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Periodontal Abscess Complicating Florid Cemento-Osseous Dysplasia in an Asian Male: A Case Report

Abstract

Benign fibro-osseous lesions of the jaw and facial bones are a group of intraosseous disease processes that share microscopic features and therefore require a combined assessment of clinical, microscopic and radiologic features. Florid cemento-osseous dysplasia clearly appears to be a form of bone and cemental dysplasia that is limited to jaws and typically affects the jaws of middle-aged black women. Patients do not have laboratory or radiologic evidence of bone disease in other parts of the skeleton. For the asymptomatic patient, the best management consists of regular recall examinations with prophylaxis and reinforcement of good oral hygiene care to control periodontal disease. Management of the symptomatic patient is more difficult. At this stage, there is an inflammatory component to the disease involving dysplastic bone and cementum. A rare case with regard to race and gender of florid cemento-osseous dysplasia in a 48-year-old Asian male is reported here.

Key Words

Florid Cemeto-osseous dysplasia; periodontal; fibro-osseous lesions; benign

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INTRODUCTION

Benign fibro-osseous lesions of the maxillofacial bones represent a diverse group of pathologic conditions that includes developmental lesions, reactive or dysplastic diseases, and neoplasms.[1] Cemento-osseous dysplasias are a group of disorders known to originate from periodontal ligament tissue and involve, essentially, the same pathological process and classified by World Health Organization into three main groups: periapical, focal, and florid cement-osseous dysplasias depending on their extent and radiographic appearances.[2] Periapical cemento-osseous dysplasia (PCOD) and focal cemento-osseous dysplasia (FCOD) represent the most common fibro-osseous lesions of the jaws. PCOD or FCOD are two different terms for the same reactive lesion. Florid cemento-osseous dysplasia (FlCOD) denotes an extensive process with multifocal involvement of the jaws by lesional tissue with the same microscopic appearance as is encountered with PCOD and FCOD.[3] When lesions with radiologic and microscopic features similar to FCOD extend to two or more quadrants of the jaw, the disease is termed florid cemento-osseous dysplasia (FlCOD).[4] All of the cemento-osseous dysplasias occur in tooth-bearing areas. FlCOD is a very rare condition presenting in the jaws. These lesions are most commonly seen in middle-aged black women, although it also may occur in Caucasians and Asians, and have been entitled as sclerosing osteitis, multiple exostoses, diffuse chronic osteomyelitis and gigantiform cementoma. The etiology and pathogenesis of FlCOD is still unknown, and still there is no satisfactory explanation for the reported gender and racial predilection.[5] The lesions show a striking tendency for bilateral and often quite symmetric involvement, and it is usual to find extensive involvement of all four posterior quadrants. The course of the lesion is completely asymptomatic and almost always it is accidentally detected radiographically. Symptoms such as dull

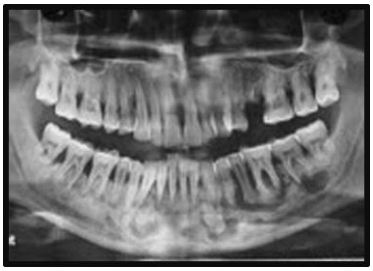

Fig. 1: Panaromic radiograph showing bilateral mixed radiolucent and radioopaque lesion at the apices of the mandibular molars

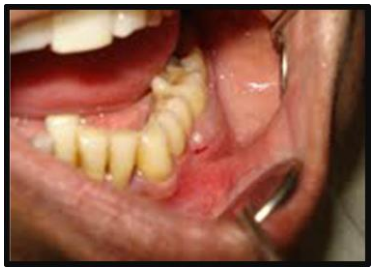

Fig. 2: Clinical photograph of the case depicting gingival swelling over left mandibular molars

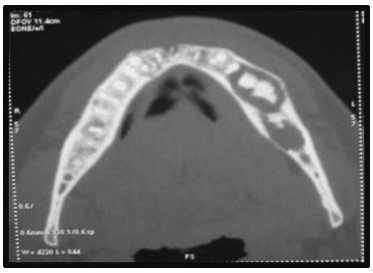

Fig. 3: Axial CT images showing buccal plate expansion and mixed radioopaque-radiolucent lesions

Fig. 4: Surgical Drainage of Abscess

pain or drainage are almost always associated with exposure of sclerotic calcified masses in the oral cavity. Radiographically, the lesions appear as multiple sclerotic masses, located in two or more quadrants, usually in the tooth-bearing regions. They are often confined within the alveolar bone.[6] The following paper presents the case of FlCOD diagnosed on the basis of clinical and radiographic findings.

CASE REPORT

A 48 year old Indian male visited Government Dental College and Hospital, Jaipur with a complaint of dull aching pain and with a history of off-and-on swellings on the left mandibular molar region since 1 year. There was no significant systemic ailment and also no significant past medical history. Intraoral examination revealed no evidence of dental caries. Molars associated with swelling were found to be non-tender to percussion and exhibited significant mobility. There was expansion of buccal plate in relation to 19. On palpation, the area was non-tender and there was suppuration in relation to 19. Pocket probing depth was 10mm on midbuccal aspect of 36 suggestive of periodontal abcess with respect to 19. The overlying gingiva and mucosa were normal without any clinical signs of inflammation on contralateral aspect of mandible. Panaromic radiograph exhibited multiple mixed radiopaque-radiolucent lesions with ill-defined borders in both the mandibular quadrants, but not in maxillary quadrants. Additional imaging was performed to confirm the diagnosis. Axial CT scans showed buccal bone expansion on left mandibular quadrant with mixed radiolucent-radioopaque areas throughout the alveolar process of both mandibular quadrants. Panaromic like CT reconstruction showed relationship of root apices to radiolucencies and radiopacities and their proximity to mandibular canal. 3D CT reconstruction images revealed fenestration defects, bone loss and cortical plate expansion in relation to 19 and 20. Also bone loss was evident in relation to 23, 24, 25, 26. Complete blood count and other biochemical data (Serum Alkaline phosphates) were within normal limits. Since the clinical and radiographic features were suggestive and diagnostic of FlCOD, biopsy was not performed. As clinical and radiographic findings were consistent with a benign bone lesion, the patient underwent an abscess drainage, scaling and root planning, and antibiotic therapy (amoxicillin 500 mg TDS for 1 week). To avoid precipitating infection in FlCOD extraction was not undertaken with 19. Case is constantly under observation and there has been no untoward symptoms upto 9 months of follow-up.

DISCUSSION

Florid cemento-osseous dysplasia was first described by Melrose *et al.*, in 1976. FlCOD is a reactive, non-neoplastic process confined to tooth-bearing areas of the jaws that is seen most frequently in middle-aged and older women of

African descent. Melrose *et al.*, reported a study of 34 cases of such lesions, of which 32 were black women (in a predominantly Caucasian population) with a mean age of 42 years.[9] In the Oriental population, Loh and Yeo (1989) reported 9 cases diagnosed over a 34-year period, of whom 8 were middle-aged Chinese women and the other was an Indian woman. The definite female gender predilection of the condition cannot be explained.[7] A systematic review on FlCOD conducted showed only three Indian patients (less than 2%) identified from the whole series that combined most of the cases reported around the world.[8,9] Therefore, as far as the knowledge of the author this is probably the only reported case of FlCOD in an Indian male. The case was diagnosed based on the clinical and radiographic features. FlCOD should be differentiated from Paget's disease, chronic diffuse osteomyelitis and Gardner's syndrome. FlCOD has no other skeletal change, skin tumors, and dental anomalies. Thus FlCOD can be differentiated from Gardner's syndrome. Paget's disease is polyostotic and shows the raised alkaline phosphatise level which is not a consistent feature of FlCOD. In this case alkaline phosphatase levels were within normal limits. Chronic diffuse sclerosing osteomyelitis is not confined to tooth bearing areas. It is a primary inflammatory condition of mandible with cyclic episodes of unilateral pain and swelling. The affected lesion of the mandible exhibits a diffuse opacity with poorly defined borders.[10] These features were not seen in this case. In most instances, Florid cement-osseous dyplasia affects the mandible bilaterally and may or may not show concomitant maxillary involvement. Most of the patients with FlCOD are more than 45 years old, although, isolated cases in younger individuals have also been reported. Black females are predilected although other races may be affected. FlCOD is usually asymptomatic and symmetrically distributed.[2] Radiographically the disease is characterized by multiple confluent and nonexpansile radio-opacities, often with a circumferential radiolucency. The lesions are most common in the mandibular molar/premolar region. Pain is the most frequent complaint if patients become symptomatic.[9] The symptomatic patients have been reported with a higher prevalence in Orientals, mainly Chinese. The diagnosis can be made based on radiographic presentation.[7] An odontogenic infection in teeth overlying lesional tissue may result in widespread infection evolving into an acute suppurative osteomyelitis with bony sequestration. Indeed, osteomyelitis may occur as a complication of open biopsy for FlCOD.[9] In the early stage of the lesion which is largely radiolucent, FlCOD reveals multi-fragmented tissue composed of vascular fibrous stroma with scattered osteoid trabeculae. Etipathogenesis is still not completely understood. Waldron *et al.*, have proposed that reactive or dysplastic changes in the periodontal ligament might be the cause for the disease.[4] The management modalities of FlCOD are not discussed satisfactorily in the literature. The onset of symptoms may be a sign of impending inflammation. Extraction must be avoided due to poor socket healing (impaired blood circulation in the affected area of bone). Extensive lesion which becomes symptomatic should be managed by surgical resection and saucerization.[9] The lesion is usually benign and requires no treatment unless cosmetically concerning or becomes symptomatic. Asymptomatic cases should have regular follow-up and recall examinations with prophylaxis and reinforcement of oral hygiene to control periodontal disease and subsequent tooth loss. However, treatment of secondary infection of this lesion can be difficult and complicated. Generally antibiotics are not effective in FlCOD as their tissue diffusion is poor and it is generally not justifilable to surgically remove these lesions.[10] At present there is no definitive treatment plan for the management of these lesions in a reassuring cost-effective and esthetic manner.

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