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CASE REPORT

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Unilateral Ossifying Fibroma Independent of Dental Area in Mandible A Case Report

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ABSTRACT

Introduction: Fibrosis lesions include a group of diseases of different origin and etiology. In which bone is replaced by connective tissue. These lesions include fibrous dysplasia, fibroid ossification, cementoceus dysplasia, and cementoma. Fibroma ossification is a benign, painless, high-expansion neoplasm that originates in almost all cases of the periodontal ligament and can be radiolucent, radiopaque, or mixed depending on the degree of maturity. Treatment plan will vary from conservative to radical depending on the extent of the lesion.

Case Presentation: The patient is a 41-year-old woman without an underlying disease who has been experiencing painless swelling with mild paraesthesia of 3 * 3 dimensions with bony consistency in the mandibular border for the past 8 months. After radiographic examination and preparation of OPG, CBCT and aspiration and incisional biopsy, fibrose ossification lesion was diagnosed. The lesion underwent segmental resection partial. And a number of reconstruction plates were used to rebuild the border.

Conclusion: Although of is known as a benign neoplasm of dental origin, what was found in this case was a completely unrelated lesion under the mandibular border, which, although benign, was due to its rapid growth and the extent of its curative treatment.

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Introduction

Fibrosseous lesions include a group of diseases with different etiologies, treatments, and different prognosis that are characterized by bone replacement with a connective tissue matrix that involves degrees of mineralization [1]. According to the latest edition of the World Health Organization(WHO) on the classification of tumors of the head and neck in 2017, fibrosseous lesions include fibrosis dysplasia, ossifying fibroma, cementoma and familial gigantiform fibroma and cementosseous dysplasia [2,3]. The most common of which is dysplasia fibrosis. Fibroma ossifying is an uncommon benign neoplasm that grows almost anywhere on the facial skeleton, especially in the jaw. And there is new bone, cement or its like material. The lesion is thought to originate in the periodontal ligament of the teeth [4,5]. However, some researchers believe that the tumor is the result of overgrowth of fibromyxoma stroma, including the growth of septa in the sinus during pregnancy and its subsequent pneumatization [6-8]. The frequency of this lesion is higher in the mandible than in the maxilla and in the premolar and molar area [9, 10]. Most of this lesion is towards women and is more common in the third and fourth decades of life. And if it is less than 15 years old, it is called Juvenile ossifyng fibroma. Painless swellings that may be associated with displacement or root resorption of adjacent teeth and cause cosmetic problems for patients are characteristic of this disease [11]. Radiographic features vary depending on the degree of maturity of the lesion from completely radiolucent to completely radiopaque or a combination of both [7]. The treatment plan varies from conservative treatment to radical surgery depending on the extent and location of the lesion [12-16]. in 2021a study by Satya et al reported a gigantiform ossifying fibroma in the maxilla involving the maxillary and ethmoid sinuses, as well as nasal and orbital cavities in a 21-year-old woman [17]. It is important that bilateral fibroid ossification lesions in the mandible are very rare [18]. Fibroma ossification is more common with dysplasia fibrosis in terms of clinical, radiographic and histopathological features. However, the presence of GNAS gene mutation in fibrosis diplasia and the absence of its mutation in OF will differentiate the two lesions, although its diagnostic certainty is still debated [19,20]. OF is a sporadic and non-syndromic lesion. However, this lesion can be part of familial hyperparathyroidism jaw tumor syndrome (HPT-JT). In addition to multiple OF lesions, Cemento ossifying fibroma (COF) also has uterine, renal masses and Wilm`s tumor and is caused by an autosomal dominant disease with suppressor tumor mutations in the CDC73 gene [21]. Studies have shown that Central ossifying fibroma can be associated with other odontogenic tumors such as Adenomatoid odontogenic tumor, Compound odontoma, Florid cement osseous dysplasia. This feature is rarely seen in tumors such as cementoblastoma [22,23].

What is referred to in this article is the expression of an OF case in an uncommon location below the lower mandibular border.

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Case Presentation

The patient was a 41-year-old female who referred to the outpatient clinic of Bahonar Hospital in Kerman 2 months ago. Symptomatic examination showed no signs of any medical problems. And the patient mentions only the history of kidney stone removal surgery in 5 years ago. The patient complains of swelling of the lower border of the mandible and paraesthesia on the right side, and according to the patient, this swelling was created about 8 months ago and is growing. The patient also complains of slight paraesthesia in the lower right lip area. In clinical examination, a lesion measuring 3 x 3 cm2 with firm and bony consistency was felt in the lower border of the mandible near the angle. The lesion was normal skin color and showed no erythematosus or tenderness. Intraoral examination did not show any signs of swelling, pain, bleeding, pus, looseness and tenderness of the teeth. Diagnostic tests were performed to evaluate the lesion. The patient's examinations were normal, panoramic radiographs and then CBCT were prepared. In the panoramic image, a radiolucent-radiopaque with well defined borders is seen below the lower mandibular border. Which was completely independent and unrelated to the dental area. In the CBCT view, a lesion was seen from the peripherally of the lower right 5 teeth to the lower 8 right teeth below the mandibular border with the border well defined in the form of a radiolucentopaque mass and internal calcifications. The lesion had bone expansion and expansion of soft tissue. And pain was not reported by the patient. In the operating room, under general anesthesia, the lesion was first aspirated and negative suction developed. Then an incisional biopsy was performed. In the biopsy, a capsular lesion with bonyconsistency was removed along with myxoid material and bone fragments. The answer of pathology was ossifying fibroma. Due to the extent of the lesion and the existence of a relatively high growth rate as well as having the patient with cancerphobia and with informed consent, a surgical decision was made on partial segmental resection whith preserving the teeth. Inferior alveolar nerve was sacrificed. The resection site was fixed with a 14-hole reconstruction plate and 6 screws on both sides at the resection site. After the recovery period and hospitalization, the patient regained his health and was discharged with the necessary recommendations. Panoramic post op was taken from the patient. The patient was followed up for two months from the time of surgery until now.

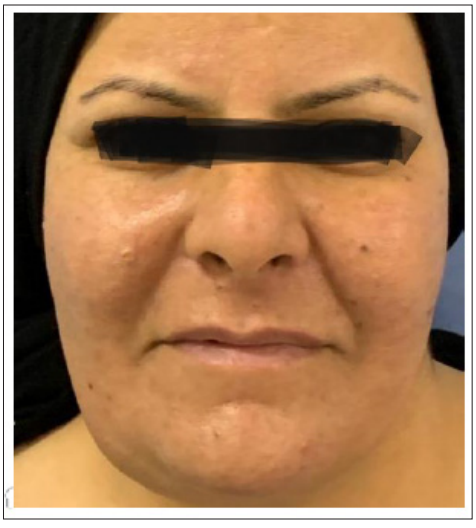


Figure 1

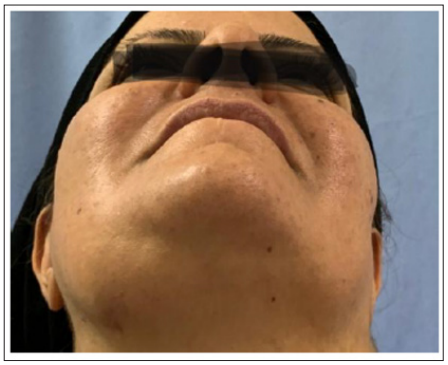
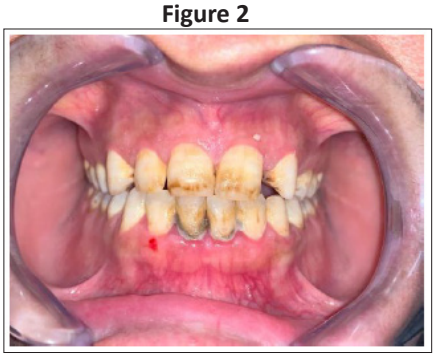


Figure 2



Intraoral view

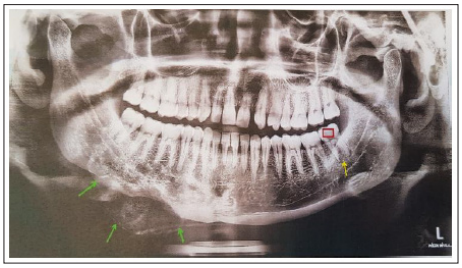


Figure 4: OPG preop has showed a mixed well defined lesion under mandibular border.

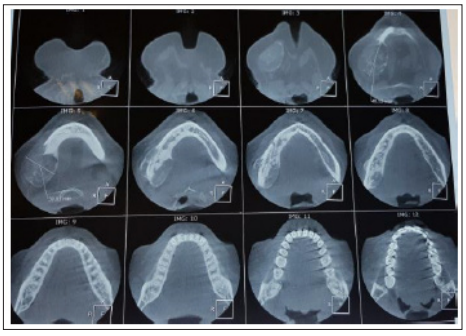


Figure 5: CBCT in axial view showed a expansile lesion with involvement of buccal and lingual borders.

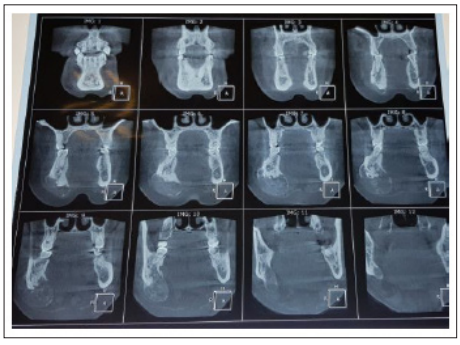


Figure 6: CBCT in coronal view showed the lesion

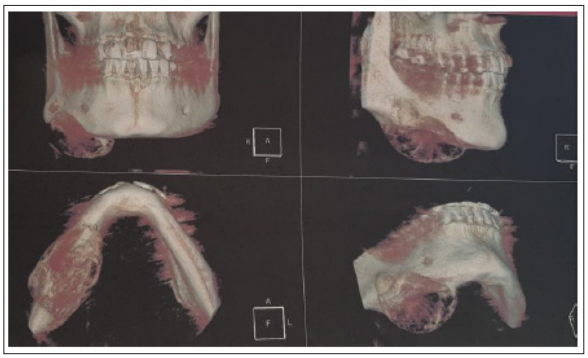


Figure7: 3D View

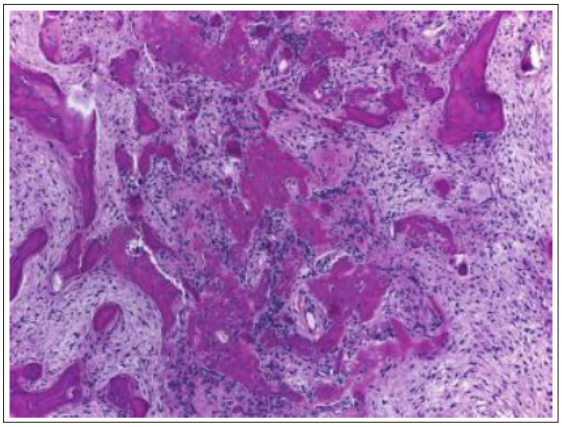


Figure 8: Histologic view. Bone trabecular in connective tissue matrix

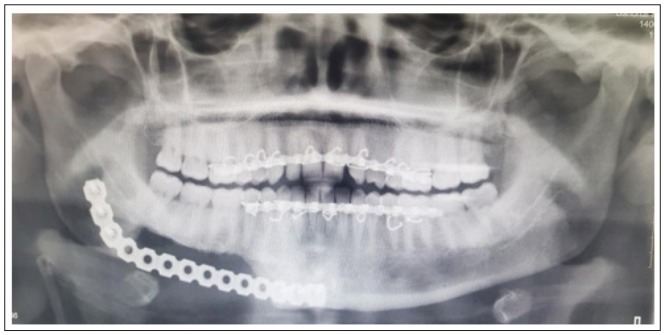


Figure 9: Follow up after operation, OPG

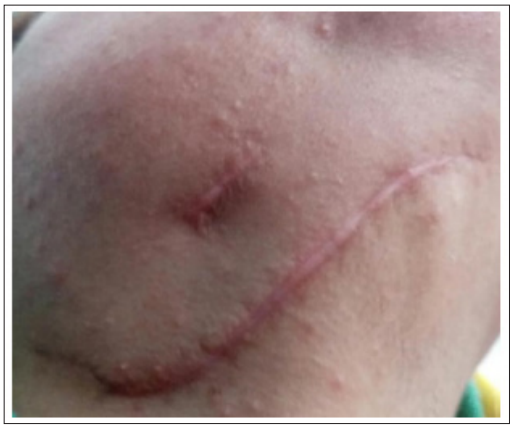


Figure 10: Follow up photography.no dehiscence,no fistula and no infection

Discussion and Conclusion

Fibrosis lesions are a group of diseases that affect the maxillofacial region. OF A benign neoplasm with well-defined boundaries that contains mineralized material. But because of its tumorous nature, it can behave aggressively [18]. It is important to note that OF, although known as a fibrous lesion of dental origin, in this particular case the complete unrelatedness of the lesion to the teeth was clearly observed. Due to the multifactorial nature of fibrous lesions and the involvement of genetic factors and mutations in their occurrence, especially FD and other lesions, a definite origin for these lesions may not be found. The plan of surgical treatments can be completely different from a simple enucleation and curettage to complete resection, depending on the degree of maturity of the lesion and the speed and extent of their growth. However, in this case, due to the surgeon's preference for low resection amplitude and also the need for more bone repair and longer followup, bone grafting was avoided at the same time. But several studies support grafting with resection [18]. It should not be underestimated that fibroid ossification as a rare and benign tumor does not require invasive treatments and will be replaced by conservative treatments if the lesion is small, although this confirms the non-syndromic strength of the lesion.

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