

Enlargement of the Right Maxilla – Report of an Unusual Peripheral Osteoma

Dear Editor,

Osteomas are benign, slow-growing tumours of the bone which may be classified as solitary or multiple. Multiple osteomas are mainly associated with Gardner's syndrome while solitary osteomas can be further classified as peripheral, central or extra skeletal depending on the origin. Peripheral osteomas arise from the periosteum and are most commonly found in the frontal sinus or ethmoidal and maxillary sinuses of the skull.^{1,2} Clinically, these are mostly asymptomatic fixed, bony, hard tumours which may result in progressive facial asymmetry or malocclusion. Pain, gagging, nausea and dysphagia are rare.³

We report a case of rare maxillary compact peripheral osteoma which presented in our centre for treatment.

Case Report

A 20-year-old Chinese male was referred for the management of a bony swelling arising from his right maxilla. The patient only noticed the lesion after his colleagues commented about his facial asymmetry. He developed slight tenderness to his teeth during biting about 1 to 2 months before presentation. There was no history of trauma and the medical history was non-contributory.

Examination revealed a bony hard lesion on the right side of the face in the infraorbital region about 4 cm in diameter. The overlying skin appeared normal and there was no sensory deficit. Intra-oral examination revealed a circumscribed lesion extending from the right maxillary incisors to the right maxillary first molar region. There was normal overlying mucosa and the lesion was slightly tender to palpation. The lesion involved the right hard palate as well. He had a full complement of teeth and the involved teeth were vital.

The panoramic radiograph showed a well-circumscribed dense radiopaque mass on the lateral aspect of the right maxilla. Cone beam computed tomography (CT) showed that the lesion involving part of the right maxillary sinus, the right piriform rim and nasal floor (Fig. 1).

A differential diagnosis of an ossifying fibroma or osteoma was made and a biopsy confirmed the diagnosis. The histopathology report was that of a compact osteoma. As the patient had no obstruction to his breathing, it was decided to remove the protruding part of the lesion on the lateral aspect of the maxilla, pare down the palatal part and to leave the remaining part alone to minimise surgical morbidity. Intraoperatively, the facially protruding part of the lesion was removed and the involved teeth were

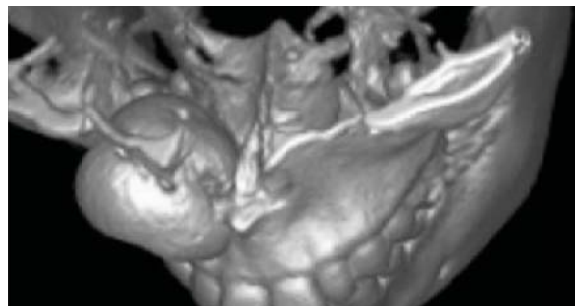


Fig. 1. Three-dimensional cone beam computed tomographic image of lesion.

spared. The palatal portion was pared down. Haemostasis was achieved and the surgical site was closed primarily. Postoperative healing was uneventful with no sensory deficit and the involved teeth were not devitalised.

Macroscopically, the lesion consisted of a homogenous bony appearance measuring 3 x 3.5 x 2.5 cm. Microscopically it consisted of dense compact bone with no evidence of inflammation or malignancy and also no features of fibroosseous proliferation.

Discussion

Most jaw osteomas occur in the lower border or the buccal aspect of the mandible close to the muscle attachments. It could be that minor trauma that is not likely to be remembered by a patient may cause subperiosteal oedema or haemorrhage. Muscle traction could subsequently elevate the periosteum and these two elements might initiate an osteogenic reaction that progresses due to continuing muscle traction. This theory is not supported, however, by the common occurrence of peripheral osteomas in adults but in children. The limited growth potential of these lesions and infrequent recurrence also do not support the presence of the neoplastic lesions.⁴

The differential diagnosis for a solitary peripheral osteoma with similar presentation may include peripheral ossifying fibroma, tori, exostoses and peripheral osteoblastoma. Osteomas, which tend to have a narrow base and appear as a single lesion, should be distinguished from tori and exostoses, which are mostly lobulated or multiple developmental overgrowth of bone and are broad-based. Ossifying fibroma and osteoblastoma are relatively uncommon. If the osteoma is picked up in the initial stages, there would be probably a mixed radiopaque/radiolucent lesion seen on conventional radiographs which may look similar to the above two entities. Ossifying fibroma demonstrates a ground glass appearance

with a definitive border. By the time it is radiopaque enough to mimic an osteoma, the size would have become very big. Osteoblastoma is distinguished by the presence of intense pain. Biopsy is confirmatory. The most similar entity in this case was that of an ossifying fibroma.

Conventional radiographic images are usually sufficient to see the extent of the lesion. In this case, a CBCT scan was done to delineate the extent of the lesion into the maxillary sinus and piriform rim. CBCT scans do provide good images of bone but not necessarily for soft tissue. A conventional CT scan could have been done and would have yielded similar images of the hard tissues. It was felt, however, in this case that a CBCT scan would be cheaper and result in less radiation exposure to the patient.

Surgery is indicated if the osteoma is symptomatic, actively growing or if it affects the appearance grotesquely. Recurrence of peripheral osteomas after surgical excision is extremely rare and there have been no reports of malignant transformation in the literature.⁵ Patients presenting with peripheral osteomas and supernumerary or impacted teeth should be investigated for Gardner's syndrome. The triad of polyposis coli, skeletal abnormalities such as peripheral and endosteal osteomas and multiple impacted or supernumerary teeth is consistent with this syndrome. Osteomas often develop before the formation of colorectal polyposis and early recognition of the syndrome might be a life-saving event.

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