

Florid Cementosseous Dysplasia – A Case Report

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Abstract: Florid Cemento-Osseous Dysplasia (FCOD) is a relatively rare fibro osseous lesion with multi-quadrant involvement. One such case of Florid Cemento-Osseous Dysplasia (FCOD) in a 51-year-old Indian male patient is presented in this case report. The patient presented with vague pain in the region of the left mandibular molars. Mild tenderness on percussion of the left mandibular posterior teeth were present. Panoramic radiograph (OPG) and Cone Beam Computed Tomography (CBCT) revealed multiple sclerotic masses in the periapical regions of mandibular and maxillary posterior teeth with loss of lamina dura. Histopathologically the loose connective tissue showed cementoid matrix with few empty lacunae suggestive of Florid Cement-osseous dysplasia. Biochemical analysis of serum alkaline phosphatase, calcium and phosphorus were within normal limits. Periodontal workup and conservative management of the attrited teeth were done. Patient was advised to report for periodic review.

Keywords: Multiple periapical sclerosis, sclerotic cemental masses, Florid cemento osseous dysplasia.

I. INTRODUCTION

The term Florid Cemento-Osseous Dysplasia (FCOD) refers to a group of fibro-osseous (cemental) exuberant lesions with multi-quadrant involvement¹. FCOD was first described by Melrose et al. in 1976². It is a very unusual condition presenting in the jaws, previously known as gigantiform cementoma, multiple cementoossifying fibroma, sclerosing osteitis, multiple enostosis, and sclerotic cemental masses of the jaws. Florid cemento-osseous dysplasia is a benign, fibroosseous, and multifocal dysplastic lesion of the jaw that consists of cellular fibrous connective tissue with bone and cementum-like tissue³. These lesions are ordinarily witnessed in middle-aged black women, although it also may occur in Caucasians and Asians. The reason behind this predilection still remains unexplored. Current classification of cementomatous lesions published in 2005 by the World Health Organization (WHO) is based on age, sex, clinical characteristics, location of the lesion, histopathologic and radiographic features. This classification includes cemento-ossifying fibroma, benign cementoblastoma and cemento-osseous dysplasia (COD) groups⁴. Cemento-osseous dysplasia encompasses periapical cemento-osseous dysplasia, focal cemento-osseous dysplasia and florid cemento-osseous dysplasia. It has been implied that the origin and pathogenesis of these lesions is from periodontal ligament since they are seen in close proximity to the periodontal ligament. Similarly, few authors have reported that the remains of cementum in bone after extraction might be a reason for FCOD. However, the explicit etiology of FCOD is still unknown⁵. Clinically, FCOD may be asymptomatic, and the lesion is incidentally encountered during routine radiographic examination. In some cases, there will be dull pain due to infection, exposure of the lesion in oral cavity, focal expansion and facial deformities. Histopathologically, FCOD shows irregular shaped, dense, cell-free cemental masses and non-lamellar bone masses in fibroblastic connective tissue⁶. Radiographically, characterized by multiple masses of mixed radiopaque structures with a circumferential radiolucency, primarily surrounding the root apices of vital teeth. However, these lesions become increasingly radiopaque as maturation progresses. These lesions are most commonly seen symmetrically in mandibular premolar-molar regions, also seen in maxilla and are often circumscribed within the alveolar bone. Cone Beam Computed Tomography (CBCT) plays an important role in the appraisal of these lesions. A case of a patient who was diagnosed with FCOD based on clinical, radiographic, biochemical and histopathology results is presented.

2. CASE REPORT

A 51-year-old male patient (Fig 1) came to Department of Oral Medicine and Radiology with complaints of chronic pain in the left mandibular molar region. The patient was undermedication for Diabetes for the past 5 years. Physical examination showed no significant abnormality. Intraoral examination (Fig 2) revealed generalised attrition. Mild tenderness on percussion was noticed in left mandibular molars. Root stumps were noted in 28. Partially edentulous maxillary and mandibular arch was noted in relation to 15, 26, 27,28, 31 and 45. The overlying gingiva and alveolar mucosa in maxilla and mandible were normal. In the panoramic radiograph (Fig 3), multiple sclerotic masses were found involving the periapical region of maxillary and mandibular posterior teeth. The lesions were symmetrical. Cone Beam Computed Tomography (CBCT) was taken for further detailed appraisal. The 3D reconstructed images (Fig 4), Sagittal sections (Fig 5), in CBCT showed multiple periapical lesions in maxilla and mandible with well-defined margins, roughly circular in shape with loss of lamina dura. Radio-opaque internal structure was noted in relation to 14, 24, 25, 28, 38, 37,36, 35, 34, 44, 46, 47 and 48. Mixed internal structure was noted in 16, 17 and 43. Radiolucent internal structure was noted in relation to 13, 12, 11, 21, 33, 32 and 41. Biochemical analysis of serum alkaline phosphatase, calcium and phosphorus were within normal limits. Correlating the clinical, radiological and biochemical profile a differential diagnosis of Periapical cemental dysplasia, Florid osseous dysplasia, Chronic diffuse sclerosing osteomyelitis were considered. Biopsy was done in the periapical region of 36. Histopathologically the loose connective tissue showed cementoid matrix with few empty lacunae suggestive of Florid Cement-osseous dysplasia.



FIG-1 Profile picture of the patient



FIG 2- Intraoral image

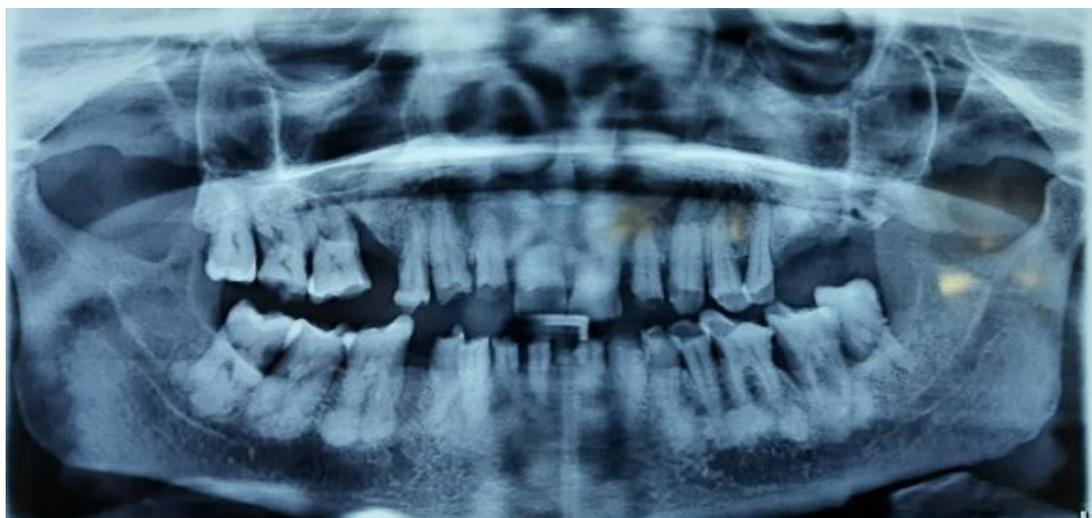


FIG-3 Orthopantomogram

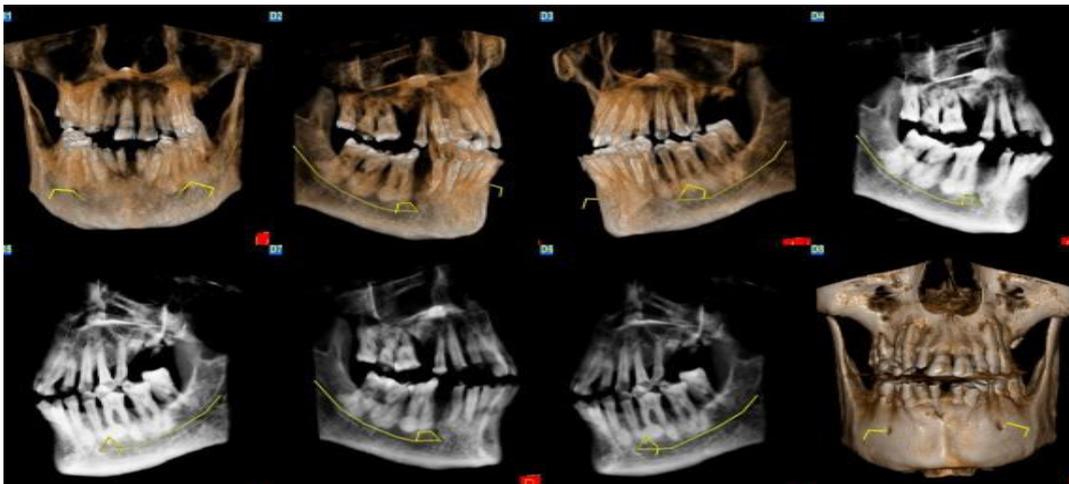


FIG-4 3D Reconstructed image

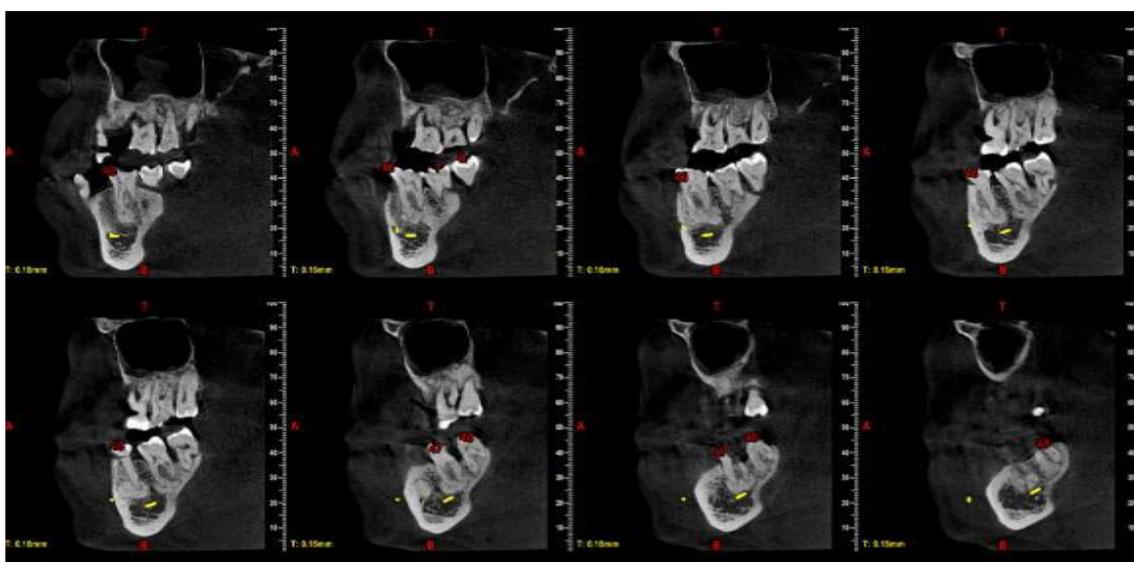


FIG-5- Sagittal CBCT images of right mandibular molar region

3. DISCUSSION

FCOD refers to a set of radiolucent-radiopaque periapical and interradicular lesions involving the mandible bilaterally and sometimes involving the maxilla. It is basically an extended form of periapical cemento-osseous dysplasia, wherein if POD is identified in three or four quadrants or is extensive throughout one jaw, it is usually considered to be FOD. These lesions are customarily asymptomatic dysmorphic bone-cementum complexes. Radiographs reveal radiolucent, mixed, or dense radiopaque masses, limited to the periapical region of the teeth. The present case was diagnosed as FCOD, involving all four quadrants. In 2005, the WHO classified the bone-related lesions, “COD” as one of the groups of this classification, and FCOD as one of the subgroups of COD which is a non-neoplastic fibro-osseous lesion¹. Focal COD and periapical COD are the other COD lesions. However, the discernment of these lesions is based on clinical characteristics, location and radiographic features. The differential diagnosis to be considered are Periapical cemental dysplasia, Paget’s disease, Chronic diffuse osteomyelitis and Cemento-ossifying fibroma. Periapical cemental dysplasia is often seen at apices of anterior teeth and usually does not exceed a limit of 1 cm. Focal cemento-osseous dysplasia is often seen at two or more mandibular anterior teeth or at the apices of molar region, and does not grow more than 2 cm whereas Florid Cement osseous Dysplasia appears bilaterally, and mostly in the mandible and often presents symmetrically. Radiolucent band surrounding the radiopaque lesion can be seen or the lesion can be wholly radiopaque⁷. Paget’s disease of bone may mimic FCOD on radiological evaluation the difference is that FCOD is seen above the inferior alveolar canal, whereas Paget’s involves the entire mandible and exhibits generalised loss of lamina dura in addition to various other clinical manifestations. Serum alkaline phosphatase levels will be elevated in Paget’s disease but in our case the serum alkaline phosphate levels were within the normal range. Chronic diffuse sclerosing osteomyelitis is a primary inflammatory condition of the mandible, with cyclic episodes of unilateral pain and swelling; which is not confined to the tooth bearing areas. They involve the body of the mandible from the alveolus to the inferior border and may extend into the ramus, and it appears as single, poorly delineated opaque segment of the mandible,

whereas FCOD is seen as multiple round or lobulated opaque masses only at tooth-bearing areas. Cemento-ossifying fibroma which is a neoplastic lesion, displays more severe buccolingual expansion than FCOD.

4. CONCLUSION

Although FCOD is a rare lesion knowledge regarding it's clinical and radiographic presentation would prevent future complications. Further 3D imaging such as CBCT imaging will throw more light on the radiographic appearance. Dental extractions are not indicated since it may lead to osteomyelitis. Periodic clinical, and radiological follow-ups and maintenance of scrupulous oral hygiene is highly advisable.

5. CONFLICT OF INTEREST

Conflict of interest declared none.

6. REFERENCES

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