

Osteoma of the condyle as the cause of limited-mouth opening: a case report

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Abstract: Osteoma is a benign tumour consisting of mature bone tissue. It is an uncommon lesion that occurs mainly in the bones of the craniofacial complex. Only a few cases involving the condylar process have been reported. An osteoma of the left condyle causing limited mouth-opening in a 32-year-old Malaysian Chinese female is reported here to alert the practitioner to consider this lesion as a diagnostic possibility in instances of trismus or limited-mouth opening. (*J. Oral Sci.* 46, 51-53, 2004)

Key words: osteoma; condyle; limited-mouth opening.

Introduction

Osteoma is a benign tumour composed of mature compact or cancellous bone that increases in size by continuous formation of bone (1,2). It is a slow growing, asymptomatic, usually solitary lesion which affects mainly young adults (3,4).

Osteomas are essentially restricted to the craniofacial skeleton and are rarely, if ever, diagnosed in other bones (5,6). The lesion is found more often in the mandible rather than in the maxilla with the lingual aspect of the body of the mandible and the lower border in the region of the angle being the most common sites (3,7). In a recent serial study of 35 new cases of peripheral osteomas of the oral

and maxillofacial region, males were twice as commonly affected as females, with ages at presentation ranging from 14 to 58 years, with a mean age of 29.4 years (3). On the other hand, osteoma of the condyle is uncommon, with only 13 cases reported to date (4,8). In view of the paucity of documented reports of this entity, an osteoma involving the left condyle is described here.

Case Report

A 32-year-old Malaysian Chinese female arrived at the Oral and Maxillofacial Surgery Clinic complaining of a progressive, painless restriction of mouth opening for over one and a half years. According to the information provided in the biopsy form, a radiopaque mass attached to the left condyle was found during radiographic evaluation. No further information was available with regard to the severity or duration of her limited-mouth opening, the interincisal width at maximum mouth opening, possible precipitating events which may have caused this lesion to develop in the left condyle, or any relevant underlying medical or dental history.

A condylectomy was performed on the left side and the specimen obtained was submitted for histopathological examination. Macroscopic examination showed a bony-hard bi-lobulated mass attached to the condylar neck (Fig. 1). The entire specimen measured 4.8 × 3.3 × 1.8 cm. It was decalcified and the bisected decalcified specimen revealed lesional tissue composed of bone with a central spongy architecture and a dense, compact layer peripherally (Fig. 2).

Microscopic examination revealed a bi-lobed bony mass, with one lobe occurring as a pedunculated mass attached to the lateral aspect of the condylar process, and

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the other lobe appearing to have replaced the entire condylar head. The pattern of osseous proliferation appeared as a continuum. Both lobes essentially showed an outer rim of dense cortical lamellar bone (Fig. 3) enclosing centrally cancellous, spongy bone with fibrofatty marrow (Fig. 4). The entire mass was surrounded by perisoteum. Based on the clinical, macroscopic and microscopic findings, a diagnosis of cancellous osteoma of the left condyle was made.



Fig. 1 Macroscopic appearance of the excised condylar osteoma presenting as a bi-lobed mass.

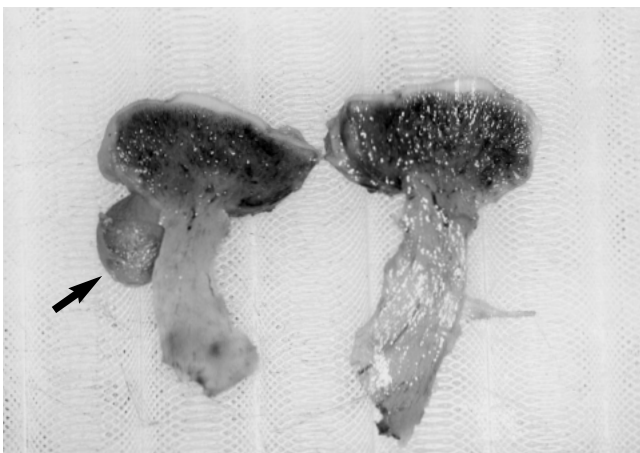


Fig. 2 Macroscopic appearance of bisected decalcified condylar osteoma. Note that the condylar head has been resorbed and replaced by the osteoma. Another separate lobe occurs on the lateral aspect of the condylar process (arrow).

Discussion

Trismus or limited-mouth opening is a common problem encountered by dental practitioners (8,9). There are several possible causes for trismus of which osteoma of condyle should be considered as a likely aetiology as illustrated by the current case. Osteoma of the condyle may cause a slow, progressive shift in the patient's occlusion with deviation of the midline of the chin toward the unaffected side. This results in facial asymmetry and temporomandibular joint dysfunction. The most common clinical manifestations involving the condyle are malocclusion and facial asymmetry (4). In the current case, the presenting complaint was a progressive, painless restriction of mouth opening. Whether there were any associated symptoms of temporomandibular joint dysfunction, malocclusion or facial asymmetry could not be confirmed in this patient.

Osteomas of the jawbones are uncommon. They may arise from the surface of bone as a polypoidal or sessile mass (periosteal osteoma) or may be located within the



Fig. 3 The osteoma consists of a peripheral rim of compact lamellar bone. (HE, $\times 132$)

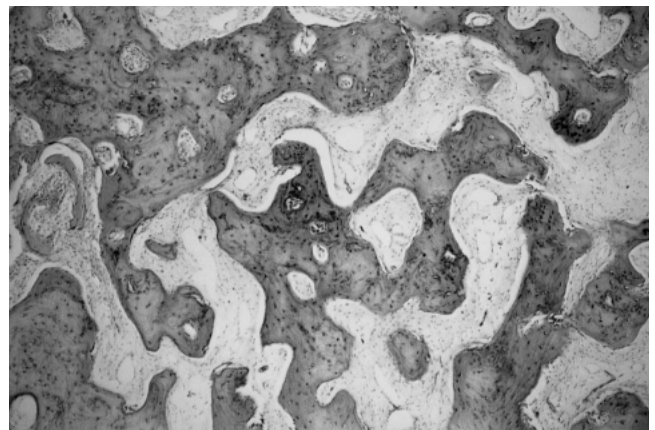


Fig. 4 Cancellous bone with fibrous marrow occurs centrally in the osteoma. (HE, $\times 132$)

medullary bone (endosteal osteoma) (5). In the study by Sayan et al., 35 new cases of peripheral osteomas of the oral and maxillofacial region were reported. Of these cases, 8 occurred in the mandible and 5 in the maxilla (3). Most of them appeared clinically as unilateral, pedunculated, mushroom-like masses (3).

Ivy in 1927 reported the first case of osteoma involving the condylar process (10). Since then, only 13 cases of osteoma arising in the condylar process have been reported in the literature (4,8). Accordingly, osteomas occurring in the condylar process can be classified into two types — those that proliferate and cause replacement of the condyle by the osteoma, and those that form a pedunculated or osseous mass on the condyle or neck of the mandible (4). The osteoma in the current case is unique in that it presented with a combination of the aforementioned patterns - a bilobed structure, one lobe presenting as a pedunculated mass and the other lobe seen as replacement of the condyle. This combination probably represents a third type in the classification of osteomas occurring in the condylar process. It also suggests that the pattern of osseous proliferation in the condylar osteoma represents a continuum.

Radiographic images show osteomas as circumscribed masses similar in density to normal bone. They are smooth-surfaced with a thin sclerotic rim. At their centers, these masses may exhibit a mixed radiolucent-radiopaque appearance depending on the amount of marrow tissues present. Osteomas can be confused with complex odontomas. Smaller endosteal osteomas are difficult to differentiate from foci of condensing osteitis or focal chronic sclerosing osteomyelitis or idiopathic osteosclerosis (5).

Histologically, an osteoma consists of either normal appearing dense mass of lamellar bone with minimal marrow tissue (compact osteoma), or of trabeculae of mature lamellar bone with intervening fatty or fibrous marrow (cancellous osteoma) (1). The case reported here represents the latter entity because the lesional tissues comprised predominantly cancellous bone with fibrofatty marrow between the trabeculae. An osteochondroma was also considered in the differential diagnosis but ruled out due to the absence of endochondral ossification.

The aetiology of osteomas is unclear. It may be developmental, neoplastic or, most likely, reactive in nature (3). A combination of trauma and muscle traction, which may initiate an osteogenic reaction, has been suggested as the underlying pathogenesis of osteoma (3). However, we have no information as to the possible precipitating cause in this case.

A large osteoma resulting in pain, facial asymmetry and malocclusion may require surgical excision

(condylectomy), whereas for small, asymptomatic lesions periodic observation is necessary. In the present case, a condylectomy was performed in view of the patient's progressive limitation of mouth opening. Recurrence after excision is extremely rare (3). To date, there is only one reported case of recurrence of a periosteal osteoma of the mandible following excision (7). In the present case, there was no evidence of recurrence 2 years postoperatively. Furthermore, there are no reports of malignant transformation of osteomas (7).

Conclusion

Osteoma of the condyle is a rare, benign, bony growth that may cause painless restriction in mouth opening. It should be considered as one of the possible aetiologies in a patient with trismus or limited-mouth opening.

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