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Peripheral Odontogenic Myxofibroma- A Rare Benign Neoplasm

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Abstract

Odontogenic fibromyxoma is a benign, locally aggressive soft tissue neoplasm with high recurrence rate. Myxofibroma is a variant of myxoma with a larger fibrous–myxoid tissue ratio. It is an onerous task to diagnose peripheral type of odontogenic myxofibroma as it bears striking resemblance to many other soft tissue swellings clinically and there is also a significant dearth of cases reported in the literature. This case report is a cogent documentation elucidating this singular pathology. A 30-year-old female patient reported to our OPD with a localized, slowly enlarging growth in the upper front teeth region. Orthopantomogram and IOPA revealed generalized bone loss with no significant pathological harbingers at the site of the lesion. Excisional biopsy was done and sent for histopathological evaluation for confirmation of the provisional diagnosis. No recurrence has been reported till date. Clinically, these lesions mimic many other benign peripheral soft tissue neoplasms. Hence, adept diagnosis is imperative before initiation of management protocols. Wide margin excision and uncompromising follow-up are advised to reduce the chances of recurrence.

Keywords: Odontogenic Myxofibroma, Benign Tumors, Rare Neoplasm.

Introduction

The term "myxoma" was first used by Rudolph Virchow in 1863. In 1964, Marcove coined the term fibromyxoma to describe the gnathic variant of odontomes[1]. According to World Health Organization (WHO), odontogenic myxoma (OM) is a locally invasive neoplasm consisting of rounded and angular cells lying in an abundant mucoid stroma. Classification of benign odontogenic tumors by WHO grouped odontogenic fibromyxoma (OFM) as benign tumors of ectomesenchymal origin with or without odontogenic epithelium.[2]

There are two variants of Myxoma, which are christened central and peripheral variants. Peripheral lesions are comparatively less aggressive and encapsulated, where the central lesions are generally nonencapsulated tumors with a predilection to infiltrate into the adjacent medullary bone. The average age of diagnosis of OFM is 30 years.[3]

Case Report

A 30-year-old female patient reported to the outpatient clinic department, Tamilnadu government dental college & hospital of periodontology with a history of slowly enlarging painless soft tissue mass in the left upper front teeth region. This mass was first noted by the patient 3 months prior to the time of presentation and was characterized by a gradual increase in size over progressive period of time.

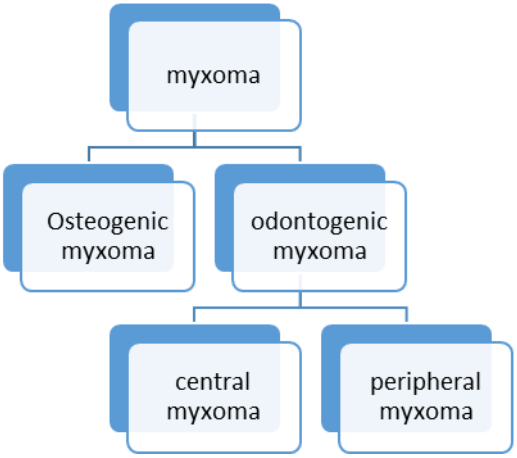
On Intra Oral Examination:

A swelling was noted in the buccal aspect of 21, measuring 1×1 cm in size involving marginal and attached gingiva. The swelling was sessile, firm in consistency and fixed to the underlying tissue. The mucosa covering the lesion was partially

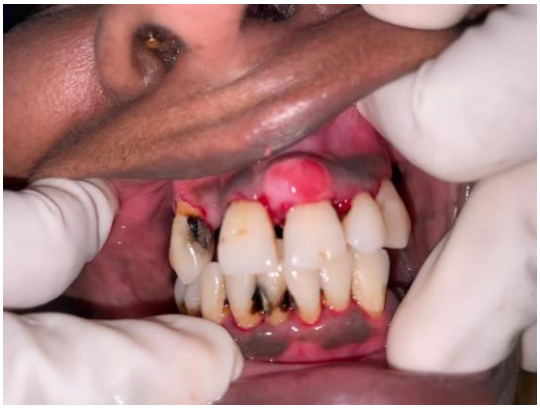
erythematous in color. There was no mobility and probing pocket depth of the involved tooth was 5 mm.

IOPA of 11,21 region revealed bone loss up to middle one third of the root of 11,21. Taking into account the clinical and radiographic findings, the possible differential diagnoses are pyogenic granuloma or fibroma. Since the swelling was localized an excisional biopsy was done extending from mesial aspect of 21 to distal aspect of 21 and the tissue was sent for histopathological examination. The postoperative healing was uneventful.

The histopathological examination of the lesion revealed non keratinized stratified squamous epithelium of variable thickness and underlying densely fibrous to myxoid stroma with stellate and spindle cells and as well as inactive odontogenic epithelial rests. Thus histopathologically, a diagnosis of peripheral odontogenic myxofibroma was postulated.



Pre operative



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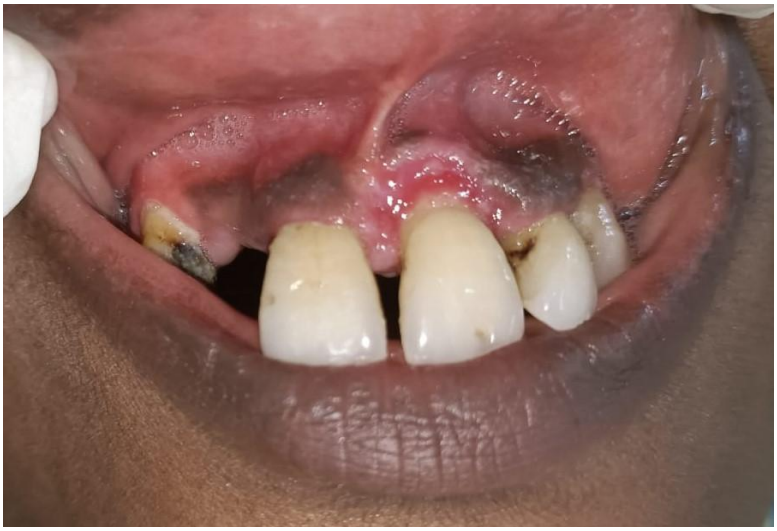
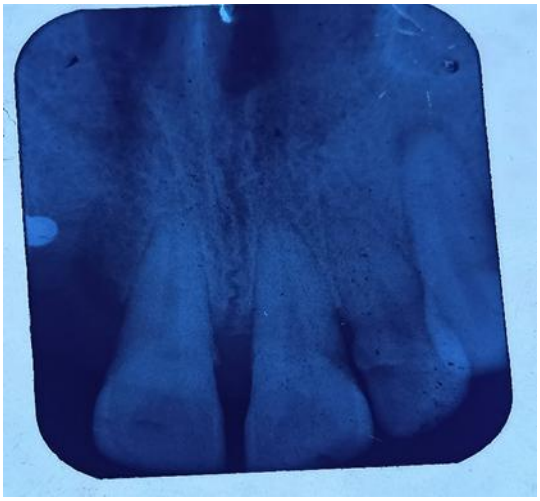
One week after the Excisional biopsy



3 months post operative picture follow up showing no signs of recurrence

IOPA showing no evidence of osseous invasion



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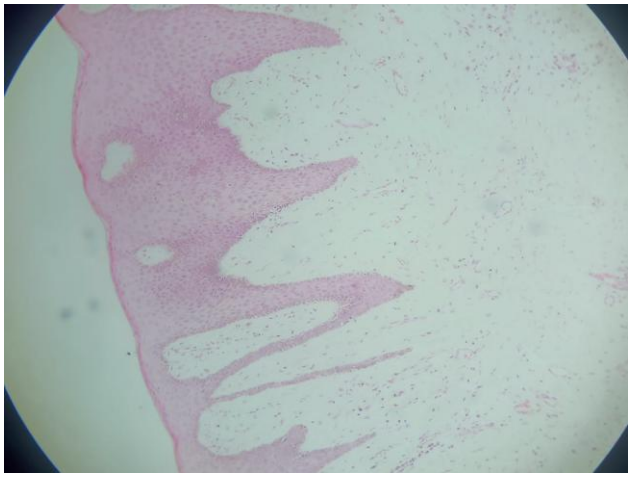
Histopathological picture showing non keratinized stratified squamous epithelium of variable thickness and underlying densely fibrous to myxoid stroma with stellate and spindle cells and as well as inactive odontogenic epithelial rests



Discussion:

Odontogenic myxofibroma is a mesenchymal lesion that resembles dental pulp or follicular connective tissue of uncertain histiogenesis. Odontogenic myxofibroma is a type of myxoma with a larger fibrous-myxoid ratio than myxoma. Fibromyxoma differs from myxoma in that the latter has a comparatively teeming abundance of collagen fibers. [4]

Based on the origin, myxoma is classified into osteogenic myxoma and odontogenic myxoma. Osteogenic myxoma is due to degeneration of the mesenchymal focus of the jaws and mostly comes bearing the perilous attribute of malignant predilection. On the contrary, odontogenic myxomas are derived from mesenchymal cells such as dental follicle, dental papilla or periodontal ligament. They are mostly benign and common in the maxilla and mandible[5,6]. Based on the location, odontogenic myxoma are further classified into central myxoma when it is located within the internal milieu of bone and peripheral myxoma when it is located extraosseously or in the soft tissue overlying the tooth bearing areas.

Odontogenic myxofibroma is a rare neoplasm, accounting only for 3-8% of all odontogenic tumors of the jaw, whereas odontogenic myxoma has higher incidence of 2.3- 17.3%[8]. Generally, the terms myxoma, odontogenic myxoma and odontogenic fibromyxoma are used interchangeably. Due in part to the aforementioned inaccuracy, there is a gross underreporting of OMF[6,7].

The histiogenesis of OFM is not clearly understood till date. It is believed to originate from the mesenchymal portion of the tooth germ. The factor that triggers the dental papilla also remains obscure. Factors like trauma, systemic diseases are considered but in our case, there was no relevant history that contributes to OMF[9].

Eventhough, OMF manifests mostly in the tooth bearing area, lesions can also be seen in condyle and gingiva. The ectopic migration of odontogenic tissues is believed to be responsible for the OMF in these sites[10].

Usually OMF presents as a slow growing locally aggressive lesion associated with gross facial asymmetry in advanced stage. Pain and paresthesia are common in soft tissue lesions. pathological displacement of associated tooth and tooth mobility can be seen but not always associated with root resorption. Oms are locally aggressive. They do not exhibit metastasis[10].

Since, the peripheral lesion of OMF simulate many localized gingival enlargement lesions, it is very difficult to diagnose clinically, hence the histological evaluation is mandatory for confirmation. Depending on the site, size and age, differential diagnosis of pyogenic granuloma, fibroma, peripheral giant cell granuloma can be considered.

The central lesions give a better picture for clinical diagnosis based on radiographic findings. Central lesions closely resemble periapical, lateral, periodontal and traumatic bone cysts when it is

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unilocular and without trabecular pattern when it is multilocular, one must distinguish it from ameloblastoma and OKC.

Goldblat, in 1976 identified two basic types of tumor cells, secretory and non-secretory cells. The secretory cells which resembled fibroblast were considered to be principal cells contributing to the pathogenesis of OM[8].

According to Simon et al, Radical resection with a margin of 1.5-2 cm of surrounding tissue is considered to be treatment of choice, because it has no capsule and of its locally infiltrative growth pattern. It has got high recurrence rate of 25-43%. According to the previous case reports, Oms usually recur within first 2years of surgical removal. Nevertheless, recurrence has also been reported after 30 years of initial surgery. The prognosis of jaw lesions is poor, as the recurrence of the OMF of the jaws are higher than that of any other bone[4].

After excision, the patient was kept under vigilant follow up for the past 6 months during which period no evidence of recurrence has surfaced.

Conclusion :

OFMs are locally aggressive benign neoplasms of the oral cavity that are known to cause slow and progressive destruction of the surrounding structures. As OFMs are mostly asymptomatic, their detection depends on secondary manifestations like pathological migration or mobility of the associated teeth or cortical expansion or facial disfigurement. Histopathological diagnosis is imperative for confirmation of Myxoma. Wide margin of excision is the preferred treatment of choice, because the actual margin of the lesion might extend beyond the terrains of the ostensible radiographic margin[2]

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