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Case Report

Peripheral Cemento-Ossifying Fibroma: A Rare Case Report

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ABSTRACT

Peripheral cemento-ossifying fibroma (PCOF) is a reactive neoplasm. It occurs frequently in anterior maxilla comprises 9% of all gingival growths and predominantly affects adolescents and young adults. It most commonly arises from the periosteum/periodontal ligament. A number of factors have been implicated in the pathogenesis of PCOF including trauma and local irritation. The definitive diagnosis of these lesions requires integration of its clinical, radiological and histological features. Because of the high recurrence rate of PCOF, a close postoperative follow-up is required.
In this article, we describe a case of PCOF in maxilla left posterior region in a 35 year old female patient.

Keywords: Peripheral cemento-ossifying fibroma, diagnosis, recurrence, irritation.

INTRODUCTION

Peripheral cemento-ossifying fibromas (PCOF) have been described in the literature since the 1940s. [1] Many names have been given to similar lesions such as epulis, peripheral fibroma with calcifications, peripheral ossifying fibroma, calcifying fibroblastic granuloma, peripheral cementifying fibroma, peripheral fibroma with cementogenesis, and peripheral cemento ossifying fibroma. The sheer number of names used for fibroblastic calcifying gingival lesions indicates that there is much controversy. [1,2]

The aim of this article is to report clinical case of PFCO which be diagnosed at the department of Medicine and Oral Surgery of the Dentistry Clinic of Monastir, Tunisia.

CASE REPORT

A 35-year-old female patient was referred to our department due to gingival lesion in the left side of the alveolar ridge of the maxillary around the second molar. The patient herself hadn't noticed any discomfort prior to the dental appointment and she had neither major systemic problems nor congenital hereditary diseases.

Extraoral examination yielded no abnormal findings on inspection and palpation. Oral examination shows a soft sessile lesion at the left third upper molar region extending to palatal side. The overlying mucosa was inflamed with poor hygiene (figure 1).

Panoramic radiograph show a large unilocular, mixed lesion, not well defined, localized at the left of the maxillary around the third molar dilapidated and extending to the tuberosity and close to maxillary sinus, no evidence of root resorption was seen (figures 2).

Axial cone-beam computed tomography demonstrates a low density mass of the maxilla that include calcified

materials and perforated sinus floor (figures 3, 4, 5).

An incisional biopsy of the lesion was performed for the histopathological examination (figures 6, 7).

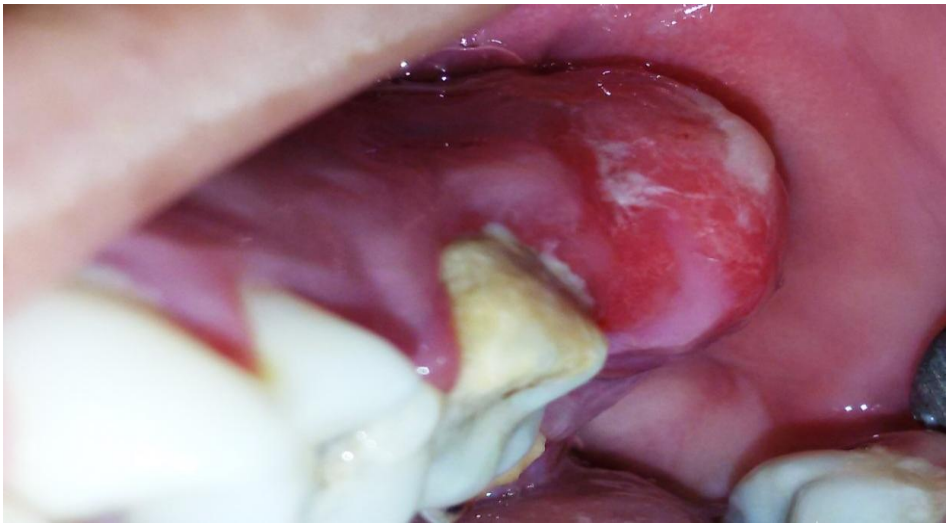

Figure 1: Intraoral Examination.

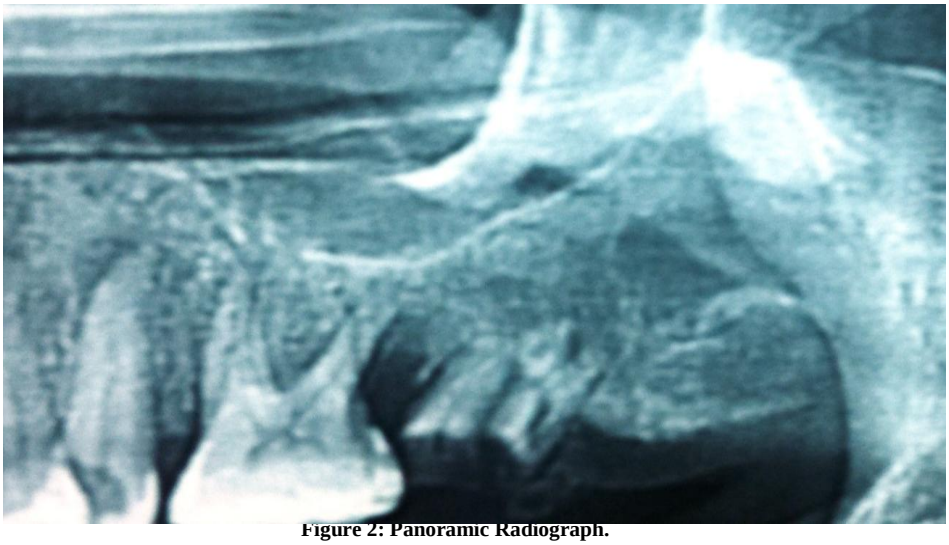

Figure 2: Panoramic Radiograph.

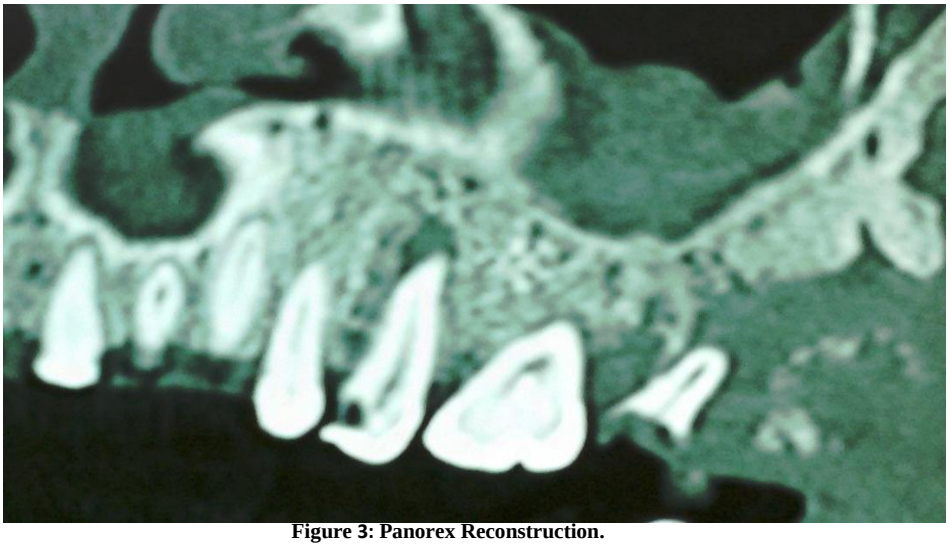

Figure 3: Panorex Reconstruction.

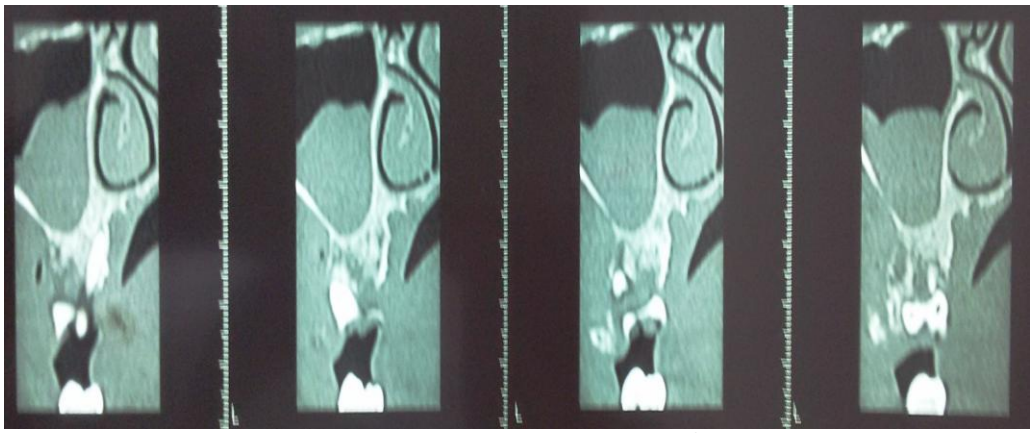

Figure 4: Cone-Beam Computed Tomography (CBCT) of the Maxilla.

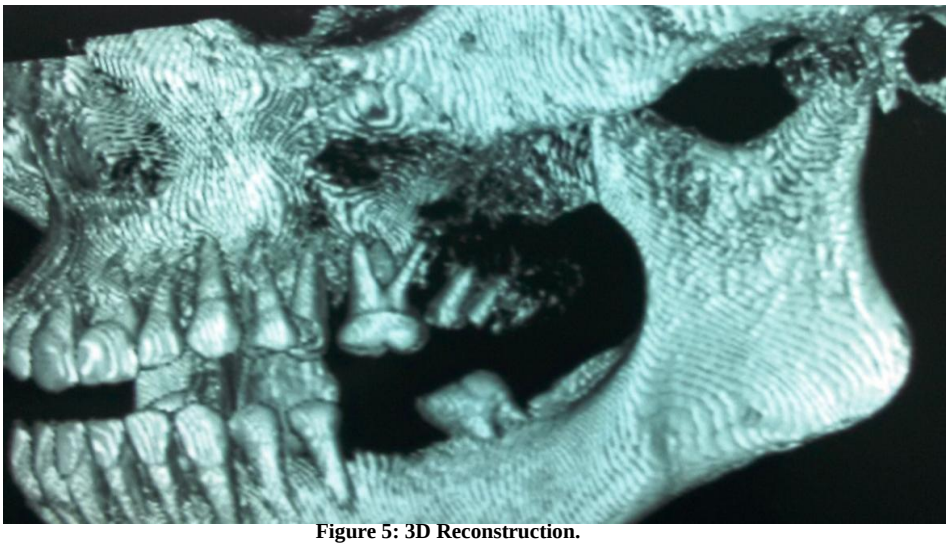

Figure 5: 3D Reconstruction.

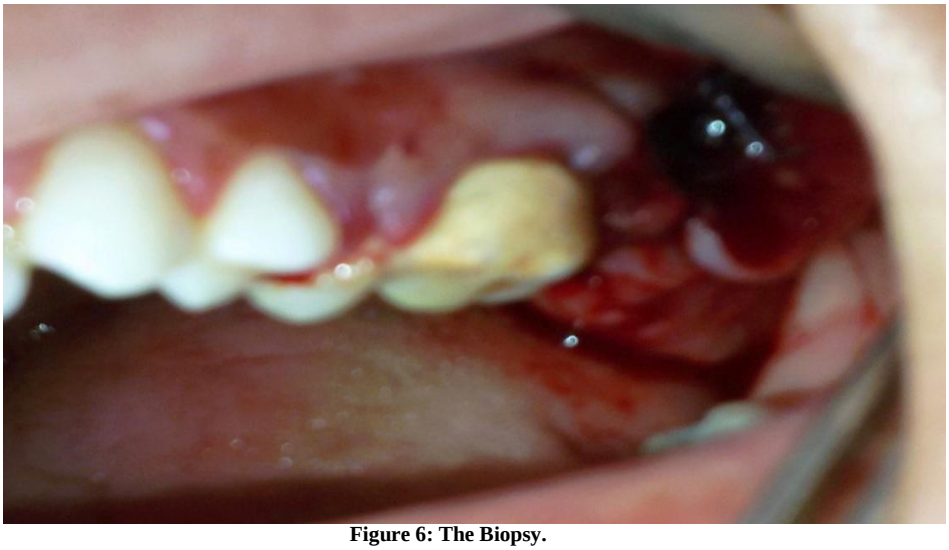

Figure 6: The Biopsy.

Histopathologic examination revealed stratified squamous epithelium with dense inflammatory cell infiltrate. Underlying connective tissue was fibrocellular, comprising collagen fibers. The connective tissue contained cementum bone trabeculae with osteocytes and osteoblastic rimming. The features were suggestive of COF.

A final diagnosis of PCOF was made and the patient was referred to the department of Maxillofacial for excision of the lesion.

Figure 7: The Specimen.

DISCUSSION

The World Health Organization (WHO) classifies cemento-ossifying fibroma as a fibro-osseous neoplasm, included among the non-odontogenic tumors, derived from the mesenchymal blast cells of the periodontal ligament, with a potential to form fibrous tissue, cement and bone, or a combination of such elements.[2-6]

"Waldron" classified fibro osseous lesions into three main categories namely fibrous dysplasia, reactive lesions and fibro osseous lesion. PCOF is actually considered as a fibro-osseous dysplasia. It accounts for 3.1% of all oral tumors and for 9.6% of gingival lesions. [7-11]

PCOF is a common gingival growth that is thought to be either reactive or neoplastic in nature. Although the etiopathogenesis of PCOF is uncertain, some investigators consider that the lesion arise from the cells of the periodontal ligament and it often associated to trauma or local irritation such as by dental plaque, masticatory forces. [1,12,13]

Furthermore, peripheral cemento-ossifying fibroma tends to occur in the second and third decades of life, with peak prevalence between the ages of 10 and 19 years. Almost two thirds of all cases occur in female. Approximately, 60% of the PCOFs occur in the maxilla, with a predilection for the anterior maxilla. [1,2,12 - 14] Clinically, PCOF manifests as a pediculate or sessile nodular mass, which usually originates in the interdental papilla. The evolution of tumors is usually as follows; initially asymptomatic, the tumor progressively grows to the point where its size causes pain as well as functional alteration and cosmetic deformities. Its color is similar to that of the mucosa unless the lesion is ulcerated. Most tumors measure less than 2 cm in diameter, although lesions larger than 10 cm are occasionally observed. A potential of tooth migration PCOF has been reported. Hormonal influences may play a role in the high incidence of PCOF in females. [1,2,11-13,15]

Radiographically, PCOF may follow different patterns depending on the amount of mineralized tissue. Radio-opaque foci of calcification have been reported to be scattered through the central area of the lesion, but not all lesions exhibit these radiographic characteristics. Most lesions are not associated with bone destruction. In rare instances, superficial erosion of bone is noted. A case of severe destruction of adjacent bone structures has been reported in the literature. [1,2,11]

Frequently, PCOF shows similar clinical features to other extraosseous lesions. It may be misdiagnosed as pyogenic granuloma, fibrous dysplasia, peripheral giant cell granuloma, osteoid osteoma, osteoblastoma, low grade osteosarcoma, cementoblastoma, and chronic osteomyelitis. [1,2,16]

The clinical and radiological appearance of the gingival lesion is characteristic but not pathognomonic, therefore histopathological analysis becomes mandatory. Histopathological examination showed benign fibrous connective tissue with varying content of fibroblasts, myofibroblasts and collagen, sparse to profuse endothelial proliferation, mineralized material which may represent mature, lamellar or woven osteoid, cementum like material or dystrophic calcifications. Acute or chronic inflammation related findings can also be identified in lesions. [1,2,11,16]

Treatment consists of surgical excision, including the periosteum and scaling of adjacent teeth. Close

postoperative follow-up is required because of the growth potential for incompletely removed lesions. [1,12]

The recurrence has been attributed to incomplete initial removal, repeated injury, and/or the persistence of the local irritants. Although peripheral ossifying fibroma is benign, reactive lesion, the recurrence rate is fairly high (8%-20%). [1] "Cundiff" reported a recurrence rate of 15.9%, [15] Kennedy and al. showed a recurrence rate of 14.2%. [15] Therefore, the patients are still under follow-up period. [15-18]

CONCLUSION

PCOF is a non neoplastic enlargement of the gingiva that is classified as a reactive hyperplastic inflammatory lesion. It is possible to misdiagnose PCOF from the other reactive lesions arising from the gingiva. Therefore, histopathological examination is essential for an accurate diagnosis and for proper management. Surgery is the treatment of choice. However, the risk of recurrence remains high and the patient should be follow up regularly. [1,2,16,19]

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