

Central Ossifying Fibroma of the Mandible: An Unusual Case Report

BAL REDDY P., SRIDHAR REDDY B., PRASAD N., KIRAN G., KARTHIK PATLOLLA

ABSTRACT

Cemento-ossifying fibroma is a fibro-osseous lesion which belongs to the same category as fibrous dysplasia and cemento-ossifying dysplasia. In a recent WHO classification (2005), the term 'cemento-ossifying fibroma' was replaced with 'ossifying fibroma'. These are slow growing, painless lesions which are

seen more commonly in women between the third and fourth decades of life. We are reporting an unusual case report of a central ossifying fibroma of the left mandible in an 18 year old male patient who presented with a painful swelling on the left side of the face. The lesion was treated with surgical resection and reconstruction.

Key Words: Ossifying fibroma, Fibro-osseous lesions, Cemento-ossifying fibroma

INTRODUCTION

Central Ossifying Fibroma (COF) is a benign osseous neoplasm which consists of highly cellular, fibrous tissue with varying amounts of calcified tissue, which resembles the bone, the cementum or both [1]. COF very closely resembles lesions such as fibrous dysplasia, cementifying periapical dysplasia or cemento-osseous florid dysplasia. COF is believed to originate from the periodontal membrane [2]. It is usually seen in the third to fourth decades of life and it generally shows a female predominance [3]. Most of the cases are located in the mandible, as a painless swelling [4]. Radiographically, COF presents as a well-defined, unilocular lesion which contains varying amounts of radiopaque material [5]. Once it is completely excised, COF does not usually recur [6]. Here, we are reporting an unusual case of COF in the left side of the mandible.

CASE REPORT

An 18-year old male patient reported to our institute with the chief complaint of swelling on the left side of the face since five years and pain since one week. His history revealed that the swelling was small in size primarily, which was initially at the left side of the mandible, which had gradually increased recently and attained the present size. The pain was intermittent in nature, which subsided on taking analgesics. Since the patient had not had any pain, discomfort or facial deformity earlier, he did not visit any hospital. His extra-oral examination showed a swelling of about 6 x 7 centimetre in size. The swelling was hard in consistency. On palpation, mild tenderness was noted. His intra-oral examination showed a swelling on the left side of the lower jaw, at the molar region. Expansion of the buccal and the lingual cortical plates was seen over that region. All the molars at that site were absent. Pus discharge was also observed in that region. An orthopantomograph revealed a radiopaque lesion which was distal to the lower left second premolar, which extended from the alveolar crest to the inferior borders of the mandible. Surrounding the lesion, radiolucency was observed. Computerized tomography showed the presence of a well defined, lobulated, hyperdense lesion which measured about 3.5 x 3.2 cm of HU 1600, with thin perilesional lucency, in the body of the mandible on the left side. Magnetic Resonance Imaging of the mandible revealed

a large, lobulated, well defined, expansile, altered signal intensity which measured 3.3 x 2.5 cm, which was hypotense, which was noted in the body of the mandible, on the left side. A biopsy was done and histopathologically, the lesion showed dense connective tissue stroma, which contained areas of immature bone formation and cementum like tissue and a diagnosis of COF was given.

After obtaining consent from both the patient and the physician, resection of the tumour and reconstruction was planned under general anaesthesia. An intraoral incision was made from the lower left incisor region to the distal part of the lower left third molar



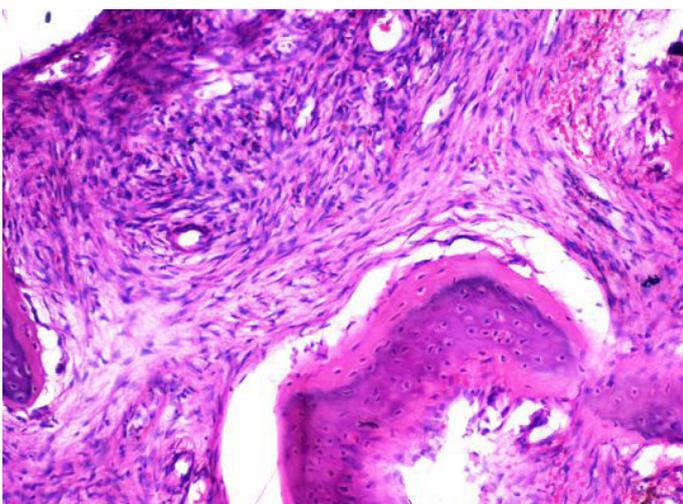
[Table/Fig-1]: Extra-oral view



[Table/Fig-2]: Intra-oral view



[Table/Fig-3]: Intra-operative



[Table/Fig-4]: Photomicrograph

region. A vertical releasing incision was made at the incisor region. The mucoperiosteal flap was raised and after preserving the mental nerve, the lesion was exposed upto the inferior border. Vertical slop cuts and a horizontal cut were made, with bur holes. The lesion was removed in toto. The reconstruction angle plate was fixed with

screws over the site and a thorough irrigation with antiseptic fluids was done. This case was followed up for one year at three monthly intervals and the healing was uneventful.

DISCUSSION

Fibro-osseous lesions (FOL) are a group of conditions which are characterized by the replacement of normal bone by fibrous tissue, which contains a newly formed, mineralized product [7]. They include, fibrous dysplasia (FD), cemento-ossifying dysplasia (COD), COF and their subtypes [8]. Various classifications were proposed to classify these lesions [7,9]. Branon and Fowler were the first to use the term 'ossifying fibroma' (OF) in place of COF and the recent WHO (2005) edition of the classification of odontogenic neoplasms has replaced the term COF with OF [6,10]. The origin of COF is not clearly understood. Few authors have considered that these lesions arose from the periodontal membrane which contains multi-potential cells, that under certain pathologic conditions, are capable of producing tumours which are composed of either cementum, lamellar bone or fibrous tissue [2]. Based on their pathogenesis, Waldron (1985) subclassified COFs as medullary or periodontal ligamentous in origin [7]. A more aggressive form of COF which occurs in younger individuals has been designated as Juvenile COF [11].

Review of the literature has revealed that COFs are usually seen in the third and fourth decades of life. However, our patient was much younger, 18-years old [3]. Most of the studies showed a female predominance, whereas in our case, the patient was a male [3]. Although few cases have been reported in the maxilla, the most common location is the mandible, which was the same in our case also [5,12]. Classically, the patients present with a painless swelling, though with time, the lesion may become large enough to cause facial deformation, whereas in our case, the patient presented with a painful swelling which was associated with pus discharge [13].

MacDonald-Jankowski described three stages of COF, based on the radiographic features; an initial radiolucent stage, then a mixed stage and eventually, a sclerotic appearing stage [4]. COF usually presents as a mixed lesion with well defined borders. Our case presented as a radiopaque mass with surrounding radiolucency [6].

Histopathologically, COF shows a well vascularized fibrocellular connective tissue with immature bony trabeculae and cementoid, but these findings are not specific to COF alone and they can also be seen in FD. Our case also showed similar findings of areas of immature bone and cementum like tissue in the connective tissue. Because of the overlapping histologic features, the diagnosis of the individual lesions in the FOL group poses a difficulty [14, 15].

The differential diagnosis of COF includes fibrous dysplasia (FD), a calcifying odontogenic cyst (COC), cementoblastoma, chondrosarcoma and osteosarcoma. FD has a characteristic 'ground glass' appearance. COC and cementoblastomas are associated with the roots of vital permanent teeth. COF is differentiated from sarcomas by presence of well defined margins [5].

Surgical curettage or enucleation with a long term follow-up is the initial treatment of choice for small COFs, whereas surgical resection is indicated for the large lesions [5,15]. Eversole et al reported a recurrence rate of 28 % following curettage [4]. Hence, a long term follow-up of the patients is recommended. In our case, we carried out surgical resection and reconstruction and the follow-up revealed normal healing.

CONCLUSION

We reported a case of COF in an 18-year old male patient who came with a radiopaque swelling and pus discharge on the left side of the mandible. We suggest that a proper correlation of the clinical, radiological and the histological features is necessary for establishing a definitive diagnosis, as well as for categorizing the FOL lesions. Since chances of recurrence of COF are reported in the literature, surgical resection and follow-up of the patients is warranted.

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