Case Report

Cementifying Fibroma of Mandible: A case report.

Ramesh G, Raj A, Nagarajappa R, Pandey A

Abstract: Cementifying fibroma is a rare benign fibro-osseous tumor clinically presenting as a painless, slowly growing mass in the jaw well circumscribed, and occurs more frequently in females. Thus the lesion is frequently ignored by the patient until the growth produces a noticeable swelling and facial deformity. The present case is cementifying fibroma in a 25 year old female patient and is presenting as facial asymmetry of right side. It is being reported here because of its rarity and the insufficient information concerning these in the dental literature.

Key words: Cementifying; Fibroma; Fibro osseous; Mandible; Odontogenic.

INTRODUCTION

The term fibro-osseous lesion is a generic designation of a group of jaw disorders that microscopically exhibit a connective tissue matrix and islands/trabeculae of bone. Fibro-osseous lesions have been a subject of controversy and a matter of discussion amongst both pathologists and clinicians. Waldron in 1985 came out with a better detailed grouping of fibro-osseous lesions based on their pathogenesis, histopathology and clinical features.[1,2] Cementifying fibroma, a benign fibro-osseous lesion of the jaws is usually well circumscribed, generally grown slowly and occurs more frequently in females. Few recurrent cases of cementifying fibromas that have been reported in the literature that have showed aggressive behavior and recurrences, the recurrences were related to the inherent biologic behavior of the tumor rather than to insufficient surgical removal.[3,4]

This tumor generally occurs in young and middle-aged adults, most frequent between 35 and 40 years of ages.[5,6] There is a marked predilection for the female sex, the female:male ratio is 2:1.[7] Central cemento-ossifying fibromas of the mandible are common, but they are unusual in the maxilla.[8] Although WHO and Shafer regard the cementifying fibroma as an odontogenic tumor and consider ossifying fibroma separately as non-odontogenic neoplasms, this seems arbitrary and unnecessary separation, as the clinical radio logic and prognostic features of the lesions are identical.[9]

In 1971, World Health Organization (WHO) categorized four types of cementum-containing lesions: fibrous dysplasia, ossifying fibroma, cementifying fibroma, and cemento-ossifying Fibroma.[10] Since this kind of tumors are slow growing mass in the jaw, thus the lesion is frequently ignored by the patient until the growth produces a noticeable swelling and facial deformity. [11]

The present case of intraosseous cementifying fibroma in a middle aged female patient is reported due to the rarity of such lesion, truly consisting of cemental component with absence of osseous component and the lack of information concerning them in the dental literature.

CASE REPORT

A 25-year-old female patient reported to the institution with a chief compliant of pain and swelling in the left mandibular region with asymmetry on the same side (figure 1). The patient had noticed slight bony enlargement few years back and since last two years it has caused lower facial asymmetry and pain the same region.

Figure 1: Extra oral photograph showing facial asymmetry on right side of mandibular region.

The intraoral examination demonstrated an enlargement of the buccal mandibular right region, extending to the area of the 44 to 46. The swelling was bony hard, and slightly

tender with no fluctuation on manual palpation. The overlying gingival and alveolar mucosa had normal color and was smooth in texture. On OPG the apex of 45 and 46 were slightly resorbed. The margins of the lesion was well-demarcated with the bone pattern being radiolucent with a few wispy trabeculae

The tumor was excised along with the thinned out cortical plate of buccal aspect. The size of the tumor tissue was 1.5X2.3cm, soft to hard in consistency, grayish to creamish in colour and solid in nature. On microscopic analysis the tumor sections revealed highly cellular spindle cells of fibroblastic type along with bundles of collagen densely packed and proliferating fibroblasts.

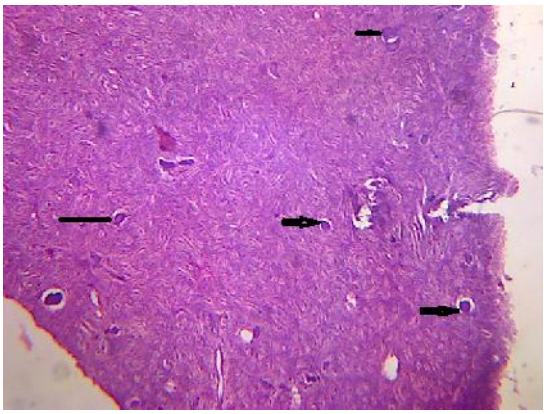

Figure 2: Photomicrograph showing fascicular arrangement of spindle cells with cementum like globular masses (10X).

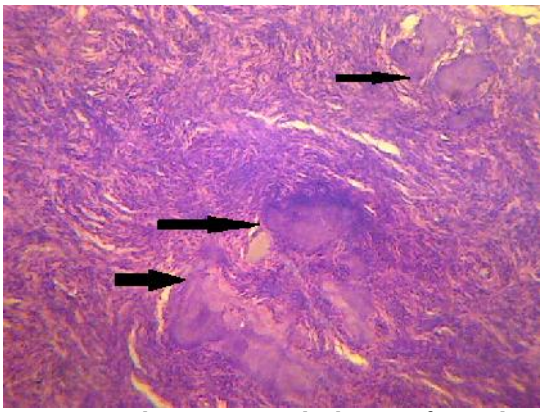

Figure32: Photomicrograph showing fascicular arrangement of spindle cells with large cementum like globular masses (40X).

There was presence of spherules or globules of acellular mineralization that resembled dental cementum (cementoid type) (figure 1), some discretely distribute and few fused as conglomerate masses (figure 2). Based on these findings diagnosis of cementifying fibroma was made. The postoperative follow up was favorable, and after few months the patient reported no discomfort in the area.

DISCUSSION

One of the distinct forms of benign fibro-osseous lesions of the jaw bones is Central cementifying Fibroma.[10] A close histogenetic relationship exists between the central cementifying fibroma and the central ossifying Fibroma. Both these have a marked similarity between these two lesions in relation to tendency of age of occurrence, gender, race, location, clinical behavior, and roentgenographic appearance. The only difference between the two being in the type of cell involved and its end product-cementum in one case and bone in the other. This has prompted many to use the term cemento-ossifying Fibroma.[11]

Fibro osseous lesions were once classified into three main categories namely, fibrous dysplasia, fibro-osseous lesions such as ossifying and cementifying fibroma, and fibro-osseous neoplasms such as juvenile active ossifying fibroma. Recently they have been reclassified into fibrous dysplasia, reactive lesions arising in the tooth-bearing area, and fibro-osseous neoplasms such as cementifying and ossifying or cemento-ossifying Fibroma.[12]

Menzel gave the first description of a variant of ossifying fibroma, which was a benign fibro-osseous neoplasm, calling it as a cemento-ossifying fibroma in the year 1872.[13] In 1992, the World Health Organization (WHO) revised the nomenclature, and the separate lesions of cementifying fibroma and ossifying fibroma were named as a single entity of “cement-ossifying fibroma”.[14]

The diagnosis and management of the fibro-osseous lesions in the mandible or maxilla are difficult due to their clinical, radiographic and histologic criteria often overlapping and cause confusion to clinicians, radiologists, pathologists and oral surgeons. This can result in differences of opinion and management of this lesions.[15]

The cemento-ossifying fibroma is a well-circumscribed lesion not continuous with its surrounding bone. This lesion slowly or actively grows bigger, until it is removed surgically. Those large lesions increasing in size to over 80 mm in their greatest diameter have been termed 'giant ossifying fibroma'.[16] A small lesion of the lower jaw can be enucleated without difficulty, but a larger lesion involving the inferior border of the mandible or exhibiting a rapid growth is sometimes treated radically using bone grafts.[17,18] The recurrence of these benign tumours following surgery is considered rare. However, Eversole and his coworkers in a study of 64 cases of cemento-ossifying fibroma reported a recurrence rate of as high as 28% following surgical curettage of this lesions.[19]

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).[20] The hybrid name central cement - ossifying fibroma is also used, as these tumors can display a spectrum of fibro-osseous lesions, ranging from those with only deposition of cementum to those with only deposition of bone, and arising from the periodontal ligament.[21] These tumors are thought to arise from the periodontal ligament, accounting for the usual vicinity to teeth.[22]

CONCLUSION: The presentations of fibro-osseous lesions are so variable that can present markedly separate clinical and radiologic entities, depending on the proportion of fibrous to osseous tissue within the lesion. The combined historical, clinical, radiographic and histopathologic data with surgical findings are though essential, but still causing a lot of confusion in diagnosis and treatment pattern. There is a requirement for further studies to establish the exact nature of these lesions, to identify the characteristics of its clinical features, radiological and histological features for a definitive diagnosis and treatment planning.

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