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Original Research Paper

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CLINICO-PATHOLOGICAL STUDY OF ORAL CAVITY LESIONS-A RETROSPECTIVE ANALYSIS OF 70 CASES

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ABSTRACT

Introduction: Oral cavity lesions including oral cancer is a global health problem with increasing incidence and mortality rates. In India, a vast majority of oral cancers are preceded by precancerous lesions. Oral cavity shows propensity for different types of lesions at different sites. Early stages of malignant lesions can also mimic benign lesions leading to incorrect diagnosis and treatment. Histopathology is still the gold standard in forming an accurate diagnosis of oral lesions. The present retrospective study was carried out to assess the pattern of various oral cavity lesions and to find out their clinico -pathological correlation.

Aim and Objectives: Study was carried out to find out the types and relative frequency of the oral cavity lesions and to assess their correlation with age, sex and site distribution.

Materials and Methods: It was a retrospective study carried out at the Dr Bhalekar's pathology lab, New Panvel, Navi Mumbai, India. A total 70 cases of oral cavity lesions were studied.

Results: Out of total 70 cases, 46 cases (65.72%) were males and 24 cases (34.28%) were females with a Male: Female ratio of 1.9: 1. Neoplastic lesions accounted for 82.8% cases comprising of 7.1% benign, 24.3% premalignant and 51.4% malignant pathology. Non-neoplastic lesions accounted for 17.2% cases. The most common age group in oral lesions, maximum incidence of oral non neoplastic and neoplastic lesions was seen in 31 - 45 years comprising of 37.1% cases, 8.5% cases and 28.5% cases respectively. Overall lesions mostly involved the buccal mucosa (41.4%) followed by tongue (40%). Squamous cell carcinoma was seen in maximum number of cases (42.9%) followed by Leukoplakia with dysplasia (12.8%) and Erythroplakia (11.4%).

Conclusion: Present study showed that majority of the oral cavity lesions were malignant thus highlighting the importance of biopsy and histopathological typing to rule out malignancy in any mass lesion of the oral cavity. National level educational campaigns about the risk factors and early signs/symptoms associated with these diseases is the need of hour.

KEYWORDS : Erythroplakia, leukoplakia, Squamous cell carcinoma.

INTRODUCTION

India ranks among top three countries in the production and consumption of tobacco[1,2]. The correlation between cigarette smoking, tobacco chewing with non- neoplastic and neoplastic oral pathological lesions has been established earlier [3]. Squamous cell carcinoma is the commonest malignant lesion of oral cavity which may mimic benign lesions at its early stages leading to incorrect diagnosis, management and thus causing potentially fatal results for the patient [4].Early diagnosis of lesions have very important role to play in both prevention and therapeutic procedures of oral cancers. Histopathological examination of oral cavity lesions is still the best, cheap and easily available diagnostic tool to solve this dilemma as it has higher specificity and sensitivity in diagnosis. The present study had focussed on clinico-pathological correlation of various oral cavity lesions.

MATERIALS AND METHODS

This retrospective study was carried out in the Dr Bhalekar's pathology lab, Panvel, Navi Mumbai, India. Clinical history and physical examination were noted from patient records. The parameters included in the study were age, gender, site and histopathological diagnosis of the lesion. All the biopsy and histopathological specimens of oral cavity lesions were included in the study. Any repeat biopsy for residual lesion after therapy was excluded from the study.

RESULTS

A total of 70 cases were included in the present study. The age varied from 4 to 83 years. Out of total 70 cases, 46 (65.72%) were males and 24(34.28%) were females with a Male: Female ratio of 1.9: 1. Youngest case was a 4-year-old male child diagnosed with well differentiated squamous cell carcinoma of tongue and oldest was an 83-year-old male diagnosed with granulomatous lesion of tongue most probably tuberculosis. In all the categories males were affected more than the females.

Table 1:- The age-wise distribution of various oral lesions.

S. No.	Age (Years)	Non Neoplastic Lesions	Neoplastic Lesions			Total (%)
			Benign Lesions	Pre-Malignant Lesions	Malignant Lesions	
1	0-15	0	3	0	1	4(5.7)
2	16-30	1	1	5	1	8 (11.4)
3	31-45	6	1	7	12	26 (37.1)
4	46-60	1	0	4	14	19 (27.1)
5	61-75	3	0	1	4	8 (11.4)
6	More Than 75	1	0	0	4	5(7.1)
Total		12(17.2%)	5(7.1%)	17(24.3%)	36(51.4%)	70 (100%)

Only 4 cases were observed in less than 15 years of age group out of which three had benign pathology and one case had malignancy. Neoplastic lesions accounted for 82.8% cases comprising of 7.1% benign, 24.3% premalignant and 51.4% malignant pathology. Non-neoplastic lesions accounted for 17.2% cases. The most common age group in oral lesions, maximum incidence of oral non neoplastic and neoplastic lesions was seen in 31 - 45 years comprising of 37.1%

cases (26 cases out of 70), 8.5% cases (6 cases out of 70) and 28.5% cases (20 cases out of 70) respectively. Maximum incidence of oral malignant lesions was observed in the 46-60 years of life comprising of 20.0% cases (14 cases out of 70).

Table 2:-The site wise distribution of various oral lesions.

Site of lesion	Nature of lesion (%)				Number of cases (%)
	Non-neoplastic Lesions	Neoplastic Lesions			
		Benign lesions	Pre-malignant lesions	Malignant lesions	
Buccal mucosa	6	2	8	13	29(41.4)
Tongue	6	1	6	15	28(40.0)
Supraglottic area	0	0	0	3	3(4.3)
Tonsil	0	0	0	2	2(2.9)
Mandible	0	0	0	2	2(2.9)
Gingivobuccal sulcus	0	0	1	1	2(2.9)
Soft palate	0	1	0	0	1(1.4)
Floor of mouth	0	0	0	1	1(1.4)
Nasopharangeal wall	0	0	0	1	1(1.4)
Lip(lower)	0	1	0	0	1(1.4)
Total	12(17.1)	5(7.1)	17(24.2)	36(51.4)	70(100)

Overall lesions mostly involved the buccal mucosa (41.4%) followed by tongue (40%). Non neoplastic lesions mainly involved the tongue and buccal mucosa. Malignant lesions were most commonly seen in tongue, buccal mucosa and supraglottic area in decreasing frequency.

Table 3:-Distribution of cases on the basis of histopathological diagnosis of various oral lesions.

	Oral lesion	Number of cases	Percentage
1	Squamous cell carcinoma	30	42.9
2	Leukoplakia with dysplasia	9	12.8
3	Erythroplakia	8	11.4
4	Pseudoepitheliomatous hyperplasia of oral mucosa	7	10.0
5	Verrucuos carcinoma of buccal mucosa	3	4.3
6	Fibroma	2	2.9
7	Lichen planus of buccal mucosa	2	2.9
8	Tongue non specific ulcer	2	2.9
9	Traumatic ulcerative eosinophilic granuloma with stromal eosinophilia	1	1.4
10	Schwannoma	1	1.4
11	Chronic granulomatous lesion of tounge most probably tuberculosis	1	1.4
12	Chronic glossitis with pseudokoilocytic change in epithelium	1	1.4
13	Nasopharyngeal Carcinoma	1	1.4
14	Verrucuos hyperplasia	1	1.4
15	Neurofibromatosis	1	1.4
	Total	70	100

Squamous cell carcinoma was seen in maximum number of cases (42.9%) followed by Leukoplakia with dysplasia (12.8%) and Erythroplakia (11.4%).

DISCUSSION

Present study showed higher incidence of oral lesions in men as compared to females which is similar to the report by Pudasaini S and Barar R [5]. Malignant lesions were also more common in males as also reported by Iype et al [6].Present study observed that majority of oral cavity lesions were malignant, with Squamous cell carcinoma as the commonest histological variety an observation similar to that reported by Modi et al [7]. Buccal mucosa followed by tongue was the most common sites for neoplastic lesions of oral cavity and oropharynx.

In present study benign tumors like fibroma, neurofibroma, and schwannoma were seen. In premalignant conditions leukoplakia with dysplasia, erythroplakia, lichen planus were observed. Leukoplakia and erythroplakia are the commonest potentially malignant disorders. The clinical presentation of leukoplakia can be thin leukoplakia, thick leukoplakia, nodular/glandular leukoplakia, verrucous leukoplakia and proliferative verrucous leukoplakia [8]. Factors contributing to the etiology of oral leukoplakia included tobacco consumption, alcohol, syphilis, industrial hazards, and also, repeated mucosal trauma caused by irregular and sharp teeth [9].

Histopathological observation of epithelial dysplastic changes are one of the signs of premalignant lesions. Hence early recognition of such change is important in management of patient [10]. The chances of malignant transformation in mild or moderate dysplastic lesions and severe dysplastic changes are 4 to 11% and 2 to 35% respectively [8]. Earlier studies showed that a premalignant lesion usually takes up to 3 years to become an oral cancer.

Many diagnostic tests are used for detection of oral cavity malignancies like toluidine blue staining, tissue reflectance, oral brush cytology, narrow emission tissue fluorescence, tumour markers and molecular diagnostic techniques [11, 12]. But histopathological study is still the best and widely used method for oral cancer detection.

Razavi et al. study proved the importance of vascularisation with VEGF in dysplasia progression and carcinomas from a normal mucosa [13]. It has been established that lectine,a membrane protein marker has a role in oral, breast and brain cancers. Lectine gene mutation alters cell membranes thus leading to metastatic tumoral cells [14].A study by Silverman concluded that 36% of leukoplakia ends with malignancy.

Present study showed higher prevalence of oral mucosal lesions in the age group of 30 to 75 years (75.6%), most probably caused due to the long term use of tobacco during this age. Present study observed age related increase in the incidence of oral cancer which is similar to the observation of Modi et al., and Malaovalla et al [6,15]. In contrast, due to early development of oral habits and easy availability of tobacco, one case of squamous cell carcinoma was reported in a 4 year-old male highlighting an increased incidence of this tumour in younger age groups as observed by Lund [9].

CONCLUSION

Prevention and early diagnosis are the cornerstones to control oral cavity malignancies. High risk persons should be informed about early signs of benign, premalignant as well as malignant lesions of the oral cavity and encouraged to seek regular professional oral check up by the concerned doctor. Health professionals and government should work hand in hand at the ground root level in this regard.

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