Peripheral Ossifying Fibroma: A Case Report.

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Abstract
Gingival growths are one of the most frequently encountered lesions in the oral cavity. Most of these lesions are innocuous, but some do have malignant potential. Different lesions with similar clinical presentations make it difficult to arrive at a correct diagnosis. One of the infrequently occurring gingival lesions is Peripheral Ossifying Fibroma (POF). Lesions with histological features similar to POF have been given various names, adding to the confusion. POF is a common solitary gingival overgrowth thought to arise from the gingival corium, periosteum and periodontal ligament(PDL).This article presents a case of Peripheral Ossifying Fibroma in a 19 year old female patient.
Keywords: Peripheral ossifying fibroma, Gingival overgrowth, Fibroma.

Introduction

Localised gingival overgrowths are one of the most common lesions encountered in day-to-day clinical practice. These lesions as a group represent the most common oral lesions excluding the caries, periodontal and periapical inflammatory disease. Most of these lesions, such as irritational fibroma, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma, are innocuous and rarely present with aggressive features.[1]

One of the infrequently occurring gingival lesions is Peripheral Ossifying Fibroma (POF). Peripheral ossifying fibroma is a focal, reactive, non-neoplastic tumor-like growth of the soft tissue that often arises from the interdental papilla.[2]

Synonyms of POF are peripheral cementifying fibroma, calcifying or ossifying fibroid epulis, and peripheral fibroma with calcification. These lesions may arise as a result of irritants such as trauma, microorganisms, plaque, calculus, faulty restorations, and dental appliances. In the majority of cases, these lesions are the result of trauma or chronic irritation.[3,4]

The purpose of this article is to present a case of POF and briefly review the current literature on this condition.

Case Report

A 19 year old female patient reported to our Department with the complain of swelling of the gums of lower front tooth since 3 months. She noticed a small swelling of the gums of lower right front tooth 3 months back which gradually increased to the present size. It was painless to start with but she was having dull pain since 1 week. There was no associated tooth pain or mobility. There was no history of trauma, bleeding/ pus discharge from the region.

Her medical and personal history were non-significant.

Intra oral examination revealed a solitary sessile nodular swelling seen involving the interdental papilla in relation to 42 and 43, measuring approximately 0.8 x 0.6cm in size in its greatest dimension extending 2mm below the marginal gingiva of 42 till the junction of middle and incisal third of 42, and mediolaterally extending over the lateral half of 42 and mesial half of 43. The swelling had well-defined borders and the surface mucosa was smooth, glossy with no surface ulcerations. The lesion was pale pink in color blending with an erythematous periphery.

On palpation, the inspectory findings were confirmed. The swelling was firm in consistency, non-compressible, non-fluctuant and mildly tender on palpation. It was seen to be arising from the interdental gingiva between 42 and 43. No migration or mobility of teeth was noted and there were no periodontal pockets. There was no pus discharge or bleeding on probing.

A provisional diagnosis of Peripheral Ossifying Fibroma irt 42,43 was given.

Pyogenic granuloma, Fibroma and Peripheral odontogenic fibroma were considered in differential diagnosis.

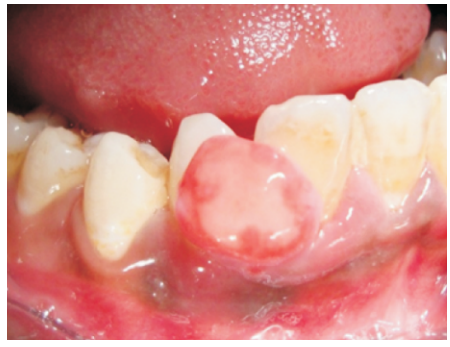

Figure 1: A solitary, sessile nodular swelling seen involving the interdental papilla in

relation to 42 and 43

Investigations

IOPAR

Radiological Findings

Intra oral periapical radiograph i.r.t 42 and 43 reveals the presence of a faint radiolucent lesion with ill-defined borders superimposing the bony architecture between 42 and 43 extending apically till the junction of middle and apical third of the roots. Widening of the periodontal ligament space in relation to cervical one-third of 42 and mesial aspect of 43. Horizontal alveolar bone loss noted with level of alveolar crest about 2-3mm apical to CEJ. No areas of radiopacity noted within the lesion.(fig 2).

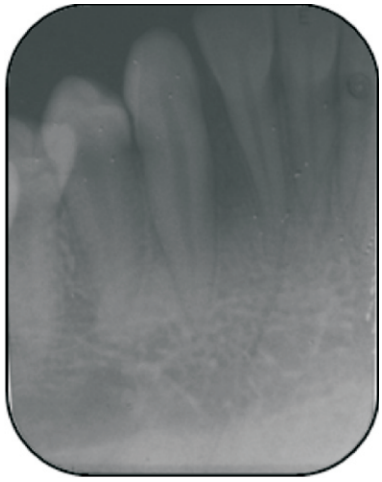

Figure 2: IOPAR irt 42,43 showing mild crestal bone loss

Histopathological Investigation- Excisional biopsy

Histopathological Findings

Section reveals the presence of stratified squamous epithelium overlying connective tissue. Epithelium is parakeratinised stratified squamous epithelium showing elongated rete ridges and is hyperplastic in some areas. Connective tissue exhibits highly cellular fibrous tissue with plump fibroblasts interspersed with variable amounts of irregular calcifications and some blood vessels with engorged RBCs and inflammatory cells. The areas surrounding calcifications shows marked cellularity.(fig 3) Features suggestive of peripheral ossifying fibroma.

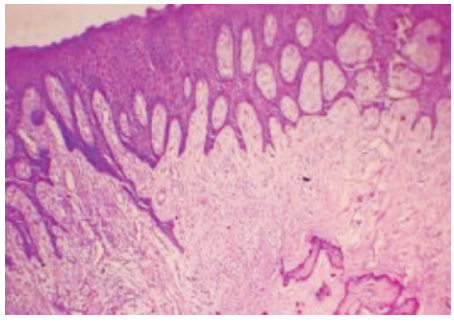

Figure 3: Connective tissue exhibiting highly cellular fibrous tissue

Final Diagnosis

On the basis of clinical. radiological and histopathological findings, a final diagnosis of Peripheral Ossifying Fibroma irt 42,43 was given.

Treatment

Excisional biopsy was done.

Discussion

Menzel first described the lesion ossifying fibroma in 1872,but its terminology was given by Montgomery in 1927[5]

In 1982, Gardner coined the term Peripheral Ossifying Fibroma for a lesion that is reactive in nature and is not the extraosseous counterpart of a Central Ossifying Fibroma (COF) of the maxilla and mandible.[4]

Ossifying fibroma occurs mostly in craniofacial bones and categorized into two types central and peripheral. The central type of ossifying fibroma arises from the endosteum or the periodontal ligament (PDL) adjacent to the root apex and expands from the medullary cavity of the bone, and the peripheral type occurs on the soft tissues overlying the alveolar process.[5]

POF is a solitary, slow growing nodular mass that is either pedunculated or sessile. Most often it is located in the gingival papilla between adjacent teeth[3]

The POF is a focal, reactive, non-neoplastic tumour-like growth of soft tissue often arising from the interdental papilla. It is a fairly common lesion, comprising nearly 3% of oral lesions biopsied in 1 study, approximately 1%–2% in other studies. In 1993, Das and Das obtained similar results, with 1.6% POFs among 2,370 intraoral biopsies.[1]

POF accounts for 3.1% of all oral tumors and 9.6% of gingival lesions. This condition affects both genders but has been reported to occur at a higher rate in females. Whites (71%) are more frequently affected than blacks (36%). POF may occur at various ages, but exhibits a peak incidence between the second and third decade.[2]

The etiology of POF is unknown. However, trauma or local irritants, such as dental plaque, calculus, ill-fitting dental appliances, and poor quality dental restorations, play a significant role in the etiology and pathogenesis. Inflammatory hyperplasia originating in the superficial periodontal ligament (PDL) is considered to be a factor in the histogenesis of the POF and Miller et al have enumerated findings supportive of a PDL origin. These findings include the exclusive occurrence on the gingiva, the proximity of gingiva to PDL, and the inverse correlation of age distribution of lesions with the number of lost teeth and their corresponding PDL. Furthermore, high female predilection, rare occurrence in the first decade, and decline in incidence after age 30 suggest that hormonal influence may be a lesional growth factor.[6]

Migration of teeth with interdental bone destruction has been reported in some of the case. In vast majority of cases, there is no apparent underlying bone involvement visible on the roentgenogram. However, superficial erosion of bone is noted occasionally[7]

Clinically, POF appears as a solitary nodular mass that is either pedunculated or sessile. The surface mucosal color ranges from red to pink, and the surface is frequently ulcerated. The mass usually arises from the interdental papilla. Lesions occur slightly more frequently in the maxillary arch (60%) and the incisor cuspid region (50%).[8]

POF lesions usually measure less than 1.5 cm in diameter, but lesions with 6 cm and 9 cm diameters have been reported.[9] POF can cause tooth separation, delayed tooth eruption or tooth migration.[10]

Radiographically, POF can appear as diffuse radiopaque calcification, but not all lesions exhibit these characteristics. Radioopaque foci of calcifications have been reported to be scattered in the central area of some lesions. Underlying bone involvement is usually not visible on a radiograph. In rare instances, superficial erosion of the bone is noted. Occasionally, these lesions are associated with bone destruction.[10,11]

POF is definitively diagnosed through a histopathological examination. The histopathological examination usually shows the following features: 1) benign fibrous connective tissue with varying fibroblast, myofibroblast and collagen content, 2) sparse to profuse endothelial proliferation, and 3) mineralized material that may represent mature, lamellar or woven osteoid, cementum-like material, or dystrophic calcifications. Acute or chronic inflammatory cell infiltration can also be observed in these lesions.[12]

Treatment of these lesions is complete surgical excision. Proper excision and aggressive curettage of the adjacent tissues is required for prevention of recurrence. The recurrence rate of POF has been considered high for reactive lesions and it probably occurs due to incomplete initial removal, repeated injury or persistence of the local irritants.[9,14]

Early surgical treatment of the POF, including removal of the etiological factor is required to obtain satisfactory gingival repair and minimize possibility of recurrence.[11]

Conclusion

Since the clinical properties of POF are nonspecific, the diagnosis of the POF with only clinical examination is very difficult to differentiate between most of the reactive gingival lesions particularly in the initial stages and the tissue has to be histologically examined for confirmation. In addition to the clinical examination, radiological examination of the lesion area and histopathological examination of the surgical specimen are mandatory for an accurate diagnosis. Also, close postoperative follow- up is required because of the high recurrence rate.

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References

Refernces are available on request at editor@healtalkht.com