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Case Report

Juvenile Ossifying Fibroma – A Case Report

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Abstract

This article was to report on a case of ossifying fibroma with a surgical treatment plan followed by our team. Ossifying fibroma is a rare fibro osseous lesion, proper diagnosis of these lesions requires combination of its clinical, radiological and histological features. We hereby, report a case of ossifying fibroma in relation to the lower right one-third of the face.

Keywords: *Ossifying Fibroma, juvenile ossifying fibroma, free fibula graft.*

Introduction

Ossifying fibroma is a benign neoplasm that is asymptomatic, that grows slowly and proliferation of fibrous cell tissue is seen that includes bone or cementum or a combination of both. (1) Mandible posterior region is the most common site for the lesion to occur (70-90%). Mostly the lesion goes unnoticed unless the extraoral swelling present is prominent by the patient. In 1985, there are two radiographic characteristics of ossifying fibroma as described by Eversole et al, expansile unilocular radiolucent pattern and multilocular configuration.[2]. Enucleation, curettage or resection is considered as the treatment for larger lesions. The rate of recurrence is usually low [3].

Patient and Observation

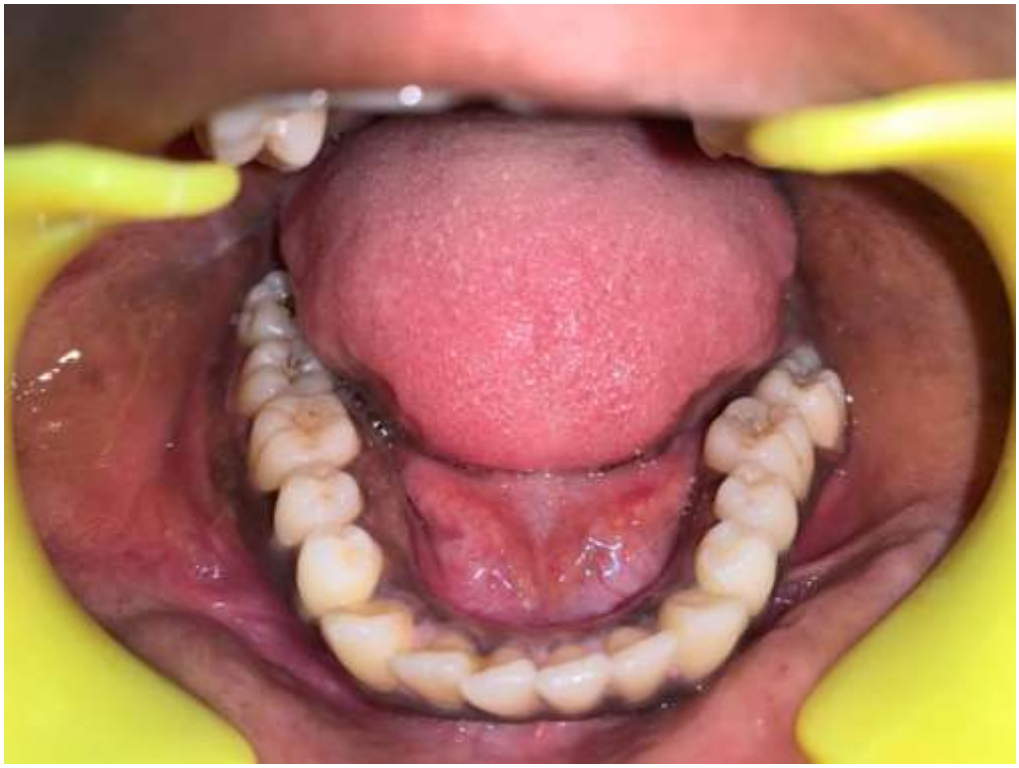
A 17-year-old female patient came to the Department of Oral and maxillofacial surgery with complaints of painless growth over the left side of jaw for 4 months. The lesion was increasing is size rapidly.

Extraoral findings

Extraoral examination showed a diffuse swelling measuring 5*5 cm in the right side of the face extending over the right lower border of the mandible. The skin over the face was normal and there was no rise in temperature. No sinus tract or fistula is seen. The swelling was non-tender and the consistency of swelling was hard on palpation. Fluctuation is absent. Lymph nodes were non palpable

Intraoral Examination

Intraoral examination showed a diffuse swelling and bicortical expansion from mesial of 44 to ascending of ramus. No tenderness on palpation was present. Swelling was firm and hard in consistency and it was non-tender on palpation, No fluctuations, No rise in temperature. Occlusion was normal, anterior open bite was present.

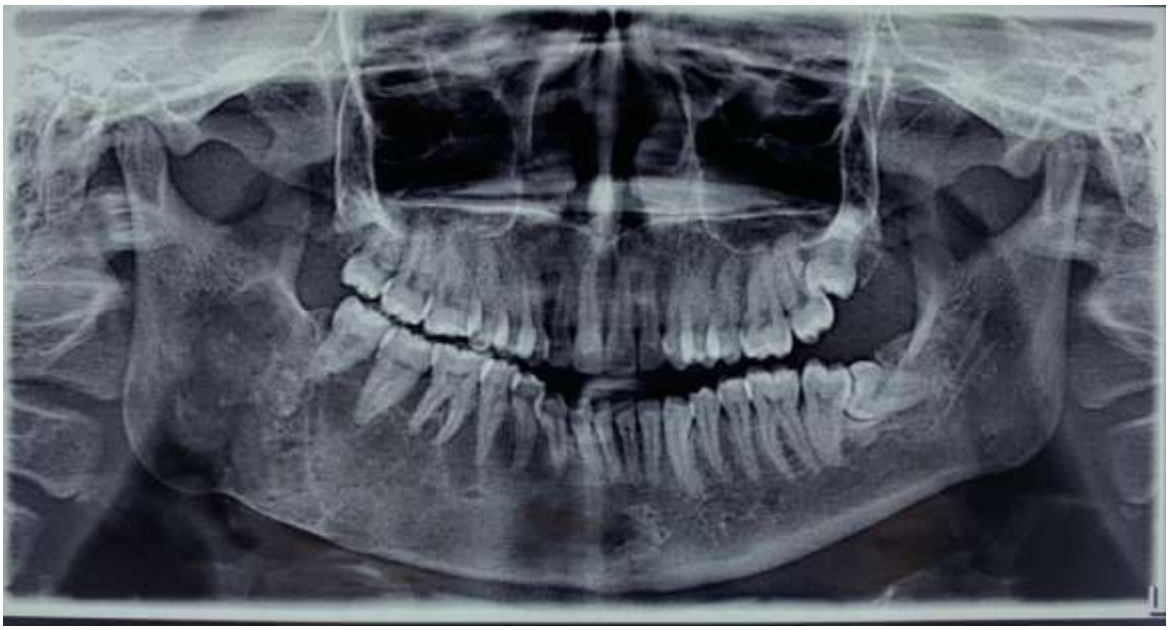


Investigation:

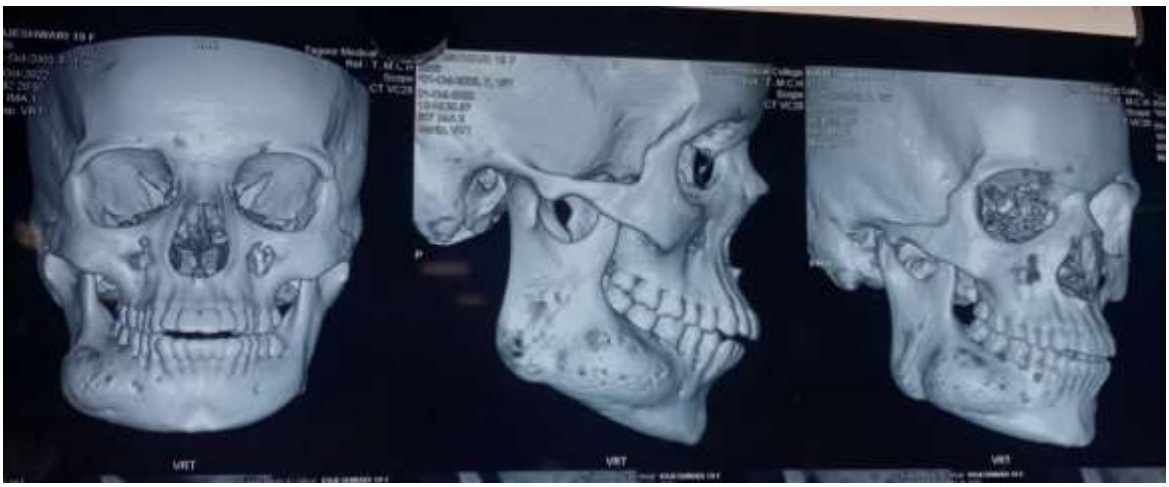
Orthopantomogram of patient's mandible show radiolucency in the right lower posterior region which is well defined extending from 43 to to angle of mandible in the right side. Margin is sclerotic and scalloped. Internal structure show ground glass appearance. CT shows expansile lytic lesion which measures in the right side of the mandible extending anteriorly to the parasymphysis, posteriorly to angle of the mandible, superiorly to the alveolar process.

The lesion was a well-defined expansile lytic lesion with areas of ground glass density in the anterior and inferior part of the lesion and few areas of scattered calcifications within the central part of the

lesion in the body of the right mandible, extending from the angle of mandible posteriorly and upto the midline of mandible anteriorly with no periosteal reaction and no adjacent soft tissue component. There is cortical breach noted in the lateral wall of the lesion. Medial cortex appears intact. Rest of the mandible appears normal. - Features consistent with ossifying fibroma.



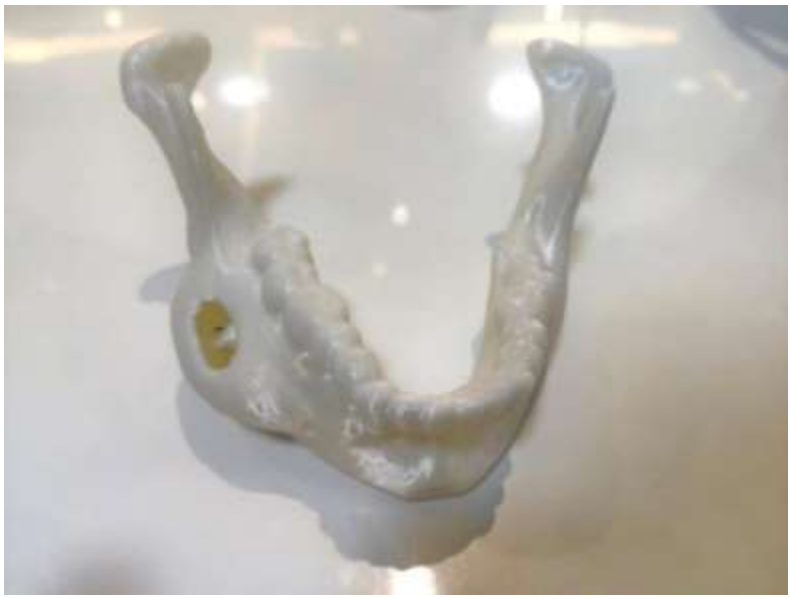
A) Orthopantomogram



B) Computed tomography

An incisional type of biopsy was done, tissue was analyzed in the histopathological laboratory. The report shows highly cellular connective tissue with irregular bony trabeculae with osteoblastic rimming, suggestive of ossifying fibroma. Based on the reports surgical procedure were undertaken.

Surgical Procedure



General anesthesia induced by nasotracheal intubation. Submandibular incision given extending from midline of neck to angle of mandible. Followed by soft tissue dissection. Facial artery and common facial vein ligated. Facial nerve identified and preserved. Submandibular gland and submental lymph node excised. mandible resection was done extending from lower right canine region to ascending ramus region. Free fibula graft harvested from left leg. Graft shaped and placed in the respected region with the help of pre-fabricated recon plate. Graft anastomosed using 9-0, 8-0 ethilon. Layered closure done in 3 layers in donar site. Drain placed. Closure done using 9-0 vicryl, 9-0 ethilon.

Discussion

True OF is relatively rare, since, for a long time, the lesions that were so diagnosed were in fact focal cemento-osseous dysplasias.[4,5,6].OF is a benign, slow-growing fibro-osseous neoplasm of the jaws with a significant growth potential that contains fibrous tissue and a mixture of bone trabeculae and cementum-like spherules [7,8].

The nomenclature and classification of this condition were considered unclear [9]. Some authors even consider the cementum-like material to be a mere variation of bone tissue [7, 8].

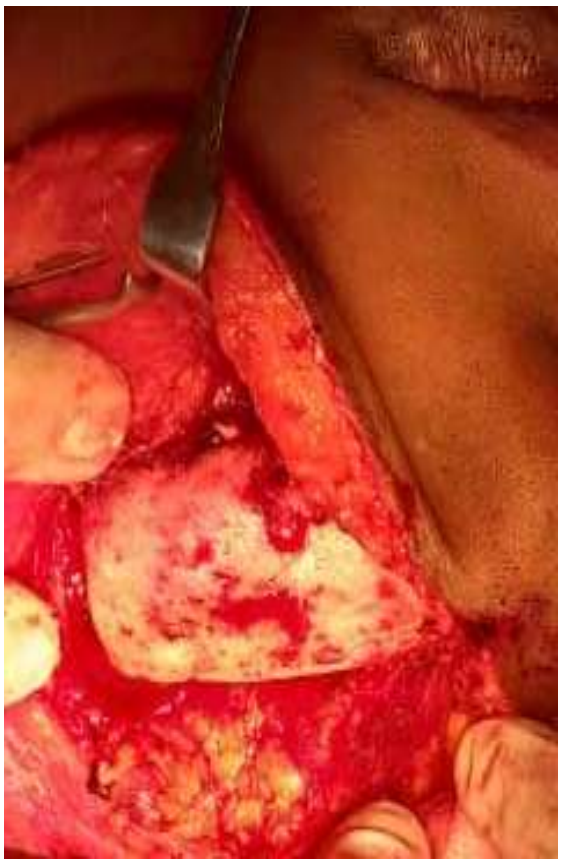
Currently, OF has two variants: true OF and juvenile [4].It is believed that this benign tumor has an odontogenic origin or is derived from multipotent mesenchymal cells of the periodontal ligament, which are able to form calcified tissues, such as bone and cementum, that are often present in the toothed portion of the maxilla and mandible [7,10,11, 12].

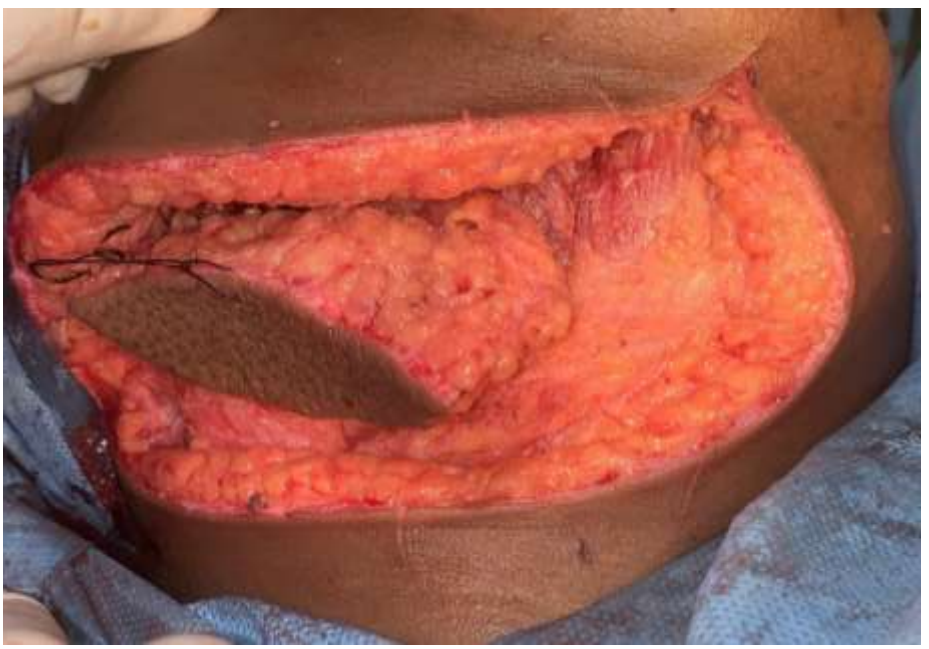
Some authors recognize that, although this lesion is often confined to the jaws, very similar lesions have also been reported in the long bones in this respect, microscopically identical neoplasms with cementum-like differentiation have been found in other sites, such as the orbit, frontal bone, zygomatic bone, ethmoid bone, sphenoid bone, temporal bone, and tibia [4]. It is believed that this benign tumor has an odontogenic origin or is derived from multipotent mesenchymal cells of the periodontal ligament, which are able to form calcified tissues, such as bone and cementum, that are often present in the toothed portion of the maxilla and mandible [10,11,7, 12]. OF can occur at any age, but is more common in the third and fourth decades of life [4,5,13,6,10,11,14]. In a review of published cases, the mean age of patients with OF was 25-26 years [5]. This tumour is more frequent in women [5,13,6,10,14], with a predilection for the mandible, where the most common site of involvement is the molar/premolar region [5,13,6,10,11]. Although most studies indicate a higher prevalence in women, there are data that appear to show the opposite, such as those of a recently published 10-year retrospective analysis, which reported a prevalence rate of 56% in men [15]. However, local pain and paraesthesia are rare manifestations [4, 5, 14, 16, 17].

According to a systematic review conducted in 2009, 31% of OF cases are found incidentally [6]. Radiographically, OF presents as a well-defined unilocular lesion, often with a sclerotic border but without perforation of the buccal cortical plate [4]. A multilocular presentation may be observed, often

as radiolucent lesions with radiopaque foci [10, 15]. However, some studies have reported that the most common presentation of OF is as completely radiolucent lesions in 53% of cases vs. radiolucent areas with radiopaque foci in 40% of cases [5, 10].

The differential diagnosis of OF is primarily with fibrous dysplasia, as they share clinical, radiographic and histopathological features [4, 13, 10, 8]. some authors argue that lesions may or may not be surrounded by a fibrous capsule [4, 6]. An important factor in the differentiation of these two conditions is the recurrence rate of approximately 25% for fibrous dysplasia vs. the low recurrence rate reported for OF [13]. In addition to fibrous dysplasia, the differential diagnosis should also include focal cemento-osseous dysplasia, periapical cemento-osseous dysplasia, osteoblastoma, desmoplastic fibroma, cementoblastoma, and osteoid osteoma [5, 10].





Conclusion

The diagnosis of ossifying fibroma was based on clinical, radiological, histological confirmation. Complete removal of the lesion with regular post excision follow-up to minimize the chances of recurrence.

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