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Research Article

TRAUMA INDUCED CENTRAL OSSIFYING FIBROMA IN ANTERIOR MANDIBLE - A CASE REPORT

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A B S T R A C T

Central ossifying fibroma is relatively rare benign odontogenic neoplasm. It is bony lesion of odontogenic origin, believed to arise from cells of periodontal ligament. The main aim of this report is to present a case of trauma induced central ossifying fibroma and to compare its clinical, radiographic and histopathological features with the existing literature; and thus, significantly contribute to the later. The patient underwent surgery and the bony growth was enucleated. Patient was kept in strict follow-up of 24 months and no sign of recurrence was seen.

INTRODUCTION

Central ossifying fibroma (COF) is relatively rare benign odontogenic neoplasm. It is a bony lesion of odontogenic origin, believed to arise from cells of periodontal ligament.[1] It has been categorized under fibro osseous lesions including the orofacial region, it behaves like a benign bone neoplasm. COFs of the mandible are common, but COFs caused due to trauma have been rarely reported in literature.[2]

The main aim of this report is to present a case of trauma induced COF and to compare its clinical, radiographic and histopathological features with the existing literature; and thus, significantly contribute to the later.

CASE REPORT

A 18-year-old male patient reported to the department with complaint of swelling in anterior region of mandible since 1 month. Initially patient noticed small sized swelling over right anterior region which was aggressively increased upto 5 × 3cm (Fig 1).

The medical history of the patient was non-contributory. The extraoral examination of anterior region revealed a diffuse ill-defined swelling seen on inferior border of mandible. On palpation the swelling was hard, immobile, nontender and non-fluctuant. The overlying and adjacent skin was normal. There was no evidence of lymphadenopathy or neurological signs.

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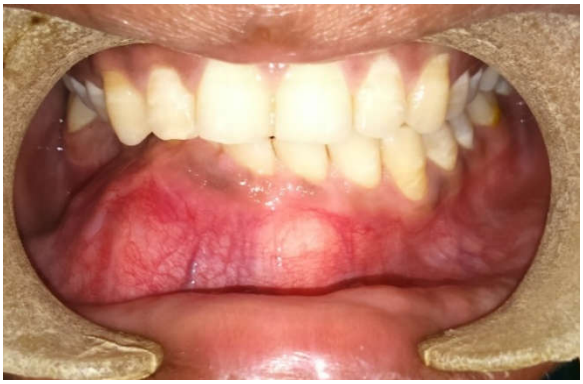

Fig 1 Intraoperative Photograph showing swelling over anterior region of mandible

Intraorally diffuse swelling was seen extending from 31 to 44 with obliteration of buccal and lingual vestibule of size 2×2 cm and 1×1cm respectively. The overlying mucosa was intact. It was firm in consistency and non-tender on palpation. All involved teeth were pathologically migrated.

An orthopantomogram (OPG) (Fig.2) showed hazy radiopacity with ill-defined borders in the anterior region of mandible. Cone beam computed tomography (CBCT) showed an expansile osteolytic lesion involving the anterior region with expansion of both the buccal and lingual bone cortices.

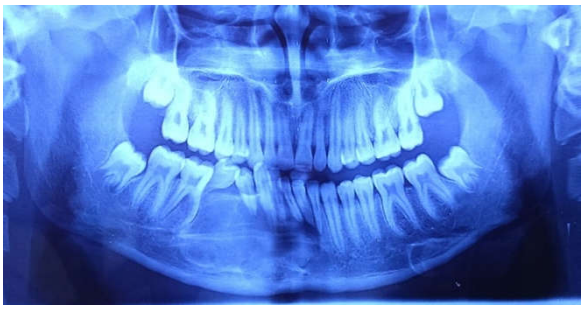

Fig 2 OPG showed Mix radiopaque- radiolucent lesion

Under local anesthesia, an incisional biopsy was performed. The histopathological report was suggestive of central ossifying fibroma.The patient underwent surgery (Fig 3) and using crevicular incision, the bony growth was enucleated.Patient was kept in strict follow-up of 24 months and no sign of recurrence was seen. (Fig 4)

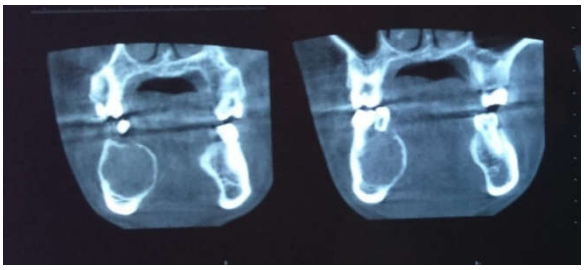

Fig 3 Expansile lesion on CBCT

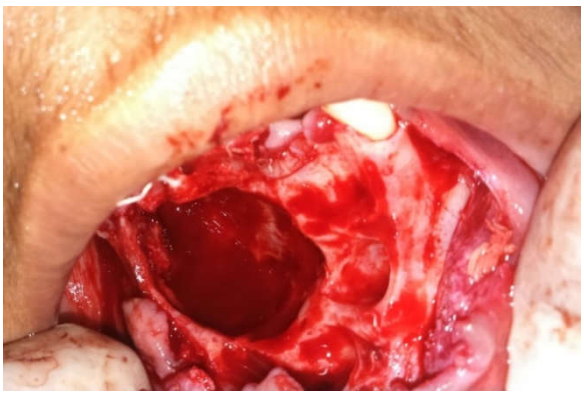

Fig 4 Intraoperative Photograph after excision of lesion

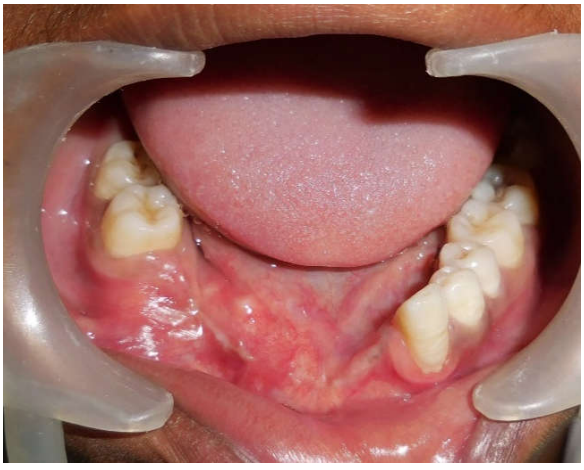

Fig 5 Post-operative photograph of 24 months.

DISCUSSION

Fibro-osseous lesions of craniofacial skeleton are rare and believed to be the result of replacement of normal bony architecture by fibrous tissue, which may, mineralize in various forms like woven, lamellar bone, or cementum and include a broad spectrum of distinct entities with different clinical presentations and microscopic appearance.[3]

The aetiology of ossifying fibroma is unknown but odontogenic, developmental and traumatic origins have been suggested and thought to be of periodontal ligament origin because of their capacity to produce cementum and osteoid material.[4] Ossifying fibroma develops from the multipotential mesenchymal cells of periodontal ligament origin which are able to form both bone and cementum.[5] Although the precise pathogenesis is still unknown, Wenig *et al*[6]. Has suggested that trauma-induced stimulation may play a role.

Clinically, the cemento-ossifying fibroma presents as a painless, slowly growing mass in the jaw where displacement of teeth may be the only early clinical feature. The tumor is well-circumscribed from its surrounding bone and will continue to grow bigger, slowly or actively, with larger lesions occasionally leading to facial deformity. Tumor shows female preponderance with ratio of 5:1. Previous studies report an age range of 10-59 years; however, few others have concised this range to be 20-40 years.[7,8] In mandible its occurrence is 70-90%, where it occurs more frequently in premolar-molar region followed by the involvement of maxilla, ethmoidal and orbital regions also.[6] In our case, we found similar features with the patient being a male in his second decade of life presenting with a painless swelling in the mandibular incisor-premolar region with pathologically migrated teeth.

Differential diagnosis of COF depends on the radiographic features of the lesion. COF with a completely radiolucent lesion may be misdiagnosed as early stage of cemento-osseous dysplasia, odontogenic cyst, Periapical granuloma, traumatic bone cyst, ameloblastoma, or central giant cell granuloma. COF with mixed radiographic features might be given a nonspecific diagnosis of fibroosseous lesion, or misdiagnosed as a calcifying odontogenic cyst (Gorlin cyst) or an adenomatoid odontogenic tumor.[9] Other differential diagnoses of COF with mixed radiographic features may include rarefying and condensing osteitis, intermediate stage of cemento-osseous dysplasia, fibrous dysplasia, calcifying epithelial odontogenic tumor (Pindborg tumor), or odontogenic fibroma. Furthermore, COF with completely radio-opaque radiographic features may be misdiagnosed as retained root, odontoma, idiopathic osteosclerosis, condensing osteitis, late stage of cemento-osseous dysplasia, or osteoblastoma. COF with avery large size may be misdiagnosed as an osteogenic sarcoma.[9] Early lesions may be radiolucent as they mature, they become a mixed radiolucent and radio-opaquelesion and finally become radio-opaque. It is really daunting task to come into final diagnosis clinic-radiographically. So that we did incisional biopsy for confirmation.

Microscopically, COFs showed trabeculae or spherules of mineralized materials in a cellular fibrous connective tissue stroma. The characteristic microscopic criteria for diagnosis of COF include presence of a mixture of woven and lamellar bones and cementum-like materials in a cellular fibrous connective tissue stroma. In addition, osteoblastic rimming is usually found. Variable levels of expression of fibrous and vascular components are also found. The stromal component is highly cellular to moderatelycellular, prominently vascular and

collagenous.Multinucleated osteoclasts-like giant cells are noted.[11]

Complete removal of the lesion at the earliest possible is treatment of choice, has been suggested by majority of the authors.[9] Appropriate treatment for a benign fibroosseous lesion, irrespective of its aggressive nature includes either curettage or enucleation of the lesion, until healthy margins are reached. Successful removal can also be achieved by local excision and enbloc resection.[5] Excision of the tumor along with safe margins was done in the reported case. Radiotherapy is contraindicated because tumour is radioresistance. Recurrence rates ranging from 30 to 58% and 0 to 28% have been described by Mintz *et al*.[10] and Chang *et al*.[9] respectively. Since recurrence rate is variable therefore patients should be followed up regularly.

References

1. Hamner JE 3rd, Scofi eld HH, Cornyn J. Benign fi bro-osseous jaw lesions of periodontal membrane origin. An analysis of 249 cases. Cancer 1968; 26:861-78.
2. Brademann G, Werner JA, Janig U, Mehdorn HM, Rudert H (1997) Cemento-ossifying of the premastoid region: case report and review of the literature. *J Larygol Otol* 111:152-155.
3. Kramer IRH, Pindborg JJ, Shear M (1992) Neoplasm and other lesions related to bone. In: WHO: Histologic typing of odontogenic tumors. Springer-Verlag, Berlin, pp 28-31.
4. Bertolini F, Caradonna L, Bianchi B, Sesenna E. Multiple ossifying fi broma of the jaws: A case report. J Oral Maxillofac Surg 2002;60:225-9.
5. Regezi JA, Sciubba JJ. Oral Pathology: Clinico Pathologic Correlations. 3rd ed. Philadelphia: W.B. Saunders; 1999. p. 357-60.
6. Wenig BL, Sciubba JJ, Cohen A, Goldstein MN, Abramson AL. A destructive maxillary cemento-ossifying fi broma following maxillofacial trauma. Laryngoscope 1984; 94:810-5.
7. Langlais RP, Langland OE, Notje CJ. Diagnostic Imaging of the Jaws. Baltimore: Williams & Wilkins; 1995. p. 551-2.
8. Barberi A, Cappabianca S, Colella G. Bilateral cemento-ossifying fibroma of the maxillary sinus. *Br J Radiol* 2003; 76:279-80.
9. Chang CC, Hung HY, Chang JY, Yu CH, Wang YP, Liu BY *et al* (2008) Central ossifying fibroma: a clinicopathologic study of 28 cases. *J Formos Med Assoc* 107:288-294
10. Mintz S, Velez I (2007) Central ossifying fibroma: an analysis of 20 cases and review of the literature. Quintessence Int 38:221-227.
11. Ojo MA, Omoregie OF, Altini M, Coleman H. A clinic-pathologic review of 56 cases of ossifying fi broma of the jaws with emphasis on the histomorphologic variations. *Niger J Clin Pract* 2014; 17:619-23.

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