Florid Cemento-Osseous Dysplasia - A dilemma to intervene or not?!

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Abstract

Florid cemento - osseous dysplasia (FCOD) is a benign, non-neoplastic lesion characterized by multiple sclerosing masses within the jaw bones. We present an uncommon case of FCOD in a 37-year-old Indian woman incidentally discovered on a radiograph. She presented with bilaterally symmetrical lesions of variable radiodensities in the posterior mandible. In this asymptomatic case, the diagnosis of FCOD was made radiologically as biopsy is contraindicated. No treatment was imparted as the lesions were asymptomatic and the patient continues to be reviewed annually. The rationale of the present work is to describe this uncommon entity with only eleven reported cases noted in the literature amongst Indians. The case is unusual in its combination of the disease itself (FCOD) and the race (Indian). The confirmative role of radiography without histopathological evaluation and the need for no intervention is emphasized.

Key Words: Indian female, incidental radiographic findings, asymptomatic bone lesions.

Introduction

The term Florid Cemento-Osseous Dysplasia (FCOD) was first suggested by Melrose et al[1] in 1976 to describe a condition of extensive exuberant multi-quadrant masses of cementum/ bone in both jaws and in some cases, simple bone cavity like lesions in the affected quadrants. In the previous decades, FCOD was reported as different entities like schlerosing osteomyelitis, multiple cemento-ossifying fibroma, multiple enostosis and gigantiform cementoma[2]. The term "Florid cemento-osseous dysplasia" was proposed in the WHO's second edition of 'International Histological classification of odontogenic tumours' and is defined as 'Lobulated masses of dense, highly mineralized, almost acellular cement-osseous tissue typically occurring in several parts of jaw'.[3] FCODs don't have any other extragnathic abnormalities or any abnormality in the blood chemistry of the affected patients. These lesions may be totally asymptomatic and are incidentally detected on radiographs[4,5] or they can be symptomatic with associated exposure of sclerotic calcified masses in the oral cavity.[6] FCOD is most common in middle aged black females.[7] Here we report an uncommon case of FCOD in a 37-year-old Indian woman, incidentally discovered on radiograph.

Case Report:

A female patient aged 37 years was referred to us, by a private dental practitioner for biopsy to confirm the asymptomatic lesions in the posterior mandible noted on orthopantamograph and computed tomography. History elicited from the patient revealed chief complaint of food lodgment & acute pain in the right & left molar region of the mandible. Family & medical history were noncontributory.

Oral examination revealed inflammed pericoronal flap over partially erupting 38, 48 and in rest of the areas the mucosa was normal. There was no evidence of dental decay or periodontal disease. All the teeth were vital except for 46 & 37 which were endodontically treated. There was no marked jaw bone expansion. On palpation, all areas of the mandible were bony hard and the teeth were non-tender to percussion.

Orthopantamograph revealed impacted 38 & 48, endodontically treated 46 & 37 and bilaterally symmetrical well-defined lesions of variable radiodensities ranging from radiolucent to mixed radiolucent/ radiopaque in the premolar and molar regions of the mandible. There was no root resorption of the associated teeth (Fig 1). No such lesions were noted in the maxilla.

The Computed tomography (CT) of the mandible displayed a better resolution image wherein bilaterally symmetrical, well defined, lobular shaped lesions of variable radiodensities were visible. All the lesions were located in the periapical regions of the posterior teeth (Fig 2). Based on these radiographic findings the diagnosis of FCOD was made. Biopsy was avoided to prevent unnecessary complications.

Treatment:

Since the lesions of FCOD were asymptomatic no attempt was made to treat it. The patient was asked to report annually for periodic review of the lesions. Conservative approach was opted to relieve the pain associated with partially erupted teeth since aggressive surgical intervention could lead to untoward consequences. Acute pericoronitis was treated with gentle antiseptic lavage under the gingival flap to remove gross food debris & bacteria. Patient was prescribed antibiotics and analgesics and was instructed to use warm salt water rinses. She was also given oral hygiene instructions.

Discussion:

Literature review reveals that FCOD more commonly affects blacks (78%) followed by whites (13%) and Asians (5%)[8], but cases have been also reported in other groups including Caucasoid, Oriental, Indian and West Indian[9].The age range of the patients is 19 to 76 years with a female predilection in the ratio of 2.6:1. There is a profound racial predilection for blacks with black: white ratio of 6:1[2]. These lesions most commonly occur in the periapical areas of mandibular posterior teeth (78%)[10]. We found only eleven reported cases of FCOD in Indian population on review of literature.[7,11,12,13,14,15,16] Thus the report of Indian woman makes this report an uncommon one.

The exact pathogenesis of FCOD is unknown. However, the periodontal ligament has been considered the tissue of origin by Waldron et al and most authors, since it is always present in periapical regions and its histological similarity to cementum[2]. But some researchers have speculated that FCOD may originate from remnants of cementum left in the bone after extraction[17]. It has also been connected with chronic osteomyelitis & has been assumed to be inflammatory in origin. But, generally osteomyelitis occurs as a complication rather than etiological factor of FCOD.

Cemento-osseous dysplasias are classified into four groups based on the extent of involvement: 1) Focal: solitary lesion in the posterior jaws, 2) Periapical: multiple lesions involving apices of mandibular anterior teeth, 3) Florid: multiple bilateral, mostly symmetric lesions affecting posterior jaws, 4) Familial gigantiform cementoma: similar to florid type with familial involvement and rapid growth to larger size[18]. The present case falls under the third category.

Clinically, the condition is mostly asymptomatic, and discovered as a coincidental radiographic finding, similar to our case. But, it may grow to larger sizes causing cortical expansion and facial deformity[6]. In few cases, they may become symptomatic due to extraction or wearing of dentures. Since poorly vascularized hard tissue has very little capacity of healing, chronic osteomyelitis may result which presents with pain and drainage. Hence, these cases may be confused with primary osteomyelitis[19].

Radiographically, FCOD may show three presentations based on the stage of the lesion: In early stages, it presents as circumscribed radiolucency because of absence or minimal calcified material. As the lesion matures by deposition of osseous tissue, it presents as mixed radiolucent-opaque lesion and completely radiopaque once it is fully mature[20].

Histopathologically, early-stage lesions of FCOD shows rounded globules resembling cementum or irregular trabeculae of varying size in a cellular fibroblastic stroma. As the lesion matures, bone is deposited around globules of cementum resulting in fusion of cemental and osseous areas into solid sheets with basophilic resting lines. Maturation of lesion usually starts at the center and lesion increases in size by proliferation at the periphery[2,18].

Diagnostic criteria of FCOD include diffuse alveolar involvement, limited to the apices of teeth and affecting more than one quadrant[1]. Radiological findings of the present case concur with this criterion. Computed tomography confirmed the presence of these mandibular masses more clearly further satisfying the diagnostic criteria of FCOD. CT especially of axial, sagittal and frontal view would have been ideal for

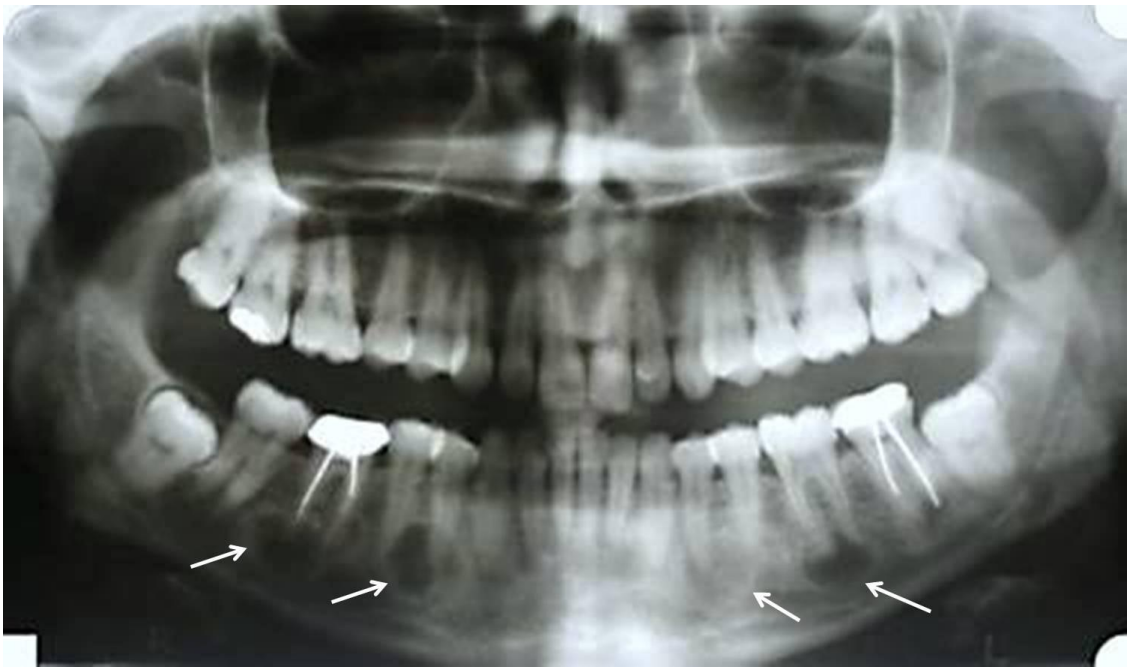

Fig 1: Orthopantamograph showing bilaterally symmetrical, well-defined lesions of variable radiodensities in the apical region of mandibular posterior teeth.

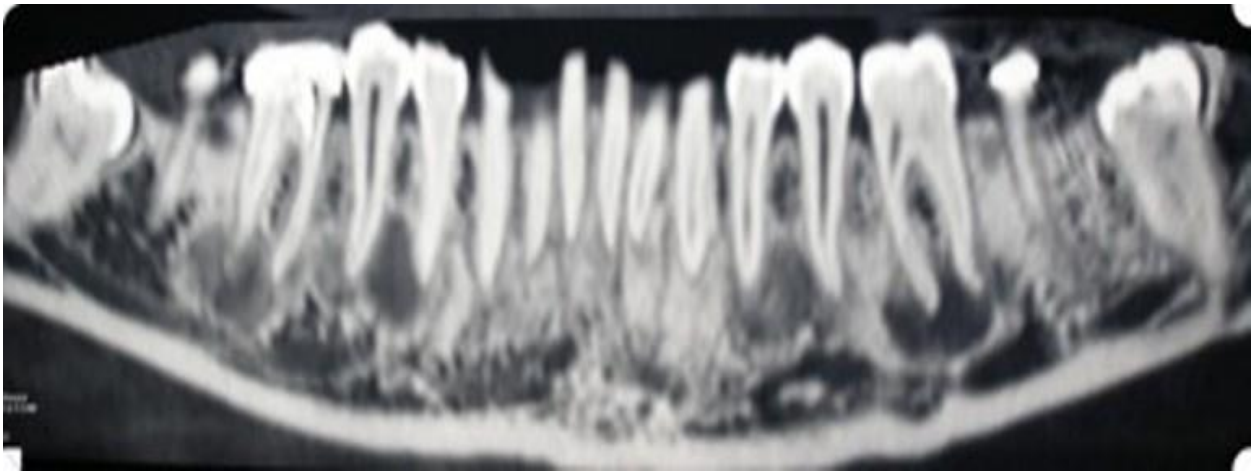

Fig 2: Computed tomography of mandible showing bilaterally symmetrical, well defined lesions of variable radiodensities in the apical region of posterior teeth.

evaluating such lesions. However, we regret that our patient deferred to get back with the records.

FCOD should be differentiated from familial gigantiform cementoma by ruling out any familial involvement. Other differential diagnoses for FCOD are chronic diffuse schlerosing osteomyelitis, Gardner's syndrome and fibrous dysplasia[2]. FCOD occurs usually as bilateral, multiple asymptomatic masses whereas chronic diffuse schlerosing osteomyelitis is mostly unilateral with history of pain, dental infection or trauma and without any radiolucent margins[19]. FCOD doesn't have any skin, skeletal manifestations or dental anomalies associated with Gardner's syndrome. FCOD may be confused with polystotic fibrous dysplasia when extensive lesions involving all four quadrants are present. But FCOD can be distinguished by presence of irregular sclerotic masses, whereas fibrous dysplasia shows uniform ground glass appearance merging with normal bone[20].

It is important to establish the correct diagnosis of FCOD so that conservative treatment is initiated. Any attempt to excise diffusely distributed lesions can lead to untoward complications. Once the lesions become sclerosed, they are less vascular and even minimal trauma may cause necrosis leading to osteomyelitis[18]. The lesion is usually benign and requires no treatment unless it becomes symptomatic or causes facial asymmetry and cosmetic disfigurement. In our opinion, the reasonable course of action seems to be observation and periodic review.

In the present case the acute pain was clinically noted to be in relation to pericoronitis with impacted molars and was totally unrelated to FCOD lesions. Conservative approach of treating pericoronitis without extraction of impacted teeth followed by re-evaluation with panoramic radiographs annually was opted. Also, the patient was given instructions to maintain proper oral hygiene to prevent any future oral infections.

Conclusion:

In conclusion, this report urges the clinicians to be aware of radiographic manifestation of such asymptomatic conditions. An attempt at biopsy or treatment is not only unnecessary but can also be dangerous. Also, these lesions should be taken into consideration before planning treatment for other conditions, since even minimal trauma could lead to untoward complications.

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