Case Report: Dental Science

Peripheral cemento-ossifying fibroma : Rare case presentation

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ABSTRACT

Peripheral cemento-ossifying fibroma is a relatively rare tumour classified between fibro osseous lesions. It predominantly affects adolescents and young adults, with peak prevalence between 10 and 19 yrs. There is a definite female predilection and almost 60% of the lesions occur in the maxilla. Trauma or local irritation such as dental calculus, ill-fitting denture appliances and faulty restorations are known to precipitate the development of this lesion. Such a lesion can either interfere with normal tooth eruption or become a factor in plaque development, which usually results in caries formation in newly erupted teeth. The present report describes a case of Peripheral cemento ossifying fibroma PCOF in a 21 year old female with a mass on the lower left posterior lingual gingiva.

KEYWORDS: PCOF, fibroosseous, Trauma

INTRODUCTION

Among the fibrous growths' many of them originate from underneath the periodontium as similar to peripheral cemento-ossifying fibroma (PCOF). PCOF is an example of such a occasionally arisingl growth on the gingiva. Peripheral cemento-ossifying fibroma (PCOF) accounts for 3.1% of all oral tumors and for 9.6% of gingival lesions .[1] PCOF affects both genders but a higher predilection for females has been reported .[2] With respect to race, there is a predominance in whites (71%) compared to blacks (36%).[3] It may occur at any age range, but exhibits a peak incidence between the second and third decade.[4] It appears only on the gingiva, more often on the maxilla rather than the mandible, and is frequently found in the anterior area around incisors and canines. The adjacent teeth are usually not affected.[5] Clinically, it manifests as a slow growing gingival mass measuring approximately 2 cm in size and is located in the interdental papilla region. The base may be sessile or pedunculated, the colour is identical to that of gingiva or slightly reddish or the surface may appear ulcerated.[6] PCOF is frequently associated with irritant agents such as calculus, bacterial plaque, orthodontic appliances, ill adapted crowns, and irregular restorations. The mineralized product probably originates from periosteal cells or from the periodontal ligament.[7] Radiographs may show irregular, scattered radiopacities in the lesion.[8]Histologically, the peripheral ossifying fibromas appear as a combination of a mineralized product and fibrous proliferation. The mineralized portion may be bone, cementum-like, or dystrophic calcifications. Additionally, highly developed bone or cementum is more likely to be present when the

peripheral ossifying fibroma has existed for a longer period of time.[5] Diagnosis of the PCOF based only on clinical aspects can be difficult and histopathological examination of the surgical specimen is mandatory for an accurate diagnosis. Recurrence rate of the PCOF has been considered high. In the series of cases report by Cundiff, 16% of the cases recurred, while in a series of 50 cases reported by Eversole and Rovin, the recurrence rate was 20%.[9]

CASE REPORT

A 21 year old female patient reported to the Department of Oral Medicine and Radiology, YMT Dental College and Hospital, Kharghar with a chief complaint of a painful growth in the gums in the lower back region of the jaw since 6-7 months. Patient reported that the growth was initially smaller in size and non tender and gradually increased in size within 7 months . Patient also had difficulty while chewing food since the growth was tender. Medical and family histories were non-contributory. No history of trauma to the face or mouth was reported .On general examination the patient was well oriented in time ,space and person. Extra oral inspection revealed no significant findings.Intra orally there was an ovoid, firm, sessile growth located on the lingual surface of the gingiva in relation to 37region; measuring approximately 1.5cm x 1 cm in size(Figure:I) .

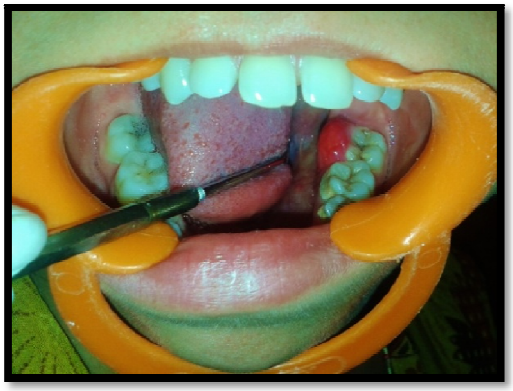

FIG I-OVOID GROWTH

The surface of the gingival growth was ulcerated and the overlying mucosa appeared to be bright red in colour. On palpation, the inspectory findings were confirmed. The mass was firm in consistency, sessile, tender and no bruit or pulse was felt. Periodontal examination showed moderate amount of supra and sub-gingival calculus and a pocket depth of 4mm in relation to 37 region mesiolingually could be probed. Bleeding on probing was

also noted. An intraoral periapical radiograph was take for 36 and 37 region which revealed slight loss of interdental crestal bone FIG II.

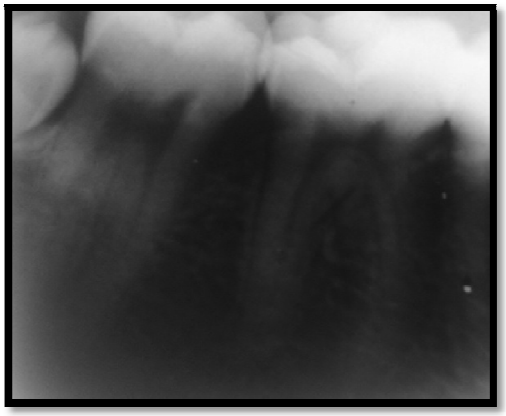

FIG II-IOPA

Based on the clinical and radiographic findings a provisional diagnosis of pyogenic granuloma was given while the differential diagnosis included peripheral giant cell granuloma, pregnancy tumour and peripheral cemento ossifying fibroma. Patient was advised for a complete hemogram and a excisional biopsy was advised thereafter FIG III.

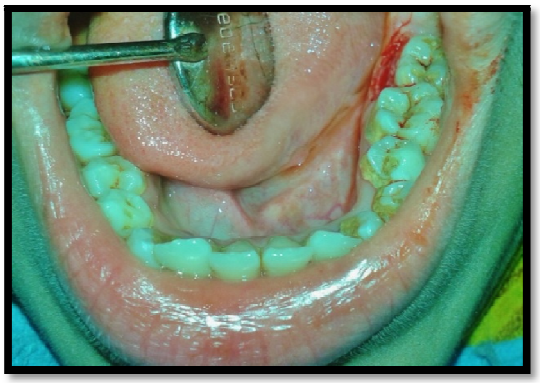

FIG III-EXCISIONAL BIOPSY

The growth was excised and the specimen sent for histopathological examination. The histopathology revealed active, proliferating, spindle shaped cellular fibroblastic stroma noted beneath parkeratotic stratified squamous epithelium. Numerous globular cementoid masses and ossicles were also noted in the section FIG IV.

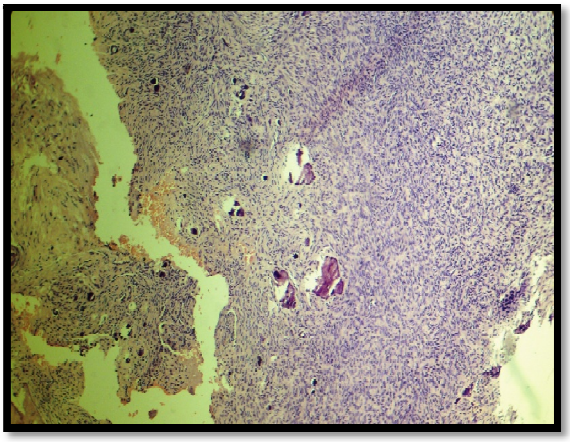

FIG IV -HISTOPATHOLOGY

Based on the findings a final diagnosis of peripheral cemento – ossifying fibroma was made. The healing was uneventful and the patient was followed after a week.FIG V

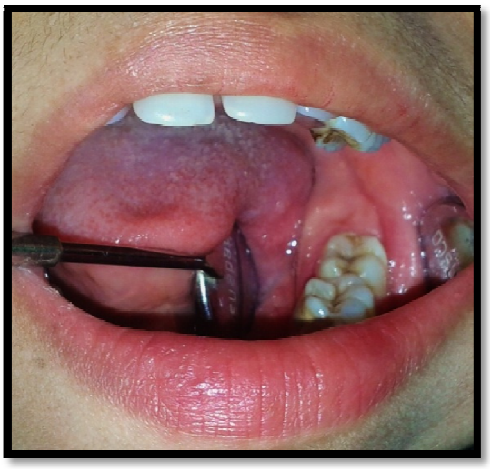

FIG V-FOLLOW UP

DISCUSSION

Peripheral cemento-ossifying fibroma (PCOF) was first described by Menzel in 1827.It has been given many synonyms, such as epulis, calcifying fibroblastic granuloma, peripheral cementifying fibroma, peripheral fibroma with cementogenesis, ossifying fibro epithelial polyp and peripheral fibroma with osteogenesis. [10]Approximately 60% of PCOFs occur in the maxilla and they are found more often in the anterior region, with 55- 60% presenting in the incisor-cuspid region. But in our case it was a rare presentation as it was present in the mandibular posterior region lingually. The lesion represents varying stages of fibrous tissue with ossification, however, ossification or calcification may not be evident in all cases, particularly in earlier stages of growth. Foci of radiopaque material, bone formation or dystrophic calcification may be seen, particularly in large lesions or lesions with overt mineralization.[1,11]

The definitive diagnosis of PCOF is made by histopathological evaluation of biopsy specimens. The

following features are usually observed during microscopic evaluation: 1) benign fibrous connective tissue with varying content of fibroblasts, myofibroblasts and collagen, 2) sparse

to profuse endothelial proliferation, 3) mineralized material which may represent mature, lamellar or woven osteoid, cementum-like material, or dystrophic calcifications. Acute or chronic inflammatory cells can also be identified in lesions.[12] These finding are in accordance with our case report.

CONCLUSION

This report reinforces the importance of arriving at definitive diagnosis in order to provide proper treatment and for adequate monitoring protocols for PCOF. All kinds of diagnosed and excised growths need essentially be supported by histopathologic examination.

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