Section: Pathology

Original Research Article

HISTOPATHOLOGICAL STUDY OF ORAL LESIONS

Hemaxi R Patel[1], Chitrawati Bal Gargade[2], Kasturi Mangrulkar[3]

[1]Tutor, Department of Pathology, GMERS medical College, Panchmahal, Godhra, Gujarat.
[2]Associate Professor, Department of Pathology, Birsa Munda Govt. Medical college, Shahdol, Madhya Pradesh, India.
[3]Assistant Professor, Department of Pathology, Pt. JNM Government Medical college, Raipur, Chhattisgarh, India.

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Corresponding Author:
Dr. Kasturi Mangrulkar,
Email: kasturimangrulkar@gmail.com

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Abstract

Background: Oral lesions are a common entity because of mucosal exposure to tobacco, recurrent trauma, infections (especially viral infections), and genetic predisposition. Many epidemiological studies have concluded that excess intake of alcohol and tobacco leads to increased risk of oral cavity cancers. The oral cavity represents the entrance to the upper aerodigestive tract, which begins at the lips and ends at the anterior surface of the faucial arch. It is lined by squamous epithelium with interspersed minor salivary glands. **Materials and Methods:** This study included 50 specimens of lesions of oral cavity which were sent to department of pathology, a tertiary care hospital for histopathology. **Result:** 30% lesions were on Tongue. 38% on buccal mucosa. Out of 15 non neoplastic oral cavity lesions 53.33% were Chronic inflammatory lesions, 13.33 %were Tubercular pathology. Out of 24 Malignant oral cavity lesions 66.66 % were Squamous cell carcinoma, 20.83 %were Verrucous carcinoma. **Conclusion:** A variety of lesions were encountered in the study with predominance of malignant lesions. Squamous cell carcinoma was the commonest malignant lesion. The clinical examination of the oral pathological lesions must be supplemented by 'gold standard' histopathological examination for confirming the malignant tendency of oral lesions.

INTRODUCTION

Oral cavity being a common site for benign and malignant tumours are also associated with the development of congenital and acquired lesions. The benign tumours do not invade other tissues and do not spread to other parts of the body whereas the malignant tumours can penetrate into surrounding tissues and spread to other parts of the body. There are also some oral precancerous conditions that start off harmless but can later develop into cancer.[1,2] The oral cavity represents the entrance to the upper aerodigestive tract, which begins at the lips and ends at the anterior surface of the faucial arch. It is lined by squamous epithelium with interspersed minor salivary glands. The oral cavity is continuously exposed to inhaled and consumed carcinogens and thus it is the most common site for the origin of malignant epithelial neoplasms in the head and neck region.[3] Oral cancer ranks the 8th most common cancer worldwide and 3rd most common cancer in India. Age standardized incidence rate of oral cancer is 12.6 per 100,000 population.[4] Tobacco smoke is made up of thousands of chemicals, of which at least 70 are known to be carcinogenic. Some of the chemicals found in tobacco smoke include hydrogen cyanide, formaldehyde, lead, arsenic, benzene, ammonia, and radioactive elements and cancer-causing agents in smokeless tobacco, such as benzopyrene and other Polycyclic Aromatic Hydrocarbons (PAHs); smokeless tobacco also contains radioactive substances. The buccal mucosa is exposed to these carcinogens and these are absorbed through the oral mucosa which may cause oral cancer.[5] The oral cavity and oropharynx are the sites of numerous diseases. Tobacco chewing and alcohol intake are mostly found to be associated with oral cavity lesions. Most commonly the buccal mucosa gets involved either with nonneoplastic or neoplastic lesions. The non-neoplastic lesions commonly seen are dysplasia, mucocele, chronic nonspecific ulcer, pseudoepitheliomatous hyperplasia, epidermoid cyst, verrucous hyperplasia, viral wart, cellulitis; and the most common neoplastic lesion is squamous cell carcinoma. For immaculate diagnosis, histopathology is still the gold standard.[6] Oral cancer is a major health problem in the Indian region and it is one of the top three cancers of the country. Many epidemiological studies have concluded that excess intake of alcohol and tobacco can lead increased risk of developing oral and pharyngeal tumours.[7] Also in India there is high prevalence of chewing tobacco mixtures.[8] Oral cavity lesions are usually common but ignored. They

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may be benign or malignant. Common benign lesions are lymphoid hyperplasia, retention cyst, inflammation, haemangioma, fibroma etc. And among malignant lesions Squamous cell carcinoma is the most common. Oral cancer ranks 8th most common cancer worldwide and 3rd most common cancer in India. Age standardized incidence rate of oral cancer is 12.6 per 100,000 population.[9,10] Proper management of the patient with the premalignant and malignant oral lesions starts with an accurate diagnosis. Histopathologic assessment of a tissue biopsy of the lesion is a standard method for diagnosis of suspicious lesion.

MATERIALS AND METHODS

This study included 50 specimens of lesions of oral cavity which were sent to department of pathology, a tertiary care hospital for histopathology. Sample size was taken based on the convenience of the study. Our study was a prospective study in which data like age of patient, sex and site of lesion were noted from the clinical data of the patients. Consent was taken from all patients. Data was analysed and tabulated in form of frequency and percentage.

RESULTS

Table 1: Genderwise distribution of cases of Oral lesions

Gender	Frequency n=50	Percentage
Male	29	58 %
Female	21	42%

Table 2: Regional distribution of oral lesions

Site	Frequency n=50	Percentage
Tongue	15	30 %
Lip	02	04 %
Palate	03	06 %
Tonsil	02	02 %
Floor of mouth	01	01 %
Buccal mucosa	19	38 %
Gingival	08	16 %

30% lesions were on Tongue. 38% on buccal mucosa.

Table 3: Overall distribution of non-neoplastic oral cavity lesions

Oral cavity lesions	Frequency n=15	Percentage
Fibrosis	03	20 %
Cyst	01	6.66 %
Chronic inflammatory lesions	08	53.33 %
mucocele	01	6.66 %
Tubercular pathology	02	13.33 %

Out of 15 non neoplastic oral cavity lesions 53.33% were Chronic inflammatory lesions, 13.33 %were Tubercular pathology.

Table 4: Overall distribution of Benign oral cavity lesions

Oral cavity lesions	Frequency n=11	Percentage
Hemangioma	01	9.09 %
Granuloma pyogenicum	02	18.18 %
Papilloma	07	63.63 %
Pleomorphic adenoma	01	9.09 %

Out of 11 Benign oral cavity lesions 63.63 % were papilloma, 18.18 % were Granuloma pyogenicum

Table 5: Overall distribution of Malignant oral cavity lesions

Oral cavity lesions	Frequency n=24	Percentage
Squamous cell carcinoma	16	66.66 %
Adenosquamous carcinoma	03	12.5 %
Verrucous carcinoma	05	20.83 %

Out of 24 Malignant oral cavity lesions 66.66 % were Squamous cell carcinoma, 20.83 %were Verrucous carcinoma

DISCUSSION

In this study 50 specimens of lesions of oral cavity were included.15 were non neoplastic oral cavity lesions, 11 were Benign oral cavity lesions and 24 were Malignant oral cavity lesions. 29 were males and 21 were females. 30% lesions were on Tongue, 38% on buccal mucosa. Out of 15 non neoplastic oral cavity lesions 53.33% were Chronic inflammatory lesions, 13.33 %were Tubercular pathology. Out of 11 Benign oral cavity lesions 63.63 % were papilloma, 18.18 % were Granuloma pyogenicum. Out of 24 Malignant oral cavity lesions 66.66 % were Squamous cell carcinoma, 20.83 %were Verrucous

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carcinoma. 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 and conditions caused by the use of tobacco in some form. 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.[11,12] Chewing tobacco, smoking and consumption of alcohol have become common social habits in India. 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. 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.[13] Oral cavity is easily accessible to examination, so early diagnosis of pre-cancerous and cancerous lesions can be detected much easily. However, the most important step is preventing the use of tobacco or its products. Various research techniques have been used to increase the sensitivity and specificity of detection of oral lesions especially malignancy but all have their own limitations. These diagnostic tests include - Toluidine blue staining, oral brush cytology, tissue reflectance, narrow emission tissue fluorescence, tumour markers and molecular diagnostic techniques.[14,15] Oral cavity lesions include a wide spectrum of lesions ranging from tumour like lesions to benign and malignant tumours. Our study concluded that squamous cell carcinoma was the most common malignant lesion of oral cavity. Histopathology is an important tool in the diagnosis and management.

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. Any mass lesions especially in the oral cavity should be biopsied to rule out malignancy. A detailed clinical workup with histopathology study can help in diagnosing most of the oral cavity epithelial precursor lesions. This potentially reduces the morbidity and mortality arising out of subsequent malignant transformation.

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