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Clinical case

Osteoma of the zygomatic arch and mandible: Report of two cases

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ABSTRACT

Osteomas are benign osteogenic lesions characterized by compact and/or cancellous bone proliferation. The aetiology of these lesions remains unknown. It is usually asymptomatic and it is often detected incidentally on routine radiographic examination or until it causes facial asymmetry or dysfunction. It is characterized by very slow and continuous growth. The peripheral osteoma of the jaw is uncommon. Radiographically, peripheral osteomas are seen as oval radiopaque well-circumscribed masses attached to the cortex by a broad base or a pedicle. Three theories have been proposed: developmental, neoplasic and reactive. The possibility that peripheral osteomas may be a reaction to trauma could explain the occurrence on the lower border and buccal aspect of the mandible. The objective of this article is to present the radiographic features of two cases of osteomas, one in the lingual site of the mandibular angle and another one on the zygomatic arch.

Osteoma do arco zigomático e mandíbula: relato de dois casos clínicos

Palavras-chave:
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Zigoma
Tomografia computorizada
Mandíbula

RESUMO

Osteomas são lesões osteogénicas benignas caracterizadas pela proliferação de osso compacto e/ou esponjoso. A etiologia destas lesões permanece desconhecida. Geralmente é assintomática e muitas vezes é detectada acidentalmente no exame radiográfico de rotina ou quando há assimetria facial ou disfunção. É caracterizada por um crescimento lento e contínuo. O osteoma periférico da mandíbula é raro. Radiograficamente, osteomas periféricos são vistos como uma imagem radiopaca oval, bem circunscrita ligada ao córtex por uma base ampla ou pedículo. Três teorias têm sido propostas: desenvolvimento, neoplásica e reativa. A possibilidade dos osteomas periféricos poderem ser uma reacção ao trauma poderia explicar a ocorrência no bordo inferior e face lingual da mandíbula. O objetivo deste

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artigo é apresentar as características radiográficas de dois casos de osteomas, um na face lingual do ângulo mandibular e outro no arco zigomático.

Introduction

Osteomas are benign, osteogenic lesions that may arise from proliferation of cancellous (trabeculae), compact bone (dense lamellae) or can be composed by a combination of both.[1–8] There are three different types of osteomas: central, peripheral and extra-skeletal.[7,9] Osteomas are more commonly found in the cortical plate of long bones but they can also affect the maxillofacial region. It is usually asymptomatic, and exhibit continuous growth at adulthood but it can grow into large sizes and cause facial asymmetry or severe dysfunction.[1,5,8,10] In these cases, surgery is usually required. Since osteoma is often detected incidentally on routine radiographic examination, the dentist should be aware of the features of this lesion. Osteomas can cause facial deformity, limitation or deviation of the mandible on opening, headache, bone pain, dysphagia or exophthalmos.[7,11]

The objective of this article is to present the radiographic features of two cases of osteomas, one in the lingual site of the mandibular angle and another one on the zygomatic arch.

Case reports

Case 1

A 57-year-old male patient was referred to the Department of Oral Radiology for evaluation of a radiopaque mass located on the left side of the mandible. The lesion was found incidentally in a dental panoramic tomography during routine evaluation for dental treatment (Fig. 1). The patient was completely asymptomatic with no history of previous facial trauma or contributory medical factors. The panoramic radiograph demonstrated a unilateral, well-circumscribed, mushroom-like radiopacity located at the left angle of the mandible.

A Computed Tomography was performed with a HiSpeed NX-I Dual Slice (General Electrics Dentascan, General Electrics Healthcare, United Kingdom; Dentascan). Axial slices of 1.0 mm thick with an interval of 1.0 mm were obtained and these images were further reformatted using the software DentaScan to achieve cross-sectional images (Fig. 2). The axial and cross-sectional images revealed a pedunculated, well-defined and lobulated mass involving the right lingual border of the mandible, measuring 16.94 mm (height) and 12.14 mm (width) and with a density similar to bone tissue (UH = 1425). Since the lesion did not interfere with normal function and had no cosmetic problem, the lesion was not treated, and the patient was kept under observation.

Fig. 1 – Dental panoramic tomography showing a radiopaque well-defined image at the left mandibular angle.

Case 2

A 61-year-old woman was referred to perform a Cone Beam Computed Tomography (CBCT) evaluation for implant planning in the maxilla. The patient was asymptomatic and the lesion was found incidentally. She could open her mouth without any mechanical interference, did not complain of pain or other symptoms and had no history of previous facial trauma or additional medical factors. CBCT was performed with an i-CAT Vision® (Imaging Sciences Int. Hatfield, Pennsylvania, USA) and revealed a bonelike, extensive, pedunculated osseous lesion, in the anterior region of the right zygomatic arch, measuring 8.5 mm (height) × 6.7 mm (width) × 9.85 mm (length) (Fig. 3).

Given that the patient was asymptomatic, treatment was not required. The patient was kept under observation.

Discussion and conclusion

Osteomas are benign, osteogenic lesions that may arise from proliferation of cancellous (trabeculae), compact bone (dense lamellae) or can be composed by a combination of both.[1,2] There are three different types of osteomas: central, peripheral and extra-skeletal.[12] Central osteomas arise from the endosteum, peripheral osteomas from the periosteum and extra-skeletal osteomas usually develops within a muscle.[4,8,9,11,13]

Osteomas can occur at any age, but are found most frequently in individuals older than 40 years.[5] There are reports of cases varying from 16 to 74 years of age, with a mean age between 10 and 25 years. Osteomas in the maxillofacial region have been reported in patients between 29.4 and 40.5 years.[7] They are more frequent in males than females (approximately 2:1).[1,3,8]

Osteomas are more commonly found in the cortical plate of long bones such as the femur and the tibia. In the maxillofacial region, osteomas occur most frequently in the sinuses. The most common site is the frontal sinus, followed by ethmoidal and maxillary sinuses.[5] Other documented locations include the external auditory canal, orbit, temporal bone and the pterygoid plates and, rarely, in or on the jaws. However, when it affects the jaws, the mandibular angle and the inferior