RESEARCH PAPER | Medical Science | Volume : 5 | Issue : 1 | Jan 2015 | ISSN - 2249-555X

Ossifying Fibroma of the Mandible : An Unusual Case Report

KEYWORDS: Benign, fibro-osseous lesion, mandible, ossifying fibroma

DR.Urvashi.A.Shetty
Lecturer, Department of Oral Pathology and Microbiology, A.B. Shetty Memorial Institute of Dental Sciences.

DR.Ashwin Shetty
MS ortho, Associate Professor, Dept Of Orthopedics, K.S. hegde Medical Academy

DR.Chethana
Lecturer, Department of Oral Pathology and Microbiology, A.B. Shetty Memorial Institute of Dental Sciences

ABSTRACT *Ossifying fibroma is a rare benign neoplasm of the jaw bones considered to be a type of fibro-osseous lesion. Its origin is believed to be from periodontal membrane, and it shows more predilection toward females. Mandible is more commonly affected than maxilla .They are usually seen in tooth bearing areas as a well circumscribed, slowly growing lesions. This bone tumour consists of highly cellular, fibrous tissue that contains varying amounts of calcified tissue resembling bone, cementum or both. Ossifying fibroma requires radical surgery, because of the tendency for recurrence and possibility of malignant transformation. We are reporting an unusual case report of a ossifying fibroma of the left mandible in an 45 year old female patient who presented with a painful swelling on the left side of the face. The lesion was treated with surgical resection and reconstruction.*

INTRODUCTION

Ossifying fibroma is a true neoplasm with a significant growth potential, bone destruction and recurrence [1,2] .It usually presents as a painless, slow-growing, expansile lesion which is believed to be confined to the jaws and craniofacial complex [2].It tends to occur during the third and fourth decades of life in women more than men and the mandible is involved far more often than the maxilla, especially the premolar and molar region [2] . The diagnosis of benign fibro-osseous lesions is based on clinical, radiographic, and histopathologic correlation[3].Ossifying fibromas are currently grouped under fibro osseous lesions according to the 2005 WHO classification[4].

The present paper describes a rare case of ossifying fibroma of the mandible in an 45year-old male, with a review of the literature on the subject.

Case report:

A 45 years old female visited a private clinic with a chief complaint of slow growing swelling and pain on left side of the mandible since 4 months . Her past medical and family histories were non-contributory. The swelling had been first noticed 14months back as very small oval shaped nodule which gradually increased to the present size. Clinical examination revealed a well defined swelling on the left side of the body of the mandible with Slight facial asymmetry On intra oral examination there was obliteration of the buccal vestibule from left canine teeth till the left 2nd molars . 1st,2nd premolar and 1st molar were missing .The swelling was solitary, well-defined, firm in consistency, tender, measuring approximately 2 × 2 cm extending from the left canine region to the left angle region. No evidence of lingual cortical plate expansion or perforation was noted.

Radiographic evaluation with OPG revealed a well defined mixed radiopaque – radiolucent lesion with diffuse foci of calcifications throughout in the left body of mandible with a thin, radiolucent line, representing a fibrous Capsule was seen separating it from surrounding bone. Inferior alveolar nerve canal could not be traced (Figure 1). Based on the clinical and radiographic features a provisional diagnosis of cement osseous dysplasia or ossifying fibroma was considered. Excisional biopsy of the mass was planned under local anesthesia .On exploration, the mass was well-demarcated from its surrounding bone and easily separated from the bony bed. The lesion was enucleated and was taken out in toto and sent for histopathological examination. Healing was uneventful on subsequent postoperative follow-up. Grossly, the specimen was a well-circumscribed mass measuring about 2×3×1 cm (Figure2) with areas of hardness. On cutting, the mass was hard and gritty in consistency. Histopathological examination revealed the presence of collagenous connective tissue showing fibroblasts, numerous ossified structures both in the form of globular as well as trabecular patterns. Few inflammatory cells and numerous blood vessels with extravasated RBCs were also seen. (Figure 3a,b)Based on the above histopathological features and correlating it with the clinical and radiological findings, a final diagnosis ossifying fibroma was made.

Discussion:

Ossifying firoma is uncommon lesion rarely seen in the jaws and craniofacial bones of head and neck region. Lesions of the jaws chacteristically arise in the tooth bearing regions[2].

The clinical presentation of ossifying fibroma is usually a round or ovoid, expansive, painless jaw bone mass that may displace the roots of adjacent teeth and sometimes cause root resorption. Early lesions are small and radiolucent. As they mature, they become mixed radiolucent and radiopaque lesion and finally a radiopaque lesion[5].

Microscopically, This bone tumor consists of highly cellular, fibrous tissue that contains varying amounts of calcified tissue-resembling bone, cementum, or both [6] .Ossifying fi-

Volume : 5 | Issue : 1 | Jan 2015 | ISSN - 2249-555X

broma of the jaws are believed to derive from the multipotential mesenchymal cells of the periodontal ligament which are able to form cementum, bone and fibrous tissue [7].

Various terms have been used to describe these benign fibro-osseous neoplasms. When bone predominates in a lesion, it is called an ossifying fibroma; while the term cementifying fibroma has been assigned when curved/linear trabeculae or spheroidal (psammoma-like) calcifications are encountered. When both bone and cementum-like material are observed, the lesions are then referred to as cemento-ossifying fibromas[8]. Earlier, many investigators classified cementifying fibromas separately from ossifying fibromas because the former were considered to be of odontogenic origin and the latter to be osteogenic. It is now agreed that both types fall under the same classification as osteogenic neoplasms. On the basis of an analysis of 64 cases classified as ossifying and/or cementifying fibroma, Eversole ***et al*** concluded that a distinction between these two variants would be academic, as no behavioral or histological differences exist. They suggested that nomenclature could be simplified by referring to all lesions in this group as ossifying fibroma[9]. An rare and aggressive variant of ossifying fibroma called as juvenile ossifying fibroma is seen in children and young adults who are usually below 15 yrs old. This lesion most commonly involves the paranasal sinuses and periorbital bones and behaves in a more aggressive fashion than does ossifying fibroma, and it usually require more extensive surgery [2].

Differential diagnosis of ossifying fibroma includes Fibrous dysplasia (FD),Osteoblastoma, focal cementoosseous dysplasia[2] .Surgical curettage or enucleation with a long term follow-up is the initial treatment of choice for small OFs, whereas surgical resection is indicated for the large lesions [7].Eversole et al reported a recurrence rate of 28 % following curettage[9]. Hence, a long term follow-up of the patients is recommended. In our case, we carried out surgical resection and reconstruction and the followup revealed normal healing.

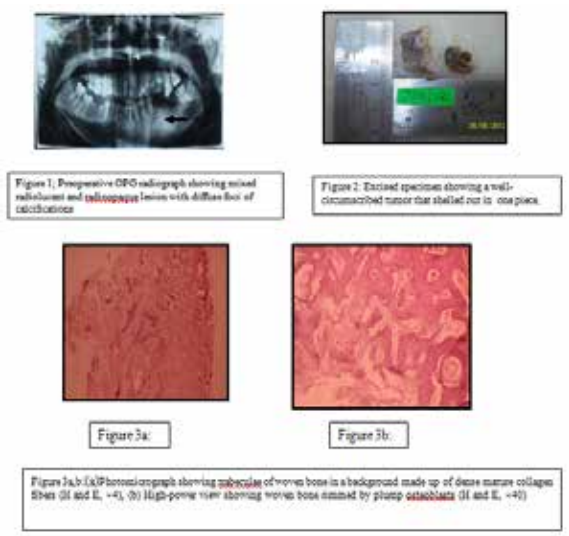
Figure 1; Preoperative OPG radiograph showing mixed radiolucent and radiopaque lesion with diffuse foci of calcifications

Figure 2: Excised specimen showing a well-circumscribed tumor that shelled out in one piece

Figure 3a:

Figure 3b:

Figure 3a,b: (a)Photomicrograph showing trabeculae of woven bone in a background made up of dense mature collagen fibers (H and E, ×4). (b) High-power view showing woven bone rimmed by plump osteoblasts (H and E, ×40)

Acknowledgement

All Authors would like to thank Prof.Dr. Pushparaja shetty ,MDS.Head of the dept of oral pathology ,A.B.Shetty memorial institute of dental sciences, for his constant support and encouragement.

REFERENCE

1. Neville BW, Damm DD, Allen CM, Bouquot JE. 3rd ed. Philadelphia: Saunders; 2009. Bone pathology. In, Oral and Maxillofacial Pathology; pp. 646–8. | 2. Regezi JA, Sciubba JJ. Oral pathology-clinical pathologic correlations. 3rd ed. Philadelphia: WB Saunders Co; 1999. p. 357–60. | 3. Booth PW, Schendel SA, Hausamen JE: Maxillofacial surgery. 2nd ed. St. Louis, Missouri: Churchill Livingstone; 2007. p. 506– | 4. Rajpal K, Agarwal R, Chhabra R, Bhattacharya M .Updated Classification Schemes for Fibro-Osseous Lesions of the Oral & Maxillofacial Region: A Review ,Journal of Dental and Medical Sciences. Volume 13, Issue 2 Ver. IV. (Feb. 2014), PP 99-103 | 5. Mintz S, Velez I. Central ossifying fibroma: An analysis of 20 cases and review of the literature. Quintessence Int. 2007;38:221–7 | 6. ziu Y, Wang H, You M, Yang Z, Miao J, Shimizutani K, et al. Ossifying fibromas of the jaw bone: 20 cases. Dentomaxillofac Radiol. 2010;39:57–63. | 7. Khan S A, Sharma N K , Raj V , & Sethi T.Ossifying fibroma of maxilla in a male child: Report of a case and review of the literature Natl J Maxillofac Surg. 2011 Jan-Jun; 2(1): 73–79. | 8. Kramer IR, Pindborg JJ, Shear M.. Histological typing of odontogenic tumours. 2nd ed. Berlin: Springer; 1992. | 9. Eversole LR, Leider AS, Nelson K. Ossifying fibroma: A clinicopathologic study of sixty-four cases. Oral Surg Oral Med Oral Pathol. 1985;60:505–11. |