

RESEARCH ARTICLE

CLINICOPATHOLOGICAL SPECTRUM OF BENIGN ORAL CAVITY LESIONS

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Abstract

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Key words:-

Benign Lesions, Oral Cavity, Histopathology **Background:**Oral lesions can closely resemble one another and hence it is important for the clinicians to be able to recognize the various conditions and if possible obtain a biopsy for a confirmatory pathological diagnosis.

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Aim:To study the type of common benign lesions of the oral mucosa and to evaluate the concordance of clinical and histopathological diagnosis.

Materials And Methods:A retrospective study was carried out in a tertiary care hospital in South Bangalore during the period of two years from June 2016 to May 2018. The study included 50 cases of benign lesions of the oral cavity. The following parameters were analyzed age and sex distribution of the lesion, site of the lesion, clinical presentation and histopathological diagnosis. Data collected were analyzed.

Results: Among the 50 cases, the age ranged from 6 to 70 years with a mean of 30.3 years. Most of the patients were females (68%) in their 3rd decade. The sites of involvement of various lesions were labial mucosa with lower lip more commoner than upper lip, followed by tongue, buccal mucosa and maxillary alveolus. The various clinical diagnosis of the lesions were mucus retention cyst, papilloma and pyogenic granuloma. Excision biopsy of these lesions confirmed most cases of mucus retention cyst, pyogenic granuloma and few cases of papilloma on histopathological examination. Rest of the cases were extravastion cyst, fibromyxoma, actinomycosis, lobular capillary hemangioma, hamartoma, angiolymphoid hyperplasia with eosinophils and keratosis without atypia.

Conclusion:Benign lesions of the oral cavity mimic each other. Histopathological typing of the lesions is mandatory to rule out malignancy and for a definitive and a confirmatory diagnosis.

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Introduction:-

The oral cavity is one of the most common sites for tumor and tumor like lesions but they are usually asymptomatic.Etiologicalfactors predisposing to the lesions are poor oral hygiene, ill-fitting dentures, smoking, malposition,harmful habits and mechanical irritation ^[1]. The association between tobacco chewing and cigarette smoking with both benign and malignant has already been proven ^[2]. Each lesion has its own characteristics and vary in the presenting features but due to similarities in clinical presentations and multiple manifestations, there could be errors in clinical diagnoses ^[3]. Therefore, the diagnosis of oral lesions is established by clinical, radiological and histopathological examination amongst which histopathological examination is considered as the gold standard.^[1,3].

This study was performed to analyze the frequency and spectrum of benign oral cavity lesions and note the accuracy of clinical diagnosis in comparison with histopathological diagnosis.

Materials And Methods:-

This is a retrospective study of 2 years duration, from June 2016 to May 2018donein the Department of Pathology at a Tertiary care hospital, Bengaluru, India. The study comprised of 50 patients who presented with lesions of the oral cavity to the departments of Surgery and ENT. The details of clinical history and physical examination were retrieved from the patient records. The following parameters were analyzed for the study- age, gender, site of the lesion, presenting features and histopathological diagnosis. All the biopsy specimens of oral mucosal lesions were included in the study. On histopathology, only benign lesions were considered for the study. Data collected was analyzed with SPSS software version 20.

Results:-

The present study comprised a total of 50 cases. The age of the study group ranged from 6 to 70 years where the mean age was 30.3 years and the most affected age group was 30-40 years. Out of 50 cases, 16 (32%) were males and 34 (68%) were females with Male: Female ratio of 1:2.1. The sites of involvement of various lesions included were labial mucosa among which Lower lip was 18 (36%) and upper lip was 6 (12%), tongue 19 (38%), buccal mucosa 8 (16%) and maxillary alveolus 1(2%) (Fig 1).



Fig 1:- Graphical representation showing the sites of oral cavity lesions.

Among the clinical diagnoses of the lesions included in the study, most common one was mucus retention cyst (44%), followed bypapilloma (34%),pyogenic granuloma (16%) and miscellaneous cases totally comprising of 6% which included 1 case each of dentigerous cyst, suspicious of cysticercosis and neurofibroma.

Most of these cases presented clinically as a grey-white nodule or a reddish growth on the respective sites.

On histopathological analyses, among the 22 cases which presented as cystic to solid lesions ranging in size from 1.2-2 cms, were all clinically diagnosed as mucous retention cysts. However, on histopathology, 16 were confirmed

as mucus retention cysts, whereas 3 were extravasation cysts, 2 cases were reported as fibromyxoma and 1 case as actinomycosis.

Extravasation cysts of the oral cavity also are cystic lesions whereas fibromyxoma presents more or less as a solid nodule. Actinomycosis being a normal oral commensal, on rare occasions can present as a mass lesion as in our study.

The next most common clinical diagnosis was papilloma (17 cases) out of which, 7 cases were histopathologically confirmed whereas 4 were hamartomatous polyps, 2 were fibroepithelial polyps, 2 were lobular capillary hemangioma and 2 were keratosis without atypia.

8 cases were clinically diagnosed as pyogenic granuloma and confirmed histopathologically.

One case presented with growth on the upper alveolar sulcus and the patient had bad oral hygiene with caries of the upper molar tooth. This case was clinically suspected as cysticercosis and the lesion was excised and sent for histopathological examination. This case was diagnosed as angiolymphoid hyperplasia with eosinophilia. Another case clinically diagnosed as neurofibroma and was confirmed as hamartoma on histopathology.

PRE-BIOPSY CLINICAL DIAGNOSIS	POST-BIOPSY DIAGNOSIS
Mucous retention cyst-22	Mucous retention cyst-16 Extravasation cysts-3 Fibromyxoma-2 Actinomycosis-1
Papilloma-17	Papilloma-7 Hamartomatous polyp-4 Fibroepithelial polyp-2 Lobular capillary hemangioma-2 Keratosis without atypia-2
Pyogenic granuloma-8	No variation
Cysticercosis-1	Angiolymphoid hyperplasia with eosinophilia-1
Neurofibroma, Dentigerous cyst	Hamartoma- 2

Table 1:- Comparison of pre- biopsy and post- biopsy diagnoses.

Discussion:-

This retrospective study was done to analyze the accuracy between the pre-biopsy and post- biopsy diagnosis and note spectrum of various benign oral cavity lesions. In our study, the age ranged from 6 to 70 years with a mean age of 30.3 years. The peak incidence of oral cavity lesions was between 3^{rd} -4th decade and females had predominant distribution in comparison to males. While in, Agarwal et al ^[2] had an age range from 8-80 years, mean age was 40.16 years, peak incidence was 40-49 years and men had oral lesions more frequently than in females.

The most common site affected was labial mucosa followed by tongue, buccal mucosa and maxillary alveolus while in Parikh et al ^[8] the most common site was tongue followed by buccal mucosa, labial mucosa and other regions. Similarly, Agarwal et al ^[2] reported tongue followed by tonsil and buccal mucosa as the main sites involved.

The accuracy of pre- biopsy diagnosis and histopathological diagnosis of mucus retention cyst was 72.73% where clinically it presented as round cystic lesion(Fig 2a), microscopically it is seen as mucous filled cyst completely lined by cylindric, cuboidal or flattened epithelium. Rest were extravasation cyst in which due to spillage of mucous there is a focal stromal reaction and granulation tissue is present ^[9]. Fibromyxoma also called as odontogenic myxoma is usually seen in 2-3rd decade may be associated with malformed or missing teeth.Microscopically, this lesion is infiltrative with highly myxoid, hypocellular and devoid of atypia ^[10]. Actinomycosis(Fig 2b) is a common oral lesion in immunocompromised hosts because, Actinomycetes is one among the endogenous flora of oral cavity. It presents clinically as abscess and occurs due disruption of membrane leading to infection.



Fig 2a:- Clinical image showing Mucous retention cyst.



Fig 2b:- Photomicrograph showing Actinomycosis where ill formed blue colonies are noted (H&E, *10x).

The accuracy of cases being clinically and histopathologically diagnosed as papilloma was 41.18%. Clinically (Fig 3a)it presented as grey white exophytic growth and it is mostly associated with HPV 2,4,6,11,13 and 32 strains and

microscopically, there is papillary proliferation of stratified squamous epithelium, hyperplasia is limited to basal layers. Hamartoma is a tumor like malformation composed of mature normal cells is usual location but as disorganized mass. Fibroepithelial polyp may present as a grey tan solid nodule with keratin grossly and microscopically composed fibrous connective tissue^[9]. Lobular capillary hemangioma(Fig 3b) is benign proliferation of capillaries^[11]. Keratosis without atypia is also one among benign oral lesions where there is hyperkeratosis of stratified squamous epithelium without any atypical features.



Fig 3a:-Clinical image showing Papilloma.



Fig 3b:- Photomicrograph showing Lobular capillary hemangioma (H&E, *40x).

Cases clinically and histopathologically diagnosed as pyogenic granuloma presented as red/pink smooth/ lobulated polypoid mass.Pyogenic granuloma is a benign vascular soft tissue proliferation, mostly found on anterior maxillary gingiva. It is associated with poor oral hygiene, chronic trauma, pregnancy and medications. This lesion usually mimics pregnancy. Microscopically, vascular proliferation, edema and inflammation were noted (Fig 4a and 4b)^[9].



Fig 4a:- Clinical image showing Pyogenic granuloma.



Fig 4b:- Photomicrograph showing Pyogenic granuloma (H&E, *10x).

A rare case where clinically suspected to be cysticercosis(Fig 5a)was histopathologically diagnosed angiolymphoid hyperplasia with eosinophilia (Fig 5b) also known as epithelioid hemangioma. Microscopically, a central area of proliferated blood vessels is infiltrated and surrounded by heavy inflammatory infiltrate rich in eosinophils and containing lymphoid follicles with germinal centres^[11].



Fig 5a:- Clinical image showing suspected case of Cysticercosis.



Fig 5b:- Photomicrograph showing Angiolymphoid hyperplasia with eosinophilia (H&E, *40x).

Conclusion:-

The various mucosal lesions affecting the oral cavity can have varied presentations ranging from grey white plaque like lesions to cystic and solid grey white nodular growths. The most common lesion in our study was mucous retention cyst. Pyogenic granuloma presents as grey brown nodular growth which is rarely missed on clinical diagnosis. Clinical examination alone cannot be confirmatory always, hence, it is advisable to have a histopathological examination of the lesion for a confirmatory diagnosis.

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