen in 1 (0.95%) case of female patient in the age of 26 years shown in Table 2.

Table 3: Sex-wise distribution of lesions of oral cavity and oropharynx

Sex	Non-neoplastic lesions	Neoplastic lesions		Total	%
		Benign tumours	Malignant tumours		
Male	13	6	40	59	56.19%
Female	11	8	27	46	43.81%
Total	24	14	67	105	100.00%

Table 4: Age incidence of lesions of oral cavity and oropharynx

Age group (yrs)	No of cases	%
11-20 yrs	6	5.71%
21-30 yrs	10	9.52%
31-40 yrs	15	14.29%
41-50 yrs	12	11.43%
51-60 yrs	37	35.23%
61-70 yrs	19	18.09%
71-80 yrs	6	5.71%
Total	105	100.00%

Table 5: Comparison of symptoms and percentage incidence in lesions of oral cavity and oropharynx

Symptomology	Non-neoplastic lesions	Benign tumours	Premalignant lesions	Malignant tumours	Total	%
Oral ulcer	9	7	1	41	58	55.23%
Swelling	20	14	—	2	36	34.29%
Oral pain	—	1	3	31	35	33.33%
Bleeding	—	—	2	13	15	14.29%
Difficulty in chewing	—	—	1	4	5	4.76%
Foreign body sensation	—	—	1	—	1	0.95%

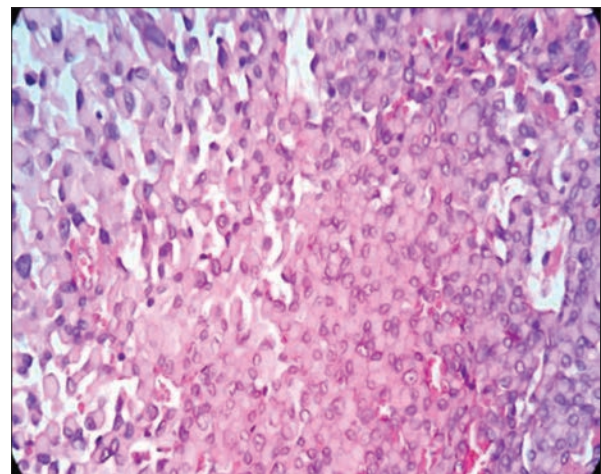


Figure 7: Photomicrograph of myoepithelioma showing sheets of plasmacytoid cells (H&E: 400X)

Leukoplakia was seen in the age group ranging from 41 to 59 years, with an average age being 47 years. Incidence of leukoplakia was same in both males and females with M: F ratio of 1:1. Out of four (3.80%) cases, three cases of leukoplakia were found on tongue, and one case was found over buccal mucosa as shown in Figure 8. Among four cases of leukoplakia, one case was showing mild dysplasia. No other premalignant lesions were observed in our study as shown in Table 13.

Among the benign tumours of oral cavity and oropharynx, squamous papillomas as shown in Figure 3 were seen in five (4.76%) cases were seen in the age groups ranging from 21 to 50 years with average age of 36.8 years mentioned in Tables 2, 8 and 11. Fibroma as shown in Figure 5 was diagnosed in four (3.80%) cases were seen in the age group ranging from 40 to 67 years with an average age of presentation in 50.2 years. Pyogenic granuloma as shown in Figure 6 was diagnosed by histopathology in four (3.80%) cases and the cases clinically appeared during the 5th decade of life in the age group between 51 and 60 years were most commonly seen over gingiva in three (2.85%) cases. Myoepithelioma of minor salivary gland as shown in Figure 7 was observed in one (0.95%) case and was seen in the age of 60 years seen in male over the soft palate. Squamous papillomas were most commonly seen over the tongue in three (2.85%) cases. Fibromas were seen over gingival in four (3.80%) cases.

Clinically the majority of the lesions in the present study were broadly classified as malignant tumours which

constitute 67 (63.81%) cases. Out of 67 cases of malignant lesions of oral cavity and oropharynx, majority of cases were squamous cell carcinomas in 59 (88.05%) cases with the youngest patient in the study who was 32-year-old, followed by verrucous carcinoma in three (4.47%) cases, two (2.99%) cases were basaloid squamous cell carcinomas and two (2.99%) of lymphoma were reported. Tumours derived from minor salivary glands were mucoepidermoid carcinoma as shown in Figure 9 in two (2.99%) cases and one (1.49%) case of adenoid cystic carcinoma. The mean age of presentation of squamous cell carcinoma in this study was 51.6 years. Malignant lesions were noticed more commonly in males (35 cases; 52.24%), with male: female ratio of 1.45:1 as shown in Table 3. Out of three cases, two (66.67%) cases of verrucous carcinoma were seen in males and one (33.33%) case was seen in female. Basaloid squamous cell carcinoma showed equal distribution in both males and females. Two (2.99%) cases of mucoepidermoid carcinoma were seen in males. One (1.49%) case soft adenoid cystic carcinoma was seen in young female patient. Two (2.99%) cases of lymphoma were reported in patients of tonsillitis in the elderly age group.

Table 6: Distribution of types of habits in lesions of oral cavity and oropharynx

Habits	No. of cases	%
Smoking	27	25.71%
Pan/Gutkha chewing	14	13.33%
Alcohol	16	15.23%
Smoking + Alcohol	20	19.04%
No habits	5	4.76%
Total	105	100.00%

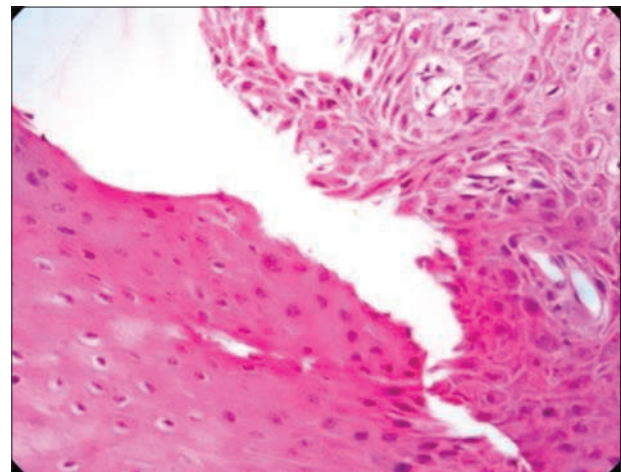


Figure 8: Photomicrograph of leukoplakia showing mild dysplasia (H&E; 400X)

Table 7: Distribution of oral lesions according to different sites in oral cavity and oropharynx

Site of lesion	No. of cases			Total	%
	Non-neoplastic lesions	Benign tumours	Malignant tumours		
Lip	4	2	1	7	6.67%
Tongue	4	3	26	33	31.43%
Buccal mucosa	1	—	17	18	17.14%
Gingiva	1	7	1	9	8.57%
Hard palate	—	1	7	8	7.62%
Soft palate	—	1	3	4	3.81%
Tonsil	14	—	2	16	15.24%
Retro molar trigone	—	—	2	2	1.90%
Vallecula	—	—	4	4	3.81%
Posterior pharyngeal wall	—	—	4	4	3.81%
Total	24	14	67	105	100.00%

When the exact site of distribution of tumours and their exact histopathology was analyzed it was observed that in the present study, most common site for squamous cell carcinoma was found to be tongue in 26 (38.80%) cases, followed by buccal mucosa in 15 (22.38%) Cases as mentioned in Tables 7, 9, 11 and 14. Out of the two cases of basaloid squamous cell carcinoma, one was found over lip and one was seen in the retro molar trigone area. Out of three cases of verrucous carcinoma, two were found in the area of buccal mucosa of the cheek and one over the gingiva. Two cases of mucoepidermoid carcinoma were seen on both hard and soft palate. Adenoid cystic carcinoma was diagnosed in one case over the hard palate. Majority of the squamous cell carcinomas cases in the study were well differentiated in 49 (73.13%) cases followed by moderately differentiated in 16 (23.88%) cases and poorly differentiated in two (2.99%) cases as mentioned in Tables 10 and 12.

DISCUSSION

Any growth or ulcer in the oral cavity should be looked with high index of suspicion and should lead to further investigations.^[6] The most common symptom in our study was oral ulcer observed in 58 (55.23%) of patients. In this study, tongue was the most common site in 33 (31.43%) cases followed by buccal mucosa in 17 (25.37%) cases and hard palate in 7 (10.44%) cases. It is observed in various studies that anatomically more anterior parts (buccal mucosa, anterior 2/3 of the tongue) are the frequently involved sites in oral and oropharyngeal malignancies.^[7] This could be due to the long duration of contact with the carcinogens in tobacco and alcohol.

Premalignant Non neoplastic lesions were 24 (22.85%) cases of patients. Among the non-neoplastic lesions of oral cavity in this study Radicular cyst as shown in Figure 4

Table 8: Benign tumours along with their percentage distribution in the present study

Origin of tumour	Types of lesion	No. of cases	%
Squamous epithelium	Squamous Papilloma	5	35.72%
Soft tissue	Fibroma	4	28.57%
	Pyogenic granuloma	4	28.57%
Minor salivary glands	Myoepithelioma	1	7.14%
Total		14	100.00%

Table 9: Site-wise distribution of non-neoplastic lesions of oral cavity and oropharynx

Site-wise distribution of non-neoplastic lesions	Lip	Tongue	Buccal mucosa	Gingiva	Hard palate	Soft palate	Tonsil	Retro molar trigone	Vallecula	Posterior pharyngeal Wall	Total
Leukoplakia		3	1								4
Mucocoel	4	1									5
Radicular cyst				1							1
Chronic tonsillitis							14				14
Total	4	1		1			14				24

was seen in 1 (0.95%) case, mucocoel was seen in 5 (4.76%) cases and chronic tonsillitis was observed in 14 (13.33%) cases. Three out of five (60.0%) cases of mucocoel were seen in males and two (40%) cases were seen in females. They were seen in the age groups ranging from 11 to 40 years with average age being 27 years. Most common site of mucocoel was found to be lower lip in four (80%) cases.

Fourteen cases of chronic tonsillitis were seen in this study between the age group ranging from 11 to 40 years with nine (8.57%) cases during the third decade of life. An increasing trend of higher age group in tonsillitis and tonsillectomy with less number of cases being seen in children and adolescents in our study can be attributed to the increasing health awareness among the population. Malignant transformation of tonsil tissue post operatively was observed in one (0.95%) of these patients on histopathology where squamous cell carcinoma was reported in otherwise normal tonsillar tissue. Hence, it is always ideal to send all the excised tonsillar tissue for histopathology and diagnosis to be confirmed.^[8] Thus, all the symptomatic patients with long standing duration of complaints of oral cavity and oropharynx with dysplastic changes, ulcers and swellings to be considered for histopathology for comprehensive evaluation and treatment strategies of lesions without diagnostic and therapeutic delay.

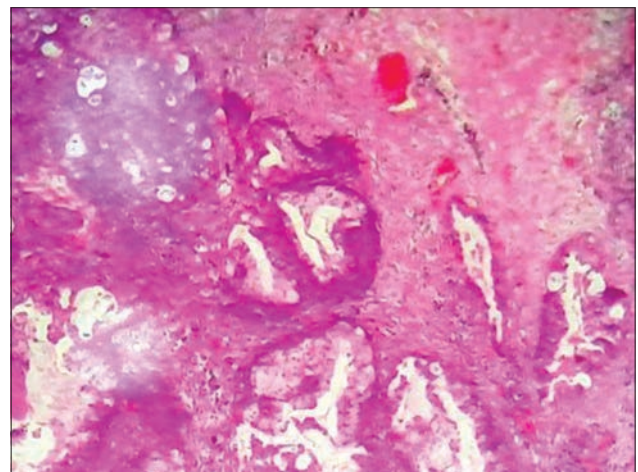


Figure 9: Photomicrograph of mucoepidermoid carcinoma (H&E; 40X)

In this study, four (3.80%) cases of fibroma were reported. They are most commonly seen due to effects of chronic local irritation.^[9] In our study, average age of presentation of fibroma being 47.2 years and were most commonly seen in females in three (75.0%) cases with most common site found to be gingiva in four (100.0%) cases. This could be because of increased usage of traumatic irritants which include calculi leading to overhanging margins, otherwise due to chronic biting with margins of caries and sharp tooth or dentures. Usually, clinically these fibromas do present as pedunculated or sessile growth on any surface of the mucous membrane. However, these mucosal overgrowths are usually mistaken for oral stomatitis or aphthous stomatitis or simple dentures injuries or caries tooth injuries. Sometimes unhealthy habits and stress and tensions can lead to oral cavity ulcerations which subsequently cause emotional disturbances which can become harmful and sometimes also contribute to orofacial muscular imbalance associated with alterations lead to development of fibroma or other benign tumours' formation. Hence, any chronic mucosal tags should always be subjected for histopathological examination for diagnostic accuracy.^[10]

In this study, a total of 11 (10.47%) patients presented with gingivitis and medically managed. Specimens of these patients revealed pyogenic granuloma in four (3.80%) of cases, with most common incidence in 5th decade of life in females in three cases (2.85%) with most common site being gingiva in three (2.85%) cases. Pyogenic granulomas commonly coexist with gingivitis and most often grow rapidly, ulcerate, and presents as a localised polypoid mass red or reddish-purple nodule which is pedunculated or sessile can either be misdiagnosed as a malignancy unless proved by histopathology.^[11] When any lesion particularly nodular is seen in oral cavity clinical management of a pyogenic granuloma with appropriate antibiotic usage and improving oral health care with proper dental care and

habits can help in better control of lesions of the gums and gingiva.

In this study, one (2.5%) case of myoepithelioma was seen in 60 years male over soft palate. Myoepithelioma are rare benign tumours of myoepithelial cell origin.^[12] Clinical findings include non-specific circumscribed mass over soft palate. Myoepitheliomas are rare benign neoplasm composed of ectodermally derived contractile smooth muscle cells, that is, myoepithelial cells which lack ductal differentiation. Myoepithelial cells are usually present in glandular structures like salivary glands, breast and sweat glands of skin. So far only 16 cases have been reported in the oral cavity lesions including the present one. Myoepitheliomas arising in the oral cavity are very rare constituting 1.5% of all salivary gland tumours.^[13] Myoepithelioma of oral cavity is a very rare case and histopathology is necessary to differentiate from other tumours.

Premalignant lesions of the oral cavity present as visibly abnormal areas of mucosa with a risk of malignant transformation which may relate to patient characteristics, environmental risk factors and genetic alterations. Lesions of the oral cavity like leukoplakia, erythroplakia, lichen planus, and oral submucous fibrosis which are considered premalignant can evolve as potentially malignant disorders.^[14] Clinical diagnosis of the premalignant lesions of the oral cavity on the basis of the clinical findings only may not differentiate dysplastic and non-dysplastic mixture of the cells. So, the clinicians should always suspect the threat of the malignancy in these benign looking lesions of the oral cavity. Hence, histopathology is considered as Gold Standard in such diagnostic dilemmas of lesions of oral cavity. However, in our study when we subjected 24 patients suspicious of chronic inflammatory pathologies four cases of leukoplakia are seen in the age group ranging from 40 to 59 years with an average age of presentation being 47 years. Equal sex predilection was observed for both males and females. Most common site being tongue in three (75.0%) cases. One (25.0%) case was showing mild dysplasia.

Out of 105 biopsy specimen studied, majority of them were malignant in 67 (63.81%) cases. Oral squamous cell carcinoma

Table 10: Differentiation of squamous cell carcinoma

Type of SCC	No. of cases	%
Well differentiated	49	83.05%
Moderately differentiated	9	15.25%
Poorly differentiated	1	1.69%
Total	59	100.00%

Table 11: Site-wise distribution of benign tumours of oral cavity and oropharynx

Site-wise distribution of benign tumours	Lip	Tongue	Buccal mucosa	Gingiva	Hard palate	Soft palate	Tonsil	Retro molar trigone	Vallecula	Posterior pharyngeal wall	Total
Squamous papilloma	1	3	–	–	1	–	–	–	–	–	5
Fibroma	–	–	–	4	–	–	–	–	–	–	4
Pyogenic granuloma	1	–	–	3	–	–	–	–	–	–	4
Myoepithelioma	–	–	–	–	–	1	–	–	–	–	1
Total	2	3	–	7	1	1	–	–	–	–	14

was observed to have the highest incidence in 59 (88.06%) cases. Out of these cases, 40 (59.70%) cases occurred in males and 27 (40.29%) cases in females, primarily affecting tongue (38.80%) followed by buccal mucosa (25.37%). In our study, majority of the patients were males in 40 (59.70%) cases. 27 (40.29%) cases were females with M: F = 1.48:1. The above analysis shows a male preponderance of oral and oropharyngeal malignancies. When differentiation of tumour is considered, conventional squamous cell carcinoma showed various degree of differentiation of which 73.13% of tumours were well differentiated, 23.88% were moderately differentiated and 2.99% were poorly differentiated. The tumours were differentiated based on Border's grading.^[15] The fact that oral cancer affects many more men than women may be observed in all of the studies conducted in India as well as other countries.^[16]

The mean age of presentation was being 36.8 years. Analysis of malignant tumours of oral cavity and oropharynx revealed a mean age of 51.6 years. Maximum number of patients were in the age range of 41-59 (23.37%) followed by 60-69 (11.62%). The youngest patient in this study was 32 years old. Usual age of presentation of malignancy in oral cavity is in the 6th decade of life with an average incidence in the age groups of above 55 years. In our study, the mean age of presentation of oral cavity malignancy is around 51.6 years which raises a concern of increasing

incidence of oral cavity malignancies in the younger age groups of population. As there is increasing trend of detection of malignancies of oral cavity, we propose that in all the patients in the working age groups from 25 years onwards any long-standing clinical lesion of oral cavity of more than 3 weeks should be compulsorily screened for histopathological examination to rule out the potentiality of malignancy.

CONCLUSION

The lesions affecting the oral cavity constitute a diverse group of pathological conditions. Of all the oral biopsies reported in the present study, increasing trend of malignancies in lower age groups of population making it an emerging threat to the community and highlighting the need to take effective measures to increase public awareness about the risk factors and consequences of this life-threatening condition. Hence, screening programmes targeted to population over 25 years, would help in early diagnosis or oral and oropharyngeal malignancy and therefore increase the treatment outcome. Measures should be designed to encourage the population to have routine oral examination making an early detection of any pathological changes, which may contribute in alleviating oral health problems of population. Histopathology is very essential to diagnose oral cavity lesions at an early stage and to take appropriate care and management.

Table 12: Malignant tumours along with their percentage distribution in the present study are as below

Origin of tumour	Types of lesion	No. of cases	%
Squamous epithelium of oral cavity	Squamous cell carcinoma	59	88.06%
	Verrucous carcinoma	3	4.47%
	Basaloid carcinoma	2	2.99%
Minor salivary glands	Mucoepidermoid carcinoma	2	2.99%
	Adenoid cystic carcinoma	1	1.69%
Total		67	100.00%

Table 13: Histopathological spectrum of leukoplakia

Histopathology of leukoplakia	No. of cases	%
Leukoplakia with non-dysplasia (Hyperplasia)	3	75%
Leukoplakia with mild dysplasia	1	25%
Leukoplakia with moderate dysplasia	0	0
Leukoplakia with severe dysplasia	0	0
Leukoplakia with CIS	0	0
Total	4	100%

Table 14: Site-wise distribution of malignant tumours of oral cavity and oropharynx

Site-wise distribution of malignant tumours	Lip	Tongue	Buccal mucosa	Gingiva	Hard palate	Soft palate	Tonsil	Retromolar trigone	Vallecula	Posterior pharyngeal wall	Total
Squamous cell carcinoma	—	26	15	—	5	2	2	1	4	4	59
Verrucous carcinoma	—	—	2	1	—	—	—	—	—	—	3
Basaloid squamous carcinoma	1	—	—	—	—	—	—	1	—	—	2
Mucoepidermoid carcinoma	—	—	—	—	1	1	—	—	—	—	2
Adenoid cystic carcinoma	—	—	—	—	1	—	—	—	—	—	1
Total	1	26	17	1	7	3	2	2	4	4	67

Informed consent

Informed consent was obtained from all individual participants included in the study.

Ethics committee clearance

The study has been approved by the Institutional ethics committee, Narayana Medical College and has been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

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Conflicts of interest

There are no conflicts of interest.

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