

HISTOPATHOLOGICAL RESCUE IN DIAGNOSIS OF CLINICALLY SIMILAR FIBROMATOUS LESIONS OF THE GINGIVA-CASE REPORTS

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ABSTRACT:

Fibromatous lesions of the gingiva are among the most common group of lesions in the oral cavity. The fibromas and inflammatory hyperplasia which accounts for majority of lesions may appear clinically and histologically similar, however with few histological differences. Both these lesions are reactive but there is a controversy to whether the fibromas are reactive or neoplastic. For conclusive differential diagnosis of these lesions Biopsy and Histopathology plays an important role. Hence we are reporting two cases of fibrous gingival lesions with differential diagnosis.

INTRODUCTION:

The oral mucosa is subjected to both external and internal stimuli and spectrums of diseases are manifested that range from developmental, reactive, inflammatory and neoplastic. Reactive hyperplastic lesions are the most frequently encountered oral mucosal lesions [1] These lesions represent a reaction to irritation or low-grade injury like mastication, food impaction, calculus, fractured teeth, overextended flanges of dentures, overhanging dental restorations. Diagnosis of each lesion is aided by their clinical and radiographic features, but histopathology is the key for final diagnosis.[2]

Fibromas are considered to be the most common benign soft tissue growth in

the oral cavity. (3)They may arise from the gingival connective tissue, or from the periodontal ligament. They are slow growing spherical tumors, that tend to be firm and nodular but may be soft and vascular. (4)The lesion may be pedunculated or sessile, and occurs frequently on the gingival or buccal mucosa.

The term “ focal fibrous hyperplasia “ as suggested by Daley et al 1990 which implies a reactive tissue response is preferable to the term fibroma which implies incorrectly a benign neoplastic proliferative fibrous connective tissue. (5)

The lesion presents as painless, sessile, round or ovoid, broad based swelling, lighter in colour than

surrounding tissue, due to a reduced vascularity. (6)The surface may be ulcerated and diameter varies from 1mm to several centimetres. Treatment of the fibroma involves surgical excision and recurrences are very infrequent. It is usually solitary and seldom larger than 1.5cm.

Irritation fibroma or traumatic fibroma is a common submucosal response to trauma from teeth or dental prosthesis and was first reported in 1846, as fibrous polyp. Different types of local reactive lesions such as, pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma may also occur on the gingiva. The causative etiology for these lesions can be attributed to the local irritants like plaque, calculus, over hanging margins, trauma and dental appliance. (7, 8)

Fibroma is the most common tumor of the oral cavity but it represents most likely as a reactive hyperplasia of fibrous connective tissue in response to local trauma. This local trauma may be single episode or repeated less severe episodes. Apart from commonly occurring irritation or traumatic oral fibroma (reactive hyperplasia), there is another type of fibroma called true fibroma. True fibroma of oral and maxillofacial areas occurs infrequently. (9) The true fibroma is a continuously enlarging new growth not necessarily arising at a site of potential trauma. (10)A fibroma may occur at any

oral site but it seen most often on the buccal mucosa along the plain of dental occlusion. At times it may also occur on the gingiva or tongue. It is found in 1.2% of adults and as a 66% female predilection .one retrospective analysis of gingival biopsy lesion ,revealed that the occurrence of irritation fibromas among the south Indian population was 39.1% .(11)

CASE REPORT:

A 19 yr old male patient reported to the Department of Periodontics, Rajah muthiah dental college and hospital with a cheif complaint of “swelling in the lower left gum region, “(figure 1). The patient was systemically healthy, with no relevant medical & family history. The lesion was painless and no history of bleeding on digital pressure. His OHI’S score was fair and is 2.8.

SOFT TISSUE EXAMINATION:

There was a lesion on the buccal side of the marginal and attached gingiva in relation to right mandibular second molar (fig1) of size 1*1.5 cm oval in shape pink in colour mildly erythematous, firm in consistency, (fig3) which is extending mesiodistally from the mesial side of the marginal and attached gingiva of 37 to the interdental papilla of 37, 38 and supero inferiorly extending from the middle third of the crown of 37 to the marginal and attached gingiva of 37. (fig2)



FIG: 1



FIG: 2



FIG: 3



FIG: 4

INVESTIGATIONS:

An Intra oral Radiograph of the area revealed no bony involvement, blood investigations revealed normal hemogram.

TREATMENT:

Phase – 1 therapy:

Initial phase I therapy: supra and subgingival scaling using ultrasonic scaler was performed. Evaluation was done 3 weeks after phase I therapy and there was no regression in the size of the lesion.

Surgical phase:

An excisional biopsy under local anesthesia 2% lignocaine was performed using scalpel blade no: 15 & kirkland knife. The lesion was surgically excised along with the pedunculated stalk. (Fig 5) The excised site was then irrigated with betadine saline. The lesion was put in a 10% formalin solution for histopathological examination. Post surgical instructions were given to the patient. Antibiotics (amoxycilin 500 mg 3 times a day for 5 days) & analgesics were given to the patient.



FIG: 5

The excised lesion along with the pedunculated stalk on one month follow up the area was healing well, and there was no discomfort for the patient.

HISTOPATHOLOGY:

Histopathology revealed two bits of tissue, one bit exhibited hyperplastic parakeratinized stratified squamous

epithelium and connective tissue core, central area of highly cellular exhibiting plenty of plump fibroblast with large oval nuclei & indistinct cytoplasm, numerous blood capillaries and lympho plasmacytic infiltrate is seen . The periphery shows hyalinization. (Fig 6)

The second bit exhibited central hypercellular area and peripheral hyalinization along with hyperplastic surface epithelium. Histopathology is suggestive of fibroma. (Fig 7, 8)

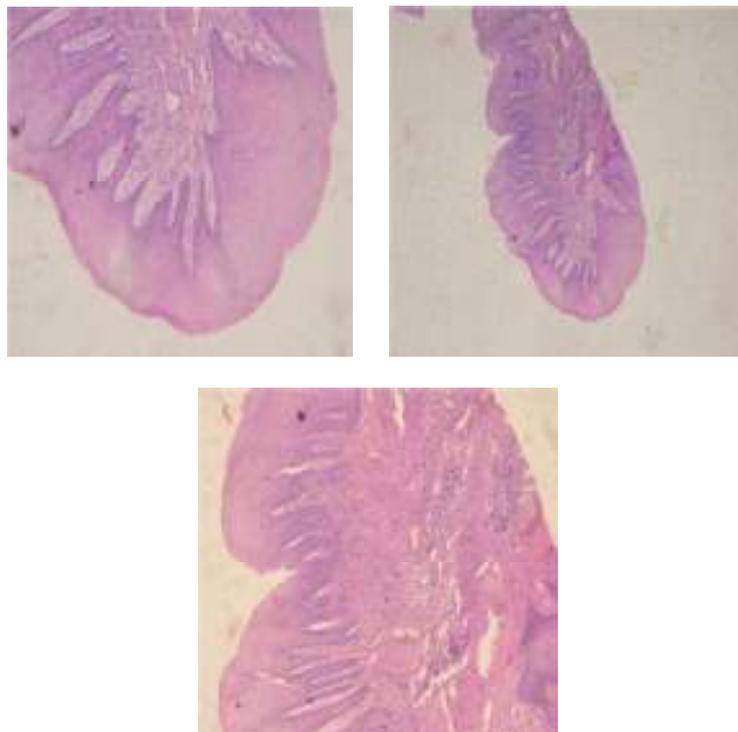


FIG 6, 7 & 8: HISTOPATHOLOGICAL VIEW.

CASE REPORT 2:

A 56 year old female patient reported to the department of periodontics with the chief complaint of gingival overgrowth in the lower anterior region for the past one month. Her medical and family history were not contributory. Her dental history revealed excision of gingival growth in the same region, before 6 months.

Her OHI –S status was fair .On soft tissue examination ,a smooth shiny, sessile

growth, firm in consistency, roughly oval in shape, of size 1x1.5cm superoinferiorly extending from the middle 3rd of the crown s of 32,33 to the attached gingiva of 32,33 ,anteroposteriorly it extends from the interdental marginal and attached gingiva of 31,32 to interdental marginal and attached gingival of 32,33. fig(9,10)

Hard tissue examination showed crowding in relation to the lower anterior region with proximal caries in relation to 31,32,41,42. (Fig 11)



FIG: 9



FIG:10



FIG:11



FIG:12



FIG:13



FIG:14



FIG:16



FIG:17



FIG:18

INVESTIGATIONS:

An Intra oral Periapical Radiograph of the area showed proximal caries in relation to 31,32,41,42. Root caries in relation to 31,32 with periapical lesion. Blood investigations revealed normal hemogram.

TREATMENT:

Phase – 1 therapy:

Initial phase 1 therapy: supra and subgingival scaling using ultrasonic scaler was performed

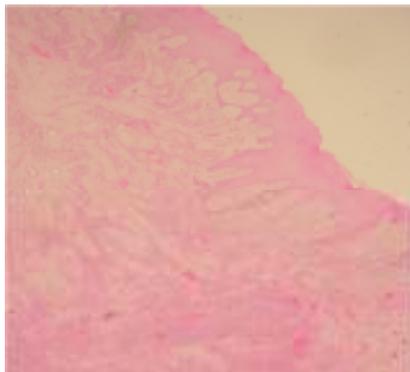
Surgical phase:

Under local anesthesia, using lignocaine Hcl 2% two vertical releasing incisions, distal to 32 and 41 were given. Crevicular incisions were made and the lesion is excised both buccally and lingually. (Fig 12,13,14) Then 31,32 along with root caries is extracted. Betadine saline irrigation done. Margins are approximated and sutures placed using 3 0" Black silk. (fig 15,16) The excised tissues are put in 10% formalin and sent for histopathological examination.



HISTOPATHOLOGY:

Histopathology of the specimen exhibited multiple sections showing hyperplastic parakeratinized stratified squamous epithelium and fibrous connective tissue core. The connective tissue showed plenty of chronic



inflammatory cell infiltration along with numerous blood vessels and sprouting endothelial cells. Surface also showed areas of ulceration and presence of fibrino purulent exudates and numerous neutrophils. Few calcifications are also noted suggestive of inflammatory fibroepithelial hyperplasia.

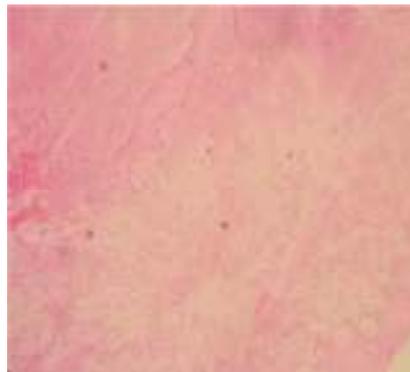


FIG: 19, 20: HISTOPATHOLOGICAL VIEW

DIFFERENTIAL DIAGNOSIS:

Peripheral giant cell granuloma, peripheral ossifying fibroma, pyogenic granuloma, papilloma, gingival cyst are considered as differential diagnosis.

DISCUSSION:

The peak occurrence of fibroma is in the second decade and declining incidence after third decade of life. In our first case fibroma occurred in second decade of life.

Fibroma occurs most frequently in females than in males between third and fourth decade of life suggesting hormonal influences.

It usually measures less than 1.5cm and rarely reaches more than 3cm in diameter. But lesions of 6cm & 9cm have also been reported. The reported cases were of 1x1.5cm.

Hyperplastic reactive gingival lesions including inflammatory gingival hyperplasia were the most common lesions according to a recent study.

Chronic trauma can induce inflammation, produces granulation tissue with endothelial cells and chronic inflammatory cells and, fibroblasts proliferate and manifest as an overgrowth called reactive hyperplasia.

Reactive gingival lesions have been classified into pyogenic granuloma,

fibrous hyperplasia, peripheral fibroma with calcification (Kifir et al).

Fibroma is found to be the most common non neoplastic growth in the oral cavity. It has been known as Irritation fibroma, irritational fibroma, Traumatic fibroma, Fibrous hyperplasia, localized hyperplasia, fibrous polyp, fibroepithelial polyp.

Recurrences are infrequent but in the second case it might have recurred due to incomplete excision of the tissue or incomplete elimination of the tissue.

Epithelial changes correlate with the lesion's age and degree of inflammation. Fibroepithelial hyperplasias when inflamed are covered by uniformly hyperplastic epithelium, with arched rete pattern and identification of any reactive hyperplastic gingival lesion when ulcerated. The lesions are collagenous, composed of mature fibrous tissue with prominent vascular pattern.

The etiology, clinical features, signs and symptoms are similar for both the lesions except for histopathological features.

The periphery of the fibroma usually has a layer of collagen fibers with parallel arrangement, simulating a fibrous capsule. In contrast, inflammatory hyperplasia displays parallel collagenous fibers in different portions of the lesions. Since inflammatory hyperplasia is a reactive lesion involving connective and epithelial tissues, the presence of abundance of inflammatory cells is a distinctive microscopic feature that is

helpful in differentiating fibroma and inflammatory fibrous hyperplasia.

Most of these gingival lesions arise on the gingiva, reflecting universal presence of inflammation in the interdental papilla which may be exaggerated by intensity of irritation, duration of lesion and metabolic effects of serum concentrations of hormones mostly female hormones.

Fibroepithelial hyperplasias are reactive/inflammatory conditions and these mucosal responses to low grade irritation caused by plaque and calculus or any other irritant. Both the cases fibroma developed because of the local irritants.

CONCLUSION:

The clinical presentation of fibroma is similar to pyogenic granuloma. So a histopathological examination is needed for accurate diagnosis.

There is a chance of transformation into neoplasia when it involves both the epithelial and the connective tissue origin.

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