IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 21, Issue 11 Ser.2 (November. 2022), PP 44-48
www.iosrjournals.org

A Histomorphological Spectrum Ofneoplastic Lesions of the Oral Cavity in a Tertiary Care Hospital

VishaliCA[1], Ratna R[2], Chandana GS [3], Devi CS[4], Rani GS[5], Venkatalakshmi A[6]
C.A.Vishali, Postgraduate, Sri Venkateshwara Medical College, Tirupati.
R.Ratna, Postgraduate, Sri Venkateshwara Medical College, Tirupati.
G. Sai Chandana, Assistant professor, Sri Venkateshwara Medical College , Tirupati.
C. Sarada Devi, Assistant professor, Sri Venkateshwara Medical College , Tirupati.
G. ShobaRani, Associate professor,Sri Venkateshwara Medical College , Tirupati.
A.Venkatalakshmi, Professor and HOD , Sri Venkateshwara Medical College , Tirupati.

Abstract
Background: *In India oral cancer is the most common type of cancerThe risk of oral cancer is increased by excessive alcohol and tobacco use. With early and accurate diagnosis better patient management can be achieved and histopathology is considered the gold standard.*
Aim:*The aim is to study the spectrum of neoplastic lesions of the oral cavity and to study the distribution of lesions according to age and sex.*
Material and methods: *A one year cross sectional observational study was done in the department of pathology, Sri Venkateshwara medical college, Tirupati. The oral biopsies received during the study period were fixed in formalin, processed, sections were evaluated and data were analyzed.*
Results: *A total of 65 cases were evaluated during the study period. Out of 65 cases, 9 cases were benign neoplastic, 4 cases were premalignant and 52 cases were malignant. Age ranged from 19 years to 85 years. Males are more commonly affected with the M:F ratio of 3.3:1. Buccal mucosa was the most common site involved. About 80% of cases were squamous cell carcinoma.*
Key Words: *Neoplastic lesions, Buccal mucosa,Squamous cell carcinoma*

Date of Submission: 25-10-2022 Date of Acceptance: 06-11-2022

I. Introduction:

The oral cavity includes lip lining, buccal mucosa, gingiva, anterior two-thirds of the tongue, the floor of the mouth, and the hard palate. The mucosal lining of the oral cavity is a stratified squamous epithelium with histologic variations that adapt to specific functionality.[1]

In India, oral cancer is a major health problem and it is the third most prevalent cancer in India and the eighth most common cancer overall.[2]

Increased consumption of alcohol and tobacco is a significant risk factor for the emergence of oral and pharyngeal tumors, according to various studies. In India, chewing tobacco mixes are widely used, which has led to an increase in the incidence of oral cancer.[2]

The neoplastic lesions of the oral cavity may be benign, premalignant and malignant.

The most prevalent type of oral cancer is oral squamous cell carcinoma (OSCC), which is frequently preceded by potentially malignant lesions. Any part of the oral mucosa might be affected by oral cancer. However, OSCC most commonly affects the buccal mucosa in Asian populations as a result of tobacco and betel quid chewing.

Poor oral hygiene, nutritional inadequacies, and human papillomavirus (HPV) infection have all been recognized as minor risk factors for developing oral cavity carcinoma.[2,3]

Early stages of malignancy may mimic benign lesions. Proper management of patients begins with an accurate diagnosis. Histopathology is considered the gold standard for the diagnosis of oral potentially malignant and malignant lesions.[4,5]

Aim

- The aim is to study the spectrum of neoplastic lesions of the oralcavity.

Objectives:

- To document the benign, premalignant and malignant lesions of the oral cavity byhistopathologicalexamination.

- To observe the incidence of various pathology in different age groups
- To observe the incidence of malignancy in oral cavity lesions.

II. Materials And Methods:

A cross-sectional observational study was done in the department of pathology from January 2021 to December 2021. Relevant clinical data of each patient were taken. A total of 56 cases were studied. The specimens were received as oral biopsy specimens. All specimens were fixed in 10% Neutral buffered formalin and subjected to processing and paraffin blocks of tissue were made. Sections were cut 3-5µ thickness and stained byhematoxylin and eosin and mounted in DPX. Histopathological diagnosis was made and recorded.

Inclusion Criteria:
All biopsy specimens of the oral cavity sent in10% buffered formalin are included.
ExclusionCriteria: Inadequate and autolyzed specimens
Data were analyzed using SPSS software (version 12)

III. Results:

A total of 65 cases of oral cavity lesions were evaluated. The age ranged from 19 to 85 years. Most of the patients were between the age group of 50 and 60 years. (Table 1).
Out of 65 cases,50(76.9%) cases were males and 15 (23.07%) cases were females showing male preponderance. (Table 2)
Among 65 cases, 52 (80%) cases were malignant, 4 (6.15%) cases were premalignant and 9 (13.85%) cases benign neoplastic lesions. (Table 3).
The buccal mucosa is the most commonly involved site(47.7%) followed by the tongue (27.7%), retromolartrigone (10.76%), anterior pillar and hard palate (4.61%), lip (3.07%), and soft palate(1.54%). (Table 4)
Out of 9 benign lesions, 4 (6.15%) cases were pyogenic granuloma, 3 (4.61%) cases were pseudoepitheliomatous hyperplasia, 1(1.54%) case was schwannoma and 1 (1.54%) case was benign adenoma of the minor salivary gland. (Table 5)
Out of 3 premalignant lesions, 2 (3.07%) cases were mild dysplasia and 1 (1.54%) case was severe dysplasia.(Table 6)
Among 52 cases of malignant lesions, all were squamous cell carcinoma.
30 (46.15%) cases were Well differentiated SCC, 19 (29.23%) cases were Moderately differentiated SCC, 3 (4.61%) cases were Poorly differentiated SCC.
(Table 7).

Table 1: Age-wise distribution:

Age in years	Benign	Premalignant	Malignant	Total no. of cases
1-10	0	0	0	0
11-20	0	1 (1.54%)	0	1(1.54%)
21-30	1 (1.54%)	0	1 (1.54%)	2 (3.08%)
31-40	1 (1.54%)	0	4 (6.15%)	5 (7.7%)
41-50	2 (3.07%)	0	8 (12.30%)	10 (15.38%)
51-60	3 (4.61%)	3 (4.61%)	19 (29.23%)	25 (38.5%)
61-70	2 (3.07%)	0	14 (21.53%)	16 (24.2%)
71-80	0	0	5 (7.69%)	5 (7.7%)
81-90	0	0	1 (1.54%)	1 (1.54%)

Table 2: Sex distribution:

	No. of cases	Percentage(%)
Male	50	76.9%
Female	15	23.07%

Table 3: Nature of lesions :

Nature of lesion	No.of cases	Percentage(%)
Benign	9	13.85%
premalignant	4	6.15%
Malignant	52	80%

Table 4: Site of lesion:

Site of lesion	Benign	Premalignant	Malignant	Total
Anterior pillar	0	0	3 (4.61%)	3 (4.61%)
Tongue	3 (4.61%)	2 (3.07%)	13 (20%)	18 (27.7%)

Buccal mucosa	3 (4.61%)	0	28 (43.09%)	31 (47.7%)
Hard palate	0	1 (1.54%)	2 (3.07%)	3 (4.61%)
Soft palate	0	0	1 (1.54%)	1 (1.54%)
Lip	2 (3.07%)	0	0	2 (3.07%)
Retromolartrigone	1 (1.54%)	1 (1.54%)	5	7 (10.76%)

Table 5: Histopathology of benign lesions of the oral cavity:

Histopathological type	**No.**	**%**
Pyogenic granuloma	4	6.15%
Pseudoepitheliomatous hyperplasia	3	4.61%
Schwannoma	1	1.54%
Benign adenoma of minor salivary gland	1	1.54%

Table 6: histopathology of premalignant lesions of the oral cavity:

Histopathological type	**No.**	**%**
Mild dysplasia	2	3.07%
Moderate dysplasia	0	0
Severe dysplasia	1	1.54%

Table 7: Histopathology of malignant lesions of the oral cavity:

Histopathological type	**No.**	**%**
Well differentiated SCC	30	46.15%
Moderately differentiated SCC	19	29.23%
Poorly differentiated SCC	3	4.61%

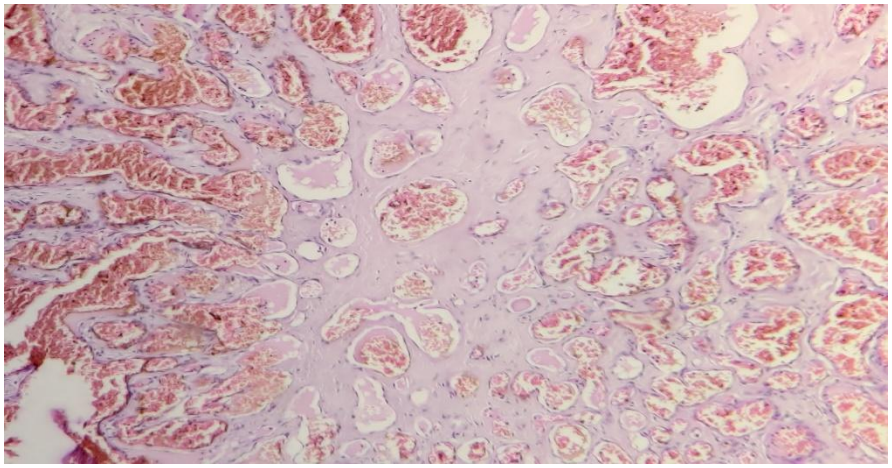


Fig 1: Photomicrograph of Pyogenic granuloma (H&E;100 x)

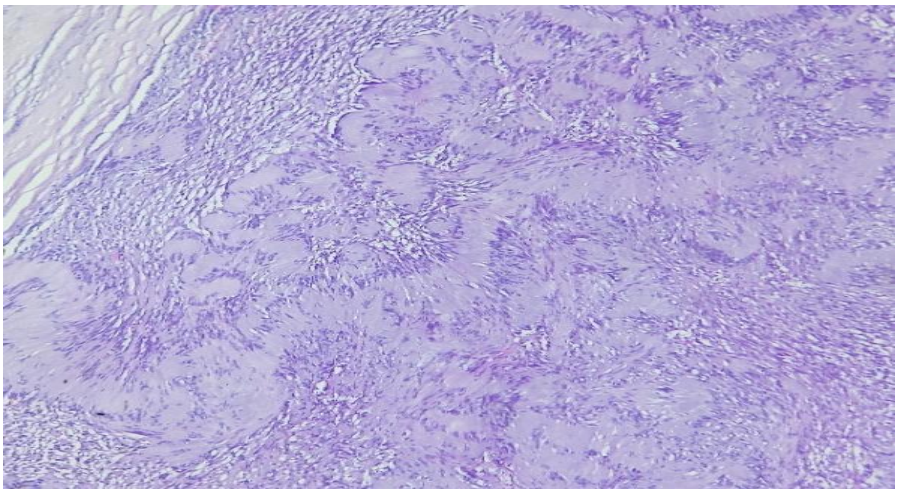
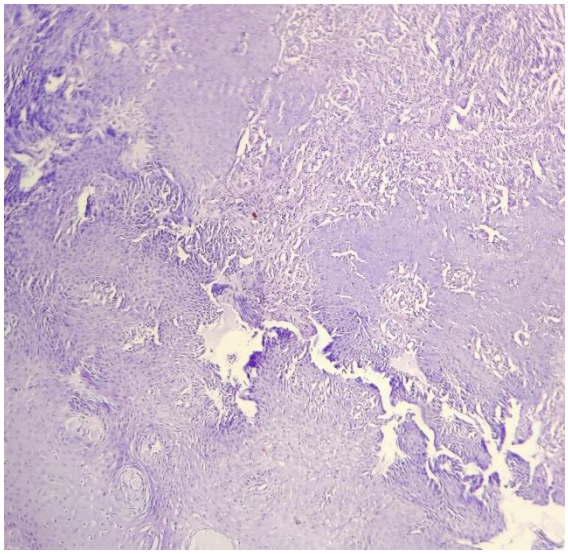


Fig 2: Photomicrograph of Schwannoma. (H&E;100X)



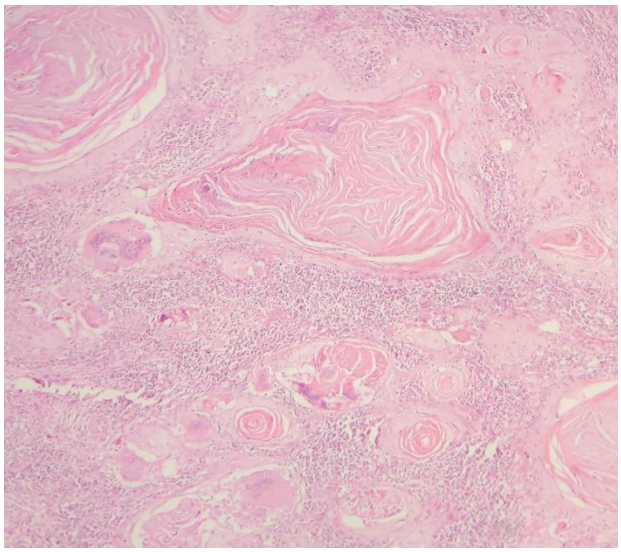


Fig 3a(H&E;100X) and 3b: (H&E;400X)
Photomicrograph shows well-differentiated squamous cell carcinoma composed of nests of tumor cells with keratin pearl formation.

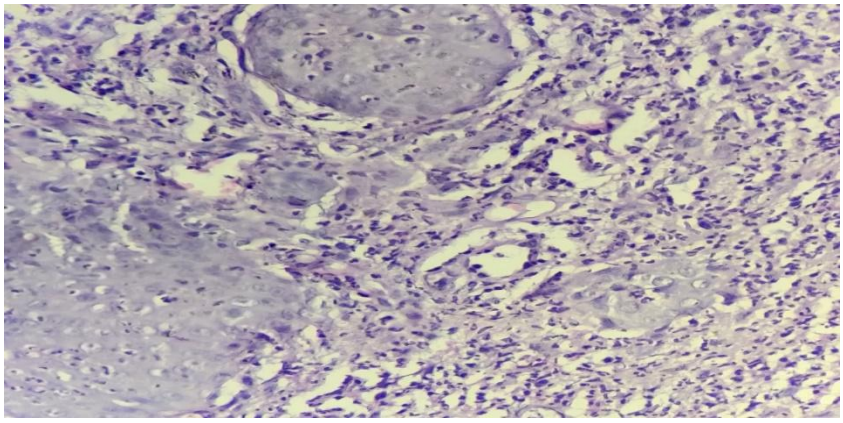


Fig 2: Photomicrograph of moderately differentiated squamous cell carcinoma.(H&E; 400X).

IV. Discussion:

In India, a vast majority of oral cancers are preceded by precancerous lesions and conditions caused by the use of tobacco in some form.In the present study, a total of 65 cases were evaluated. The age range was between 19 to 85 years. This was in concordance with many studies conducted in different parts of the world. In our study higher incidence of oral cavity lesions was seen in males than in females with M: F ratio of 3.3:1 which was similar to MinhaMajeedkaket.al, who documented a ratio of 3.5:1[2]. This can be attributed to more unhygienic oral habits in males in this area. Male preponderance is also documented by Pudasaini S and Brar R who observed a ratio of 2:1[6].

In the present study, the most common site involved was buccal mucosa (47.7%) followed by the tongue (27.7%).This is in concordance with the study done by Modi et al, Mehta et al,MinhaMajeedkak et al, and Mehrotra et al [2,7,8]. In our study, malignancy was observed to involve buccal mucosa and tongue most frequently, probably due to the use of tobacco.Modi et al[7]. Mirbod and Ahing also reported the ventrolateral border of the tongue to be the most common site for carcinoma tongue[9].

The present study is in concordance with studies by Misra V et al, Khandekar SP et al and Gupta M et al where peak incidence of malignant lesions was seen in the age group of 51 -60 years[3,10,11]. These studies found the maximum incidence of oral malignancies in people over 50 years of age in concordance with the

present study. Hence screening programs targeting men over 50 years, would help in the early diagnosis of oral malignancy.

In our study, among the neoplastic lesions, malignancy was documented in 80% of cases. All of them were squamous cell carcinoma. This is in concordance with studies by Gupta M et al, Nayak P et al, and Gowthami M R S et al which showed squamous cell carcinoma as the commonest histological type among malignant lesions in 98.18%, 98%, and 95.2 % respectively[3,12].

In the present study, Well differentiated SCC was the most common type seen in 46.15% of SCC. This study is in concordance with studies done by Khan Y et al, Rai HC et al and Gowthami M R S et al where the majority of cases were Well differentiated SCC seen in 47.61%, 51%, and 51.67% respectively[12,13,14].

V. Conclusion :

The neoplastic lesions of the oral cavity range from benign to premalignant and malignant. Our study concluded that squamous cell carcinoma was the most common malignant lesion of the oral cavity. Histopathological examination of oral biopsies is an essential tool for the early diagnosis and management of the lesions.

References:

[1]. Maymone MBC, Greer RO, Burdine LK, Dao-Cheng A, Venkatesh S, Sahitya PC, Maymone AC, Kesecker J, Vashi NA. Benign oral mucosal lesions: Clinical and pathological findings. J Am AcadDermatol. 2019 Jul;81(1):43-56. doi: 10.1016/j.jaad.2018.09.061. Epub 2018 Nov 14. PMID: 30447312

[2]. Kak MM, Rastogi P, Nath A, Kumar R.Histopathological interpretation of oral cavity lesions. Int J Appl Dent Sci. 2021;7(2):5754-79.

[3]. Gupta I, Rani R, Suri J. Histopathological spectrum of oral cavity lesions – A tertiary care experience. Indian J PatholOncol 2021;8(3):364-368.

[4]. Bhagat R, Randhawa M, Bhardwaj S. Histopathological spectrum of oral cavity lesions. J. Evolution Med. Dent. Sci. 2019;8(24):1886-90.

[5]. Agrawal R, Chauhan A, Kumar P. Spectrum of Oral Lesions in A Tertiary Care Hospital. J ClinDiagn Res. 2015 Jun;9(6):EC11-3. doi: 10.7860/JCDR/2015/13363.6121. Epub 2015 Jun 1. PMID: 26266127; PMCID: PMC4525516.

[6]. Pudasaini S, Barar R. Oral cavity lesions: A study of 21 cases. Journal of Pathology of Nepal 2011;l:49-51.

[7]. Modi D, Laishram RS, Sharma LD, Debnath K. Pattern of oral cavity lesions in a tertiary care hospital in Manipur, India. J Med Soc 2013;27:199-202.

[8]. Mehrotra R, Pandya S, Chaudhary AK, Kumar M, Singh M. Prevalance of oral pre-malignant and malignant lesions at a tertiary level hospital in Allahabad, India. Asian Pac J Cancer Prev 2008;9:263-6.

[9]. Mirbod SM, Ahing SI. Tobacco–associated lesions of oral cavity. Part II. Malignant lesions. J Can Dent Assoc 2000;66:308.

[10]. Misra V, Singh PA, Lal N, Agarwal P, Singh M. Changing pattern of oral cavity lesions and personal habits over a decade: Hospital based record analysis from Allahabad. Indian J Community Med 2009;34:321-25.

[11]. Khandekar SP, Bagdey PS, Tiwari RR. Oral cancer and some epidemiological factors: A hospital based study. Indian J Comm Med. 2006;31(3):157–9.

[12]. Gowthami M R S, Veerabasappa M, Surhonne SP. Histopathological spectrum of tumor and tumor like lesions of oral cavity and oropharynx in tertiary care hospital. IP J DiagnPatholOncol 2020;5(2):174-178

[13]. Khan Y, Birare SD. Study of Histopathology of the Tumour like Lesions and Tumours of the Oral Cavity. IJSR. 2016;5(4):915–20.

[14]. Rai HC, Ahmed J. Clinicopathological Correlation Study of Oral Squamous Cell Carcinoma in a Local Indian Population. Asian Pacific J Cancer Prev. 2016;17(3):1251–1254

VishaliCA, et. al. "A Histomorphological Spectrum Ofneoplastic Lesions of the Oral Cavity in a Tertiary Care Hospital." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(11), 2022, pp. 44-48.