Case Report

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Osteochondroma of Maxilla Posterior Region: A Unique Case

Dentistry Section

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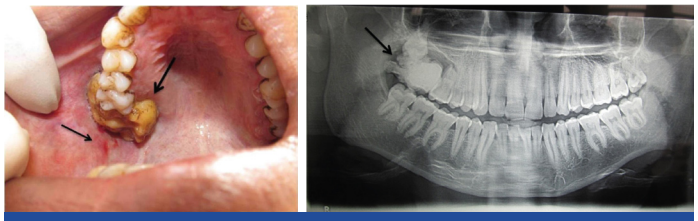
ABSTRACT

Osteochondroma is the most common benign neoplasm of the skeleton commonly affecting the long bones due to endochondral growth. In the craniofacial region this tumour is very rare. The sites of predilection are the coronoid process and the mandibular condyle. Here, we report an exceptional case of osteochondroma originating from the maxillary posterior region in a 26-year-old male patient, mimicking an odontome, not reported earlier in the literature. We also discuss the importance of various imaging modalities, most importantly, computed tomography (CT) in the evaluation of such lesions. However, histopathology remains the mainstay for definitive diagnosis in such conditions.

Keywords: Computed tomography, Odontome, Panoramic radiograph

CASE REPORT

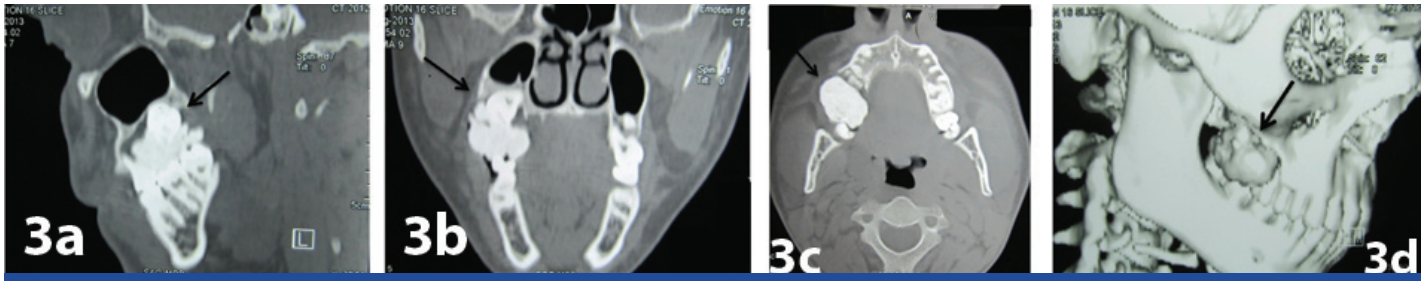
A 26-year-old male patient reported to the Department of Oral Medicine and Radiology with the chief complaint of discomfort and presence of a hard, painless mass in upper right back region of jaw since one year. It started as a small pea size growth which gradually increased over a period of time to reach the present size. Past medical and dental history was not significant. General physical examination and extra oral examination was unremarkable. On intraoral examination, a yellow colored, mobile and non tender, tooth like structure was present distal to the maxillary first molar which was about 3 cm buccopalatally and 2 cm mesiodistally [Table/Fig-1]. An erythematous area of size app. 1 x 1 cm was present on right buccal mucosa adjacent to the hard tissue mass. Based on the patient's history and clinical examination provisional diagnosis of odontome was hypothesized. The differential diagnosis of the lesion included Osteoma, Chondroma, Osteoblastoma, Chondroblastoma and Osteochondroma. Following clinical examination various radiographs were advised which included panoramic radiograph and CT scan. Panoramic radiograph revealed a radiopaque lesion extending from 1st molar distally to right maxillary tuberosity [Table/Fig-2]. Lesion was more radiopaque mesially than in distal region. The 2nd molar was displaced towards the maxillary sinus, 1st molar was inclined mesially, alveolar bone surrounding the 1st molar was resorbed and the floor of maxillary sinus was lifted. CT scan revealed a radio dense mass of approximately 2.6 x 1.9 x 1.6 cm posterior to the 1st molar on right side. Radio density was similar to that of bone. In the sagittal section the radio dense mass appeared to be arising from the periapical region and extended slightly below the floor of maxillary sinus, the displacement of the second molar towards the maxillary sinus was also evident [Table/Fig-3a-c]. The three dimensional reconstruction images showed the relationship of the mass with the adjacent structures [Table/Fig-3d]. Following radiographic evaluation, patient was advised to undergo surgical excision of the lesion. The excised mass was slightly yellowish in colour with rough and had a lobulated appearance size being 2.6 x 1.9 cm in its greatest diameter. Surface indentation of mandibular 2nd molar was seen [Table/Fig-4]. The mass was subjected for histopathological examination which revealed benign cartilage with endochondral ossification along with chronic inflammation of adjoining tissue, suggestive of osteochondroma [Table/Fig-5]. On the basis of histopathological findings final diagnosis of osteochondroma was arrived. Follow up was done for the period of next sixth months and no recurrence was observed.



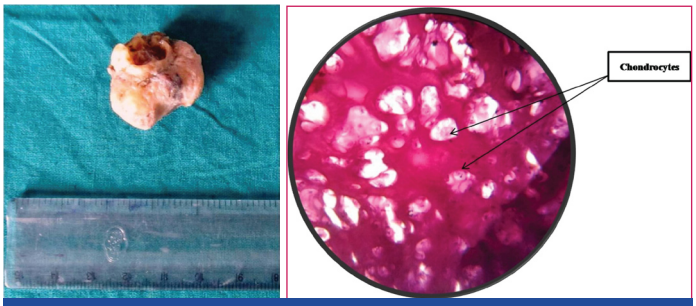
[Table/Fig-1]: Intraoral photograph showing the mass in maxillary right posterior region distal to the maxillary first molar along with erythematous area on the buccal mucosa
[Table/Fig-2]: Preoperative Panoramic view showing the radiopaque lesion extending from first molar distally to maxillary tuberosity

DISCUSSION

Osteochondroma, also known as osteocartilagenous exostosis is regarded as the most common benign tumour of bone [1]. It usually affects the long bones but rarely occurs in oral and maxillofacial bones [2]. According to World Health Organization, osteochondroma is defined as a cartilage-capped bony projection arising on the external surface of bone containing a marrow cavity that is continuous with that of the under lying bone [3]. It constitutes approximately 35–50% of all benign tumours and 8–15% of all primary bone tumours [2]. An osteochondroma of the facial skeleton is a rare occurrence. Review of literature indicates that from the year 1962 – 2012 only five cases of osteochondroma affecting maxilla have been reported. In 1962



[Table/Fig-3]: Preoperative CT Images **(a)** Sagittal section showing mass of radio density similar to that of bone Hyper dense mass has displaced the second molar and was lifting the wall of maxillary sinus **(b)** Coronal section showing large radio dense mass displacing the second molar whichhad lifted the floor of maxillary sinus **(c)** Axial section showing large radio dense lesion with a density less than that of tooth structure **(d)** Three dimensional view of CT showing large radiopaque mass in maxillary right posterior region



[Table/Fig-4]: Excised specimen of size 2.6x 1.9 cm showing yellowish colored mass with rough and lobulated surface along with surface indentation of mandibular 2nd molar
[Table/Fig-5]: Excised specimen of size 2.6x 1.9 cm showing yellowish colored mass with rough and lobulated surface along with surface indentation of mandibular 2nd molar Photomicrograph showing cartilaginous tissue with enchondral ossification along with some inflammatory cells. (*haematoxylin and eosin stain; magnification X 40*)

Gorman and Whitlock [4] reported a case of osteochondroma of the maxilla. Another case of Osteochondroma of maxilla was reported in 1965 by Glassi and Mantero [5]. In 1990 Traub et al., [6] reported a case of Osteochondroma affecting maxillary sinus. In 1999 Shankly et al., [7] and in 2012 Nobusawa et al., [8] reported the case of Bizarre parosteal osteochondromatous proliferation of maxilla. Over the last 50 years only few cases of osteochondroma affecting maxilla have been reported. In this article, we report an unusual case of osteochondroma affecting posterior maxilla mimicking an odontome, never reported earlier in literature.

Here, we report the first case of osteochondroma of maxillary posterior region which was mimicking an odontome in a 26-year-old male patient (female to male ratio is 1.5:1 [9]). In the present case patient reported with a hard tissue mass in the oral cavity which imposed discomfort during chewing and eating food. Considering the clinical presentation of the lesion provisional diagnosis of odontome was given because of its clinical appearance and more common occurrence. In differential diagnosis other pathologies that were considered include Osteoma, Chondroma, Osteoblastoma, Chondroblastoma and Osteochondroma [10]. Radiological evaluation includes Panoramic radiographs which can be considered as a screening modality in the detection and extent of the lesion with surrounding structures, and CT scan which clearly depicts the continuation of the cortex and medulla of the parent bone with that of the tumour, a feature considered diagnostic of osteochondroma [11,12]. Surgical excision of the lesion followed by histopathological examination should be advised for such cases [13,14]. Recurrence of osteochondroma and malignant transformation are extremely rare [15].

This case is unique because after analyzing history, clinical examination and location diagnosis of lesion was considered an odontome which is the common diagnosis but histopathology of the lesion revealed osteochondroma which was one of the rarest diagnoses at this location.

CONCLUSION

Although osteochondroma is a most common benign tumour of long bone but here we report a rarest case of osteochondroma of maxillary posterior region. From the present case report it is concluded that such kind of cases needs to be reported as it highlights the importance of keeping the rarities in mind along with common lesions while making a diagnosis.

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