Odontogenic Myxoma : A Case Report

Dr. Shilpi Gangwar
Senior Resident

Dr. Pawan Goyal
Senior Resident

Dr. Vaibhav Anand
Senior Resident

Dr. Hari Ram
Professor

Dr. Jatin Patel
Junior Resident

Department of Oral & Maxillofacial Surgery
Faculty of Dental Sciences
King George's Medical University, Lucknow. U.P

Abstract

Myxomas are tumors originating from odontogenic ectomesenchyme, affecting adults aged 25-35 years, without sex predilection, and usually occurring in the mandible. A myxoma has no fibrous capsule, growing through the trabecular bone. Larger lesions can cause asymptomatic expansion of the bone. Radiographically, odontogenic myxoma presents as a unilocular or multilocular radiolucency, with well-defined or irregular margins, with trabeculae arranged at right angles, giving a "tennis racket" appearance . The recommended treatment is bone resection with safety margins to minimize the risk of recurrence. Here, we report the case of a 45 year-old male presenting with an odontogenic myxoma involving left mandibular angle and ramus, which was successfully treated by surgical resection. The patient is in follow up since 4 months. No clinical or radiographic signs of recurrence were observed.

Keywords - mesenchymal, odontogenic myxoma, odontogenic tumor

Introduction

Odontogenic myxoma (OM) is a rare, non-encapsulated benign but locally invasive odontogenic tumor first described by Thoma and Goldman in 1947 [1-3]. It represents 3%-6% of all odontogenic tumors and has been reported to be the second most common odontogenic tumor after ameloblastoma in some countries [4]. In the facial region, OM occurs mostly within the bone and radiologic examination is therefore important [5]. Odontogenic myxoma (OM) is a mesenchymal lesion that originates in the dental papilla and the dental follicle. It affects patients whose average age is 30 years but shows no predilection for either gender. Any area of the gnathic bones can be involved, with a predilection for the jaw [6]. The tumor displays slow growth and may displace teeth and lead to the expansion of bone. Radiographically, it appears as a unilocular or multilocular radiolucency with irregular margins. Multilocular lesions may present a "Tennis racket" appearance, with the trabeculae of residual bone arranged at right angles to one another [6]. It is having a high recurrence rate because of its non-encapsulated nature. Treatment ranges from simple curettage to radical excision especially in recurrent cases.

Case Report

A 45 year old Patient reported to the department of oral and maxillofacial surgery with the chief complaint of swelling over left side of mandible since six months. Extraoral examination revealed facial asymmetry attributed to a diffuse swelling of the left side of mandible. No compressibility or crepitus was noted on external palpation of the affected side and the overlying skin was normal in appearance without evidence of erythema. Swelling was progressive in nature, diffuse, nontender, non fluctuant, non mobile, bony hard in consistency & with no local rise of temperature and there was no paraesthsia associated with swelling. Swelling was 5* 5 cm in dimension extending from mesial aspect of left second molar to left angle region anteroposteriorly and from lower border of mandible to the entire ramus region of left side of mandible superioinferiorly (fig. 1 & 2). On intraoral examination, it was noted that the buccal and lingual cortices were expanded from left mandibular second molar to ramus region. Left buccal vestibular space was

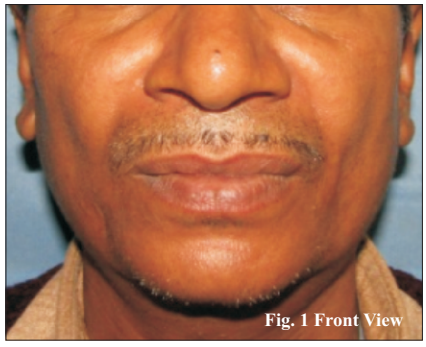


Fig. 1 Front View

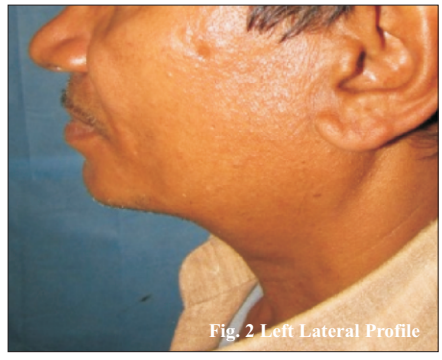


Fig. 2 Left Lateral Profile

obliterated (fig.3). The overlying gingiva and

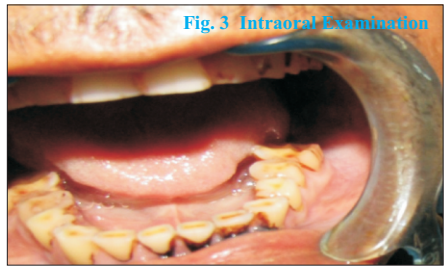


Fig. 3 Intraoral Examination

alveolar mucosa were pink with no appreciable bruits or pulsations on auscultation.

OPG (fig.4) and CT scan (fig.5,6) of the patient was prescribed which revealed multilocular large (5*5 cm diameter) radiolucent lesion with well-defined borders extending from the mesial aspect of left mandibular second molar up to angle and

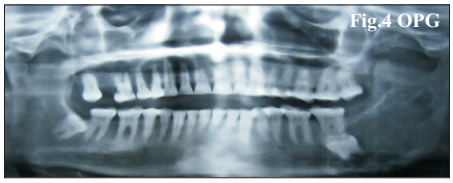


Fig.4 OPG

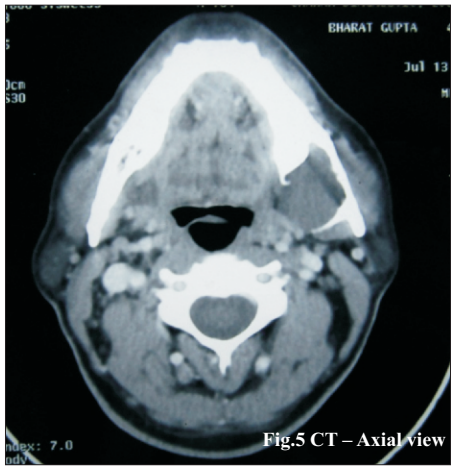


Fig.5 CT – Axial view

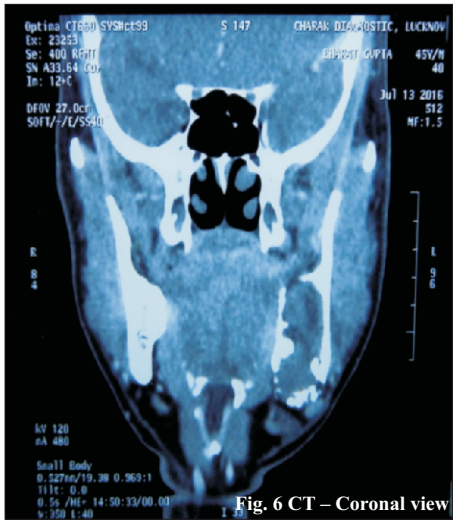


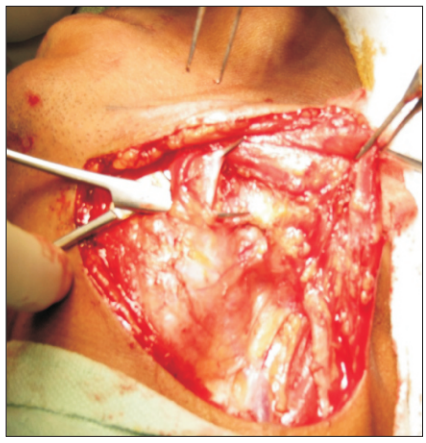
Fig. 6 CT – Coronal view

ramus region and encroaching on the inferior border of the mandible . The lesion enveloped the roots of left mandibular second molar and there was an impacted third molar below the roots of left mandibular second molar . Distinct scalloping of the inferior mandibular cortex was reported. Internally, the lesion was predominantly radiolucent with focal evidence of radiopaque trabeculations . Incisional biopsy of the lesion was performed in the retromolar region.

On histological analysis the typical appearance of OM was seen, with randomly oriented stellate with long cytoplasmic processes. Patient was then operated under general anaesthesia, surgical resection of the lesion with continuity defect was done and reconstruction was done with 2.5 mm angulated reconstruction plate (fig.7,8&9). Post surgical follow up for 4 month was uneventful.

Discussion

The lesion showed the conventional



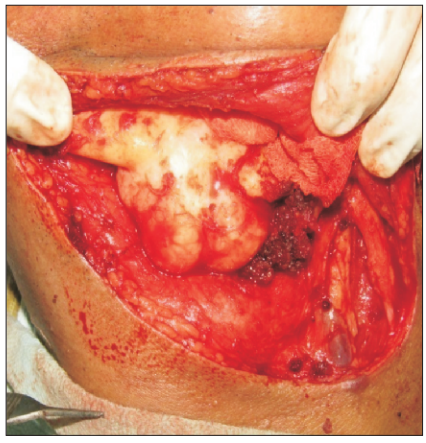
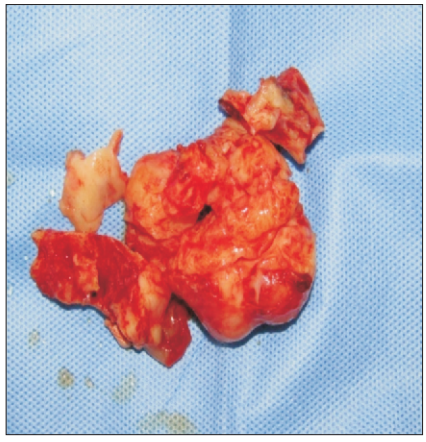


Fig.7 Surgical exposure of the lesion



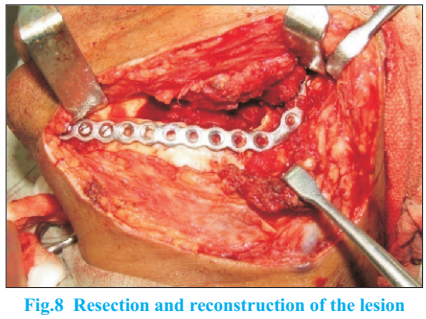


Fig.8 Resection and reconstruction of the lesion

clinical and radiographic features of odontogenic myxoma, but the age of the patient, although still within the range (1-73years), was higher than the average

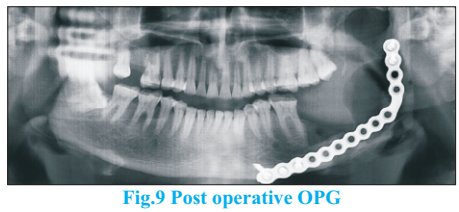


Fig.9 Post operative OPG

presentation age of 30 years. The patient's age in the case reported by Lahey et al.[7] was 69 years. The lesion which, at the time of that report measured 3 cm in greatest dimension, was observed on a periapical radiograph taken 19 years earlier. Likewise, the lesion in the current case measured approximately 5 cm in greatest dimension; and given the slow growth rate of odontogenic myxoma, it is likely that it had been present for some years and only started to cause symptoms after it had extended into soft tissues. The present case is reported in a male patient which is in accordance with the study of van Rensburg et al[8]. and contradicts with the studies which shows the results of equal gender frequency. In this study the site of presentation was posterior mandible which is in concurrence with the findings reported by Simon et al., Noffke et al., Brannon, and van Rensburg and Nortje[9].

It is not well defined radiographically as seen in this particular case. This type of lesion has a generalized myxoid appearance, inspite of the presence of some densely collagenized areas, and the cellularity is generally less than that expected for an odontogenic fibroma. In addition, this lesion demonstrated a locally infiltrative growth pattern, which is usually not a feature of odontogenic fibroma. The possibility of this lesion representing a low grade osteosarcoma is highly unlikely in view of the blend cytologic features and lack of active blastic cells forming a malignant-looking osteoid. Unlike the other reported cases and the present case, the case reported by Rennie et al. showed remarkably dense cellular areas with a moderate number of mitoses, in addition to plump, active blast cells. Some authors favored a diagnosis of an unusual odontogenic myxoma with calcification over osteosarcoma, since the lesion was well circumscribed, even better than the usual odontogenic myxoma and attributed the mitotic activity to the fact that the lesion was present in a young, active, growing child. Tooth displacement and root resorption were not found in the present case. These findings corresponded to results obtained by Noffke et al. and Peltola et al. and correlated well with the fact that OM is a slowly growing tumor.

Nevertheless these findings contradicted the high incidence of root resorption reported by Simon et al. The present case was associated with impacted tooth. The occasional association with missing, impacted, and/or unerupted teeth supports the assumption by Noffke et al., Simon et al., and many others that intra-osseous myxoma is

odontogenic in origin [9]. The internal structure of the present case was multilocular with bony septae more pronounced towards the periphery of the lesion. In the present case the tumor demonstrated large but localized area of cortical interruption and was well delineated from the surrounding tissue which was same as stated by Janse Van Rensburg [8,10], that the periosteum acts as a barrier and prevented extension of the tumor into the soft tissue. This may result in compression of the soft tissue, which may act as a pseudocapsule so that the tumor can be easily defined from surrounding tissues even in the absence of cortex.This indicates that not all cases with cortical interruption denote soft tissue invasion. This observation was explained by van Rensburg for ameloblastomas, which share virtually the same biologic behavior as Om[8].

Last, since there have been quite a few reports of this histopathologic finding, we suggest that it should be acknowledged as one of the features of odontogenic myxoma to avoid misdiagnosis and any resultant effects on management. Recommended therapy varies from curettage to radical excision. According to Leiser Y et al. Conservative approaches have been documented to have recurrence rates ranging from 10% to 33% so complete surgical resection was done in present case though difficult as the lesion was not encapsulated but soft tissue invasion was minimal.

Conclusion

Odontogenic Myxoma, a benign, slow growing and locally aggressive tumour, is derived from ectomesenchymal component of odontogenic apparatus. Treatment modalities vary from simple curettage to radical resection and complete surgical removal is difficult leading to high recurrence rate. Non-encapsulation and local invasion into the surrounding bone are the main reasons behind the high recurrence rate.

References

References are available on request at editor@healtalkht.com

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