

Case Report Large Epulis Osteoplastica Mimicking a Mandibular Tumor: CT Appearance

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ABSTRACT

A 26-year-old man presented with a long-standing hard mass in the left mandible. Computed tomography (CT) revealed a large mass with coarse calcifications on the medial aspect of the left mandibular body. Whether this lesion originated from the mandible or gingiva was not clarified on CT. At surgery the lesion proved to be an epulis osteoplastica (peripheral ossifying fibroma).

Key Words

Epulis osteoplastica, Peripheral ossifying fibroma, Computed tomography

Epulis is a very common inflammatory hyperplasia of the gingiva. Pathologically it consists of granulomas and fibrosis. Rarely it is accompanied with some ossification. We present a case of huge epulis osteoplastica (peripheral ossifying fibroma) which simulated a bone tumor of the mandible on CT.

CASE REPORT

A 26-year-old man was admitted to the hospital because of a left mandibular mass of

approximately 10 years duration. Physical examination revealed a huge, painless hard mass under the normal gingival mucosa. Panoramic radiograph (Fig.1a) and conventional tomograph (Fig.1b) showed an exophytic, calcifying mass between the mandibular left second premolar and the second molar. The first molar was not identified. Computed tomography (CT) demonstrated a well-defined mass on the medial aspect of the left mandibular body (Fig. 2). The lesion contained conglomerated coarse calcifications.



Fig. 1a



Fig. 1b

Figure 1. Panoramic radiograph (Fig. 1a) and conventional tomograph (Fig. 1b) show an exophytic, calcifying mass (arrows) between the mandibular left second premolar and the second molar. The first molar was not identified.

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Figure 2

Figure 2. Computed tomography (CT) reveals conglomerated coarse calcifications (arrows) on the medial aspect of the left mandibular body. The lesion measures 35x25mm in size. The overlying teeth (first and second premolars) show marked displacement anteriorly and laterally.

It measured 35x25mm in size. The overlying teeth (first and second premolars) showed marked displacement anteriorly and laterally. Bone scintigram with Tc-99m hydroxymethylene diphosphonate (HMDP) and Ga-67 citrate scintigram (not shown) showed focal accumulations in the mass. These findings were suggestive of a bone tumor of the mandible. A resection was performed and the surgical specimen (Fig. 3) revealed the mass to be a granuloma with marked ossification, which was interpreted as epulis osteoplastica. The mandible was not involved with the lesion, but solely displaced by the mass.

DISCUSSION

The term "epulis" is clinically applied for any kinds of focal inflammatory masses of the gingiva. Pathologically it contains granulomas and fibrous tissues. Rarely it is accompanied with ossification, which is called epulis osteoplastica or peripheral ossifying fibroma¹⁻³⁾. According to some articles²⁻⁴⁾, this entity accounts for 5-11% of all epulides. Since an epulis usually appears as a small polypoid lesion of the gingiva, it seldom undergoes radiological examination. To our best knowledge, little has been discussed the

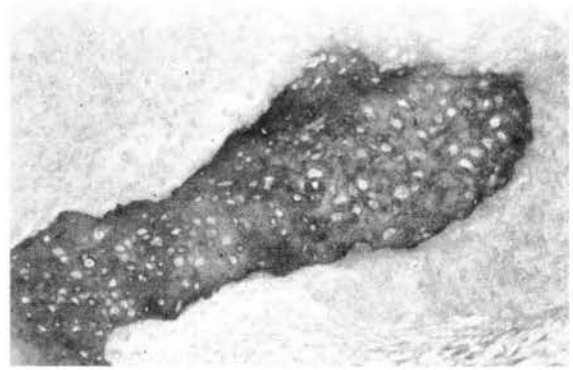


Figure 3

Figure 3. Pathological specimen (original magnification, x100; hematoxylin-eosin stain) reveals the mass to be a granuloma. Note mature bone matrices lying within a fibrous tissue. This finding is interpreted as an epulis osteoplastica (peripheral ossifying fibroma).

CT findings of epulis osteoplastica. In our case, the lesion appeared as a conglomerate of coarse calcified spots. This finding was consistent with the pathological specimen, which showed massive osteoid matrices within a fibrous tissue. Southam and Venkataraman⁴⁾ state the mechanism of calcification and ossification in epulides. According to their view, when the surface of an epulis is traumatized or ulcerated, fibroblastic tissue may develop from the base of the ulcer until much of the epulis may consist of fibroblastic tissue. Calcification initially occurs in this tissue and is often followed by ossification. When the ulcer heals by regenerating epithelium and granulation tissue growing over the surface, there may be maturation of the forming bone and the fibroblastic tissue becomes mature collagenous connective tissue to give the appearance of mature bone lying within a fibrous epulis. It is not unexpected that a long-standing epulis encounters numerous traumatic episodes to produce marked bone elements. Whether the lesion originated from the mandible or gingiva was not clarified on CT. Various kinds of tumors are known to involve the mandible⁵⁻⁶⁾. Some of them appear as radiolucent lesions, others appear as radiopaque foci. The differential diagnosis of an

exophytic, radiopaque lesion may includes 1) osteoma, 2) osteochondroma (exostosis), 3) odontoma (compound or complex), 4) cementoma, 5) central cementifying and ossifying fibroma, 6) fibrous dysplasia, and osteosarcoma (though this entity is rare).

In conclusion, an epulis osteoplastica may mimic a bone tumor of the mandible. Although this entity would be rare, it should be considered as a differential diagnosis of a mandibular mass with dense calcifications.

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