



CEMENTO-OSSIFYING FIBROMA- A CASE REPORT

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ABSTRACT

The cemento-ossifying fibroma is classified as a fibro-osseous lesion of the jaws. It commonly presents as a progressively growing lesion that can attain an enormous size with resultant deformity if left untreated. The clinical, radiographic and histological features as well as surgical findings are presented. The cemento-ossifying fibroma is a central neoplasm of bone as well as the periodontium which has caused considerable controversy because of the confusion regarding terminology and the criteria for its diagnosis. The present article discusses a case report of Cemento-ossifying fibroma involving the left maxilla and its management.

INTRODUCTION

Cemento-ossifying fibroma is defined by WHO as a demarcated or rarely encapsulated neoplasm consisting of fibrous tissue containing varying amount of mineralized material resembling bone or cementum. Cemento-ossifying fibroma is the most common benign fibro-osseous lesion (neoplasm) of jaws and is a well defined unilocular or multilocular lesion with a slowly progressing enlargement of the affected jaw [1,2].

LITERATURE REVIEW

Menzel in 1872 gave a description of variants of ossifying fibroma called COF. Ossifying fibroma was first reported in the jaw by Montgomery in 1927. In 1968 Hamner and colleagues proposed that ossifying fibroma, cement-ossifying fibroma and ossifying fibroma are the histological variants originating from the periodontal ligament; WHO designates the cementifying fibroma as odontogenic and the ossifying fibroma as nonodontogenic in origin and suggests that they are separate entities but finally it was concluded that separation of the three conditions is arbitrary because the clinical, radiologic and prognostic features of the lesions are identical [3,4].

Etiopathogenesis

The fact that this tumor is most common in the jaws is related to the vast amount of mesenchymal cellular induction into bone (lamina dura) and cementum (a bone layer covering tooth roots) required in odontogenesis; the probability of induction error or genetic alteration leading to a neoplasm is therefore greater [5].

Pathologic examination

The central cemento-ossifying fibroma shows a proliferation of irregularly shaped calcifications within a hypercellular fibrous connective tissue stroma [6]. The calcifications are extremely variable in appearance and represent various stages of bone and cementum deposition. Histologic differentiation between osteoid and cementum is difficult. In some cases, most of the calcified fragments are immature cementum, with basophilic coloration on hematoxylin and eosin-stained sections [7,8].

These tumors have been named central cementifying fibroma. In other cases, the calcified fragments are osteoid, with typical eosinophilic coloration on hematoxylin and eosin-stained sections. These tumors have been named central ossifying fibromas. In some cases, the calcified materials predominate the tissue and such lesions are designated as psammomatoid ossifying fibromas.

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Case report

A female patient named Sushma Pandey 36 yrs reported to the Department of Oral Medicine & Radiology, Career Post graduate Institute of Dental Sciences, Lucknow with the Chief complaint of painless swelling on the left upper side of face since 6 months.

History of Presenting Illness

It revealed that initially the swelling was smaller in size approximately 1cm and it grew slowly and has reached to its present size in last 1.5 years. Patient was also suffering from difficulty in eating food. No history of Paraesthesia or anaesthesia and there was no history of trauma.

Extra Oral Examination

Revealed that face of the patient was bilaterally asymmetrical with the diffused swelling roughly circular in shape measuring about 3-4cm in its greatest dimension extending antero-posteriorly from the inner canthus of the eye to the angle of the mandible and superior-inferiorly from the infra orbital margin to the angle of the mouth. Swelling was non-tender on palpation, hard in consistency, non-fluctuant and had diffused borders, temperature of the overlying skin was not raised. TMJ was normal without any deviation, clicking sound or tenderness. Sub-mandibular lymph nodes on the left side were palpable, non-tender, firm in consistency and mobile.

Intra Oral Examination

Soft tissue examination showed solitary dome shaped swelling measuring about 3-4cm in its greatest

dimension in the left upper posterior teeth region extending antero-posteriorly from the mesial surface of 24 to the retro molar area.

Palpation

Swelling was Non-tender on palpation, hard in consistency with well-defined borders. There was no vestibular tenderness, no pus discharge, no crepitus was evident. Considering the history and clinical examination, provisional diagnosis of Florid Cemento-osseous dysplasia was given.

OPG

It revealed the presence of well-defined roughly spherical shaped radiopaque lesion with radiolucency at certain areas extending mesio-distally from the distal root surface of 25 to the mesial root surface of 28 having radiolucent rim surrounded by sclerotic border which is thicker distally. Half of the mandibular jaw bone on the left side was missing.

Histopathology

Microscopic section showed the presence of fibro-cellular connective tissue with calcified material. Fibro-cellular connective tissue is composed of thick bundles of collagen fibres and large plump, proliferating fibroblast with eosinophilic cytoplasm and dark nucleus. The calcified material composed of few irregular trabeculae of bone and numerous spherical shaped cementum like material. These findings are suggestive of Cementifying/ ossifying fibroma [9].

Figure 1. Intra-Oral view showing swelling i.r.t 24-28 tooth region



Figure 2. Orthopantomogram showing radioopaque mass i.r.t 24-28 tooth region



CONCLUSION

WHO classifies cemento-ossifying fibroma as a fibro-osseous neoplasm, included among the non-odontogenic tumors, derived from the mesenchymal blast cells of the periodontal ligament, and with a potential to form fibrous tissue, cement and bone, or a combination of

such elements [10]. However, there is controversy over such an origin, since tumors of similar histology have been reported in bone lacking periodontal ligament and not located in the maxillary or mandibular regions, such as the ethmoid bone, frontal bone or even long bones of the body

(cementiform fibrous dysplasia) [11]. These lesions are slow-growing, and are most often seen in women between the third and fourth decades of life. While one-half of all cases being asymptomatic, the growth of the tumor over time may lead to facial asymmetry; the mass causing discomfort or mandibular expansion, and the possible displacement of dental roots. Although the underlying exact cause is not known yet, majority of the cases in literature have been found to have a history of trauma in the area of the lesion. The recommended treatment of the central cement-ossifying fibroma is excision. Due to the good delimitation of the tumor, surgical removal and curettage is also a treatment of choice.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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