Cemento Ossifying Fibroma: 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. 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 a case of unusual presentation of Central Cemento Ossifying Fibroma involving lower border of mandible.

Key word: Cemental Dysplasia; Benign; Cementoblastoma; Cementum; Fibroma; Cemento-Ossifying Fibroma.

INTRODUCTION

Cemento-ossifying fibromas are rare benign, non-odontogenic tumors of the jaw, a subdivision of fibro-osseous lesions. This tumour characteristically expands slowly and asymptptomatically. This expansion is symmetric from epicentre to tumour creating a spherical and egg-shaped mass on plain radiograph and CT scan. This tumour is seen most commonly in women in their 20s and 30s, but those younger and older, as well as male are also affected.

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. The lesions also found in the ramus, but at a lower incidence. Radiographically, the lesion usually has a distinct boundary and in the early stages, it presents as a radiolucent area. As they enlarge and mature, they will become mixed radiolucent-radiopaque, then completely radiopaque. Treatment comprises surgical resection of the lesion with enucleation and curettage of the bone bed.

CASE REPORT

A 59 years male patient presented to our institute with a swelling over right side lower border of mandible extending in the submandibular region. On extra oral examination, a right lower mandibular swelling, 4 x 4 cm non tender, smooth with defined margins, immobile, bony hard swelling was evident. There was no accompanying cervical lymphadenopathy. On intraoral examination, mucosa over the area was normal, and showed no unusual features. Computed tomography on 3D scan shows a bony mass in the lower border of mandible, which involved body and lingual cortical plate and had heterogenous character.

Figure 1: Shows swelling in the right submandibular region.

In this case we planned to perform wide local excision of lesion. Standard submandibular approach was adopted (Fig 3). Platysmal flap was reflected. Dissection performed through subplatysmal plane preserving the marginal mandibular nerve (Fig 4). Lower border of mandible exposed and the bony mass was...
excised with margins of 0.5cm followed by recontouring of the bony bed (Fig 5). and vascular connective tissue stroma. The surgical clearance was around 1cm. Histopathologically, diagnosis of central cemento-ossifying fibroma was confirmed.

Figure 2: 3D computed tomography showing the exact position and size of the lesion.

Figure 3: Shows standard submandibular incision.

Figure 4: Sub-platysmal flap reflected adequately exposing the lesion.

Figure 5: Recontoured bony bed after removal of the lesion.

Figure 6: Excised surgical specimen.

DISCUSSION

Cemento-ossifying fibroma is an unusual benign odontogenic tumor that is limited to the jaws and facial bones. The expansile and heterogenous quality 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 an cemento-ossifying fibroma.

Early tumour that are small, well demarcated and clinically encapsulated are treated by enucleation and curettage. However, because many patient allow this tumour to reach enormous size, resection is usually recommended under the following condition.2

1. Involvement of inferior border
2. Extension into maxillary sinus or nasal cavity
3. Loss of encapsulation radiographically or clinically2

In these cases, the tumour present on and adjacent to the inferior border of mandible, far beyond from tooth bearing area, specifically periodontium and cementum, which is very unusual. 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.1,6 Although 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.7,8,9

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.9 What has fueled the retention of the term cemento-ossifying fibroma is that the dysmorphic round basophilic bone particles that can be seen within ossifying fibromas have arbitrarily been called cementicles. However these so-called cementicles 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.2,10

CONCLUSION: All cemento-ossifying fibroma 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.

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REFERENCES


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