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Case Report

Cemento-Ossifying Fibroma of Mandible- A Case Report

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Abstract: Cemento-Ossifying fibromas are rare fibro-osseous lesions that affect the jaw bones and are included in the group of mesodermal odontogenic tumours. Clinically, it is a large asymptomatic tumor of aggressive appearance. Four separate categories have been identified: Periapical cemental dysplasia, benign cementoblastoma, cementifying fibroma and a rare gigantiform variety. It has been suggested that the origin of these tumour is odontogenic or from periodontal ligament. This lesions commonly seen in women in 3rd and 4th decade of life. Usually in the jaw region the lesions are found mostly in the tooth bearing area. In this article, we present two cases of unusual presentation of Central Ossifying Fibroma involving lower border of mandible and its management.

Keywords: Peripheral cemental dysplasia , benign cementoblastoma, cementifying fibroma , central ossifying fibroma.

INTRODUCTION

Cemento-ossifying fibroma (COF) is the most common benign fibroosseous neoplasm of the oral and maxillofacial region. It was described by Menzel in 1872 but was appointed by Montgomery in 1927. This lesion tends to occur in the second and third decades of life, commonly in women, and in the mandible [1]. In jaws, the lesions are found mostly in tooth bearing areas, which is consistent with higher rate of bone and cementum induction in these areas. This expansion is symmetric from epicentre to tumour creating a spherical and egg- shaped mass on plain radiograph and CT scan [2]. Radiographically, the lesion usually has a distinct boundary and in the early stages, it presents as a radiolucent area [3]. As they enlarge and mature, they will become mixed radiolucent-radioopaque, then completely radiopaque [2]. The radiographic characteristics of COF were first described by Eversole et al in 1985, ranging from expansile unilocular radiolucencies to multilocular configuration [4]. Treatment comprises surgical resection of the lesion with enucleation and curettage of the bone bed [5].

CASE REPORT

A 57 years male patient presented with a swelling over left side lower border of mandible (Fig 1). On extra oral examination, a left lower mandibular swelling measuring 4x3 cm non tender lobulated with defined margins, immobile, bony hard swelling. On intra oral examination mucosa over that area shows no unusal features. 3D C.T. scan shows a bony mass in the lower border of mandible, which involved body and lingual cortical plate, lobulated and multifocal in nature (Fig. 2). On gross examination, solitary mass of bony hard tissue attached to part of left body of mandible measuring 4x3x1.8cm (Fig.6). Microscopically, it reveals multiple bony trabeculae, osteoid and densely hematoxiphilic calcified masses, resembling cementum in highly cellular and vascular connective tissue stroma. The surgical clearance was around 1cm. Histopathologically, diagonosis of central cemento-ossifying fibroma was confirmed. In this case, we planned to perform wide local excision of lesion. Standard submandibular approach was adopted (Fig. 3 & 4). Lower border of mandible exposed and the bony mass was excised with margins of 0.5cm with recontouring of the bony bed was performed (Fig.5).

Fig-1: Left mandibular swelling

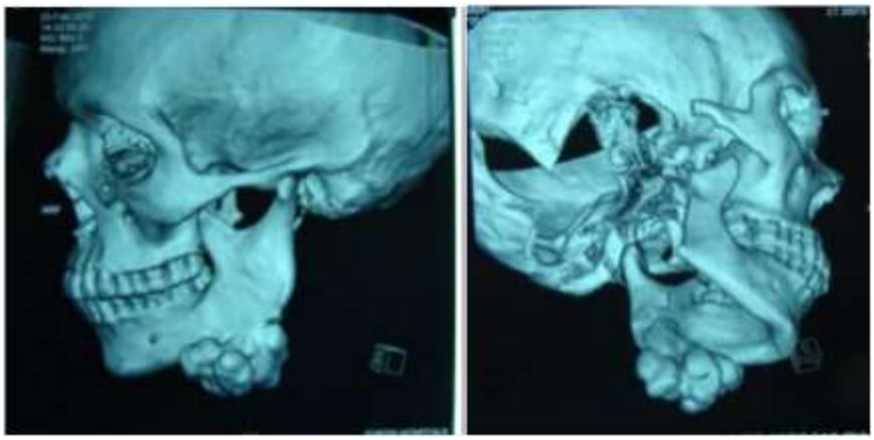

Fig-2: 3D computed tomography showing the exact position and size of the lesion

Fig-3: Standard submandibular incision markings

Fig-4: Sub-platysmal flap reflected adequately exposing the lesion

Fig-5: Recontoured bony bed `after removal of the lesion

Fig-6: Excised surgical specimen

DISCUSSION

Cemento-ossifying fibroma is an unusual benign odontogenic tumor that is limited to the teeth bearing jaws and facial bones**.** The expansile and heterogenous feature of cemento ossifying fibroma often makes it resembles fibrous dysplasia. In addition other benign tumour of bone, such as osteoblastoma, and some odontogenic cyst and tumour such as calcifying odontogenic cyst, calcifying epithelial odontogenic tumour, cementoblastoma, florid cement-osseous dysplasia may radiographically resemble a cemento-ossifying fibroma.

At a very early stage of the tumour growth which are small, well demarcated and clinically encapsulated are treated by enucleation and curettage.

As the tumour was near the lower border of mandible we choose the extraoral approach to adequately expose and wide local excision was performed.

The WHO, classifies cemento-ossifying fibroma, as a fibro-osseous neoplasm included among

the non-odontogenic tumours derived from the mesenchymal blast cells of the periodontal ligament, with a potential to form fibrous tissue, cementum and bone or a combination of such elements [6, 7]. Though the term cemento-ossifying fibroma is still in common usage today, it is scientifically inaccurate because it refers to a clinical presentation and histopathologically that also occurs in areas where there is no cementum, such as skull, femur, tibia, etc. It has also been reported in the Orbital and petromastoid regions, and the maxillary, ethmoidal, frontal and sphenoidal sinuses too [4, 8]. Moreover, there is no histologic or biochemical difference between cementum and bone. Pathologist recognize a bone-like mineralized tissue to be cementum only if it clings to the dentin of a tooth root. If it is not on tooth root surface, one cannot distinguish cementum from bone [8]. fibromas have arbitrarily been called cementricles. However these so- called cementricles are not related to dental cementum, but instead represent a dysmorphic product of this tumour analogous to the keratin pearls that are a dysmorphic product of squamous cell carcinoma [1, 9].

CONCLUSION

Cemento-ossifying fibromas are Ossifying fibromas; which is a very common term in the list of tumours in the bone except jaw bones. But those that happen to occur in jaws should not be called cemento-ossifying fibroma simply because of presence of teeth in the nearby area, probably it may be called cementiform ossifying fibroma because of the presence of ivory like calcified amorphous non lacunated hard tissue which is similar to cementum but less similar to bone.

In the year 2005, WHO condensed the term ‘Cementifying/Ossifying/Cemento-ossifying fibroma’ to ‘Ossifying Fibroma’ [10].

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