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CASE REPORT

Osteoid osteoma of the mandible: A case report with review of the literature

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Abstract Osteoid osteoma is a benign skeletal neoplasm most frequently observed in young individuals. The tumor most commonly occurs in the femur, the tibia, and the phalanges; however, jaw lesions are very rare. Herein, we report a rare case of osteoid osteoma that presented in the mandible of a 20-year-old boy. This report also reviews the cases of osteoid osteomas of the jaws that have been reported in the English literature so far.
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Introduction

Osteoid osteoma is a unique benign tumor of the bones, which has seldom been described in the jaws. Although the true nature of this lesion is unknown, various reports suggest it usually occurs in young adults under 30 years of age.[1] Lichtenstein defined osteoid osteoma as a "small, oval or roundish tumor like nidus which is composed of osteoid and trabeculae of newly formed bone deposited within a substratum of highly vascularized osteogenic connective tissue."[2] Pain is a distinguishing feature of this lesion and is accompanied by vasomotor disturbances. Herein, we report a case of osteoid osteoma of the mandible that occurred in a young individual. In addition, we also review the cases reported in English literature so far.

Case presentation

A 20-year-old male presented with a complaint of experiencing pain and swelling in the lower left posterior region of the jaw for the past year. The pain was severe and intermittent in nature. It was present early in the morning on waking up, aggravated on consuming meals, and subsided on its own after a few seconds. The pain radiated to the left temporal region. One year previously, the patient underwent a mandibular left first molar extraction. Results of an extraoral examination revealed a diffuse, bony hard swelling extending superoinferiorly from the left lower border of the mandible to 2 cm below it. The anteroposterior extension was from the left corner of the mouth to the left angle of the mandible. The overlying skin was normal with no local rise in

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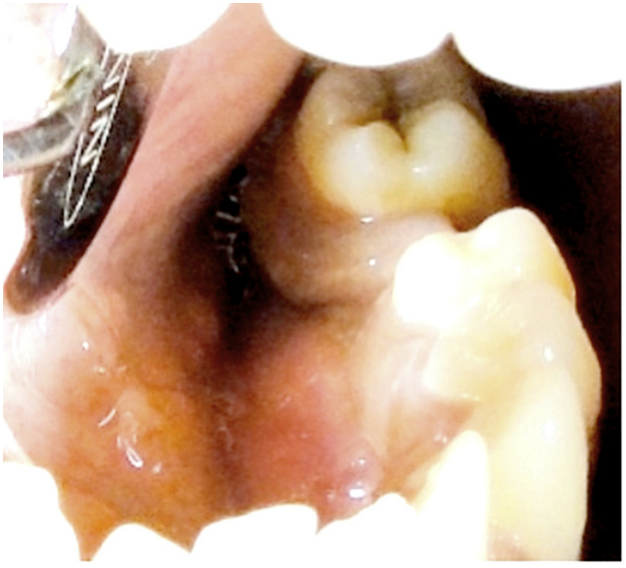

Figure 1 A photograph showing lingual cortex expansion in the 34—35 region.

temperature. One left submandibular lymph node was palpable, slightly mobile, and tender. Results of an intraoral examination revealed a localized, bony hard swelling in the region of the mandibular left first molar. Buccolingually, the swelling was 3 cm in diameter. Mesiodistally, it extended from the mandibular left first premolar region to the first molar region (Fig. 1). The involved teeth were neither tender on percussion nor mobile. There was no obliteration of the buccal vestibule. From this clinical picture, a differential diagnosis of infected residual cyst, osteomyelitis, and benign bone neoplasm were taken into consideration.

Radiographic findings

An orthopantomogram scan revealed a well-defined radiopacity in the mandible with respect to regions 33, 34, 35, and 37 surrounded by a radiolucent rim (Fig. 2). The radiopaque mass consisted of a radiopaque nidus measuring 1.5 cm in diameter surrounded by the formation of subperiosteal new bone. The whole mass measured 3.5 cm (maximum) in diameter. No changes were observed with respect to the inferior border of the mandible. A mandibular cross-sectional occlusal radiograph revealed a well-defined radiopacity in the mandible extending from region 34 to 37 causing an expansion of the lingual cortex (Fig. 3). Based on the results of the radiographic analysis, osteoid osteoma,

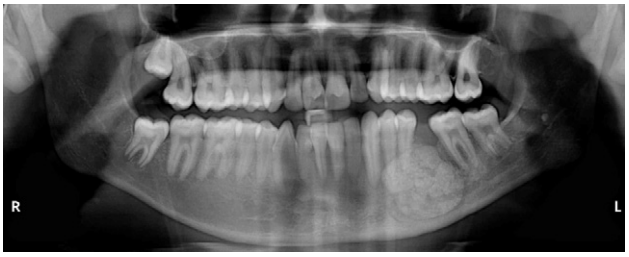

Figure 2 An orthopantomogram showing well-defined radiopacity with a radiolucent rim showing a central radiopaque nidus surrounded by a radiolucent border.

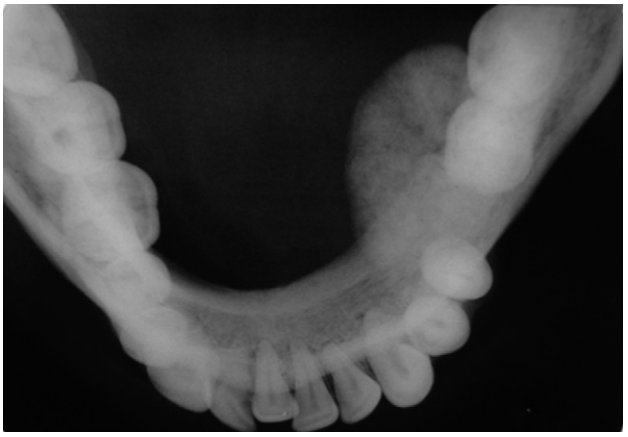

Figure 3 A mandibular occlusal radiograph showing the radiopaque lesion causing expansion of the lingual cortex.

cementoblastoma, complex odontoma, ossifying fibroma, osteoblastoma, and idiopathic osteosclerosis were considered in the differential diagnosis. Surgical excision of the lesion was done as a part of the treatment. The lesional tissue was sent for histopathological analysis. The postoperative healing was uneventful and the patient was followed-up for a period of 6 months. The pain was completely relieved.

Histopathological findings

A histopathological analysis of the lesional tissue revealed irregular bony trabeculae lined with plump osteoblasts. The bony trabeculae showed varying degrees of calcification and reversal lines. The trabeculae comprised of lacunae with osteocytes within them. The stroma was fibrocellular and consisted of many dilated vascular channels and areas of hemorrhage (Fig. 4). Based on these findings, the diagnosis of osteoid osteoma was made.

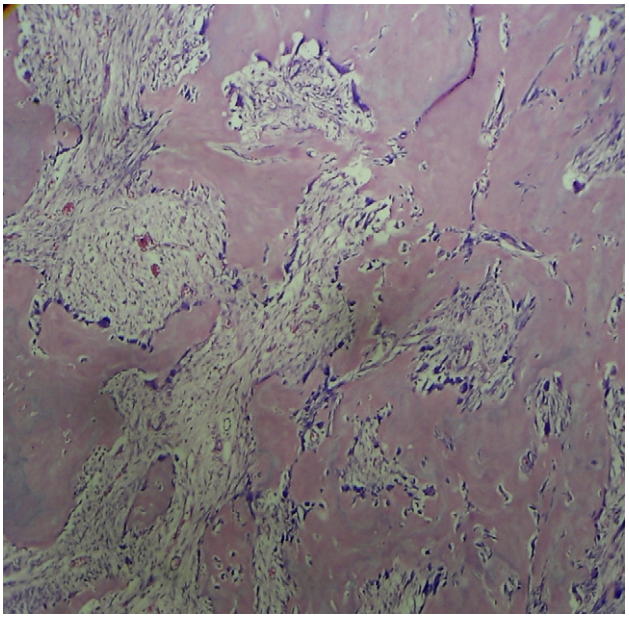

Figure 4 A photomicrograph showing irregular bony trabeculae lined by plump osteoblasts. Many dilated blood vessels are seen in the stroma (hematoxylin and eosin, 40×).

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