

## IDIOPATHIC BONE CYST OF THE MANDIBLE

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**Key-word:** Bones, cysts

**Background:** A 20-year-old man was referred to the department of Maxillofacial Surgery for further work-up of a radiolucent lesion within the left mandible, which was incidentally found on a panoramic radiograph, taken by the dentist. Clinically, all teeth were vital.

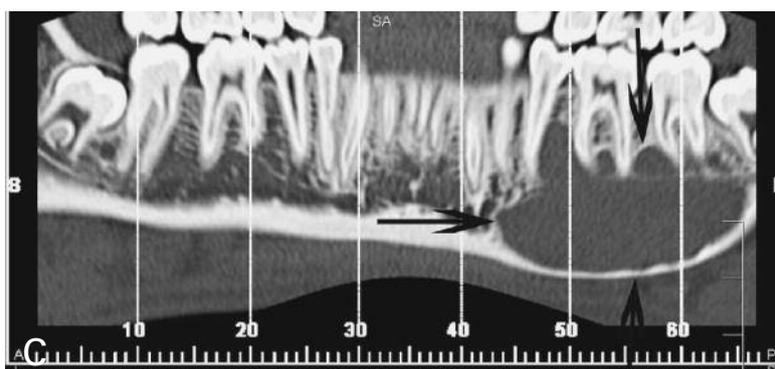
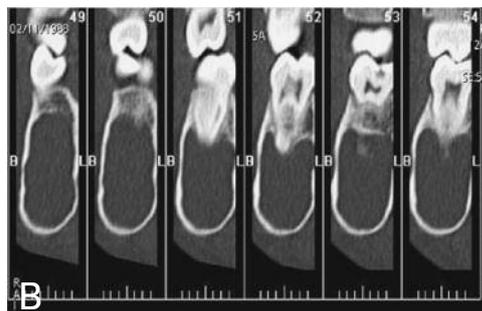
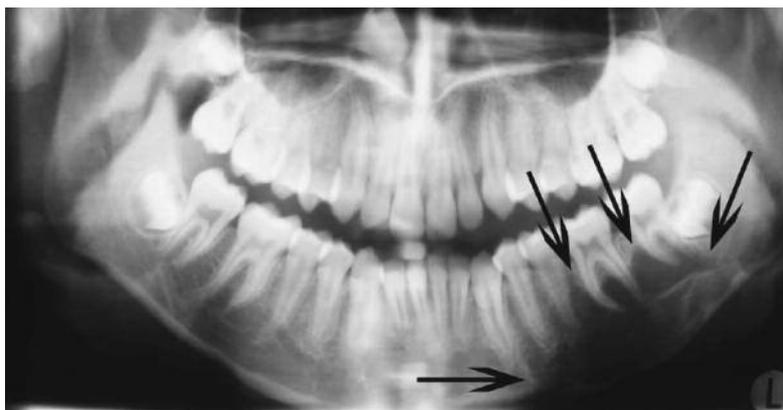


Fig. 

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2A	2B
2C	

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## Work-up

Panoramic radiograph (Fig. 1) shows presence of an ill-defined radiolucent lesion undulating between the roots of teeth 35-37 on the left side of the mandible (arrows).

Dental CT of the mandible (Fig. 2) includes an axial CT (A) on which the lesion appears to expand between the roots of the teeth. There is thinning and slight scalloping of the lingual and buccal cortex (arrows). Sagittal reformatted CT images (B) demonstrates thinning of the lingual and buccal cortex. On coronal reformatted CT images (C), although there is extensive bone involvement around the roots of the teeth, the lamina dura is relatively spared and there is no significant displacement of the teeth (arrows).

## Radiological diagnosis

Based on the imaging features, the differential diagnosis of an idiopathic bone cyst, odontogenic keratocyst, ameloblastoma or large radicular cyst was made. The age of the patient, and the absence of clinical symptoms are -however- in favor of idiopathic bone cyst.

Histological examination after biopsy of the lesion revealed a hemorrhagic content and the absence of epithelial lining, which is consistent with the diagnosis of *idiopathic bone cyst*.

## Discussion

An idiopathic bone cyst or simple bone cyst is a cavity of bone that lacks an epithelial lining, and therefore it cannot be regarded as a true cyst. Other synonyms, such as traumatic or hemorrhagic bone cyst have been used, because some believe that it develops in response to trauma. However, no evidence exists to support a traumatic cause. As the pathogenesis of the lesion is still a matter of debate, the term "idiopathic" bone cyst is preferred.

The lesion is usually discovered in the first 2 decades of life as an asymptomatic lesion, incidentally found on radiographs. The teeth in the affected area are vital. Location within the ramus and posterior mandible is most frequent.

Radiographically, the lesion is radiolucent with variable margins, ranging from well-defined to ill-defined borders. The lesion often scallops between the roots of the teeth and may cause thinning and scalloping of the endosteal side of either the buccal or lingual cortex. Despite its extensive expansion, displacement of the teeth is rare and the lamina dura is usually intact or only partly disrupted. This characteristic may be very helpful to distinguish

the lesion from other radiolucent lesions of the jaws.

Unfortunately, many other radiolucent mandibular lesions may have similar imaging appearances. The correct diagnosis can be suggested by a combination of different parameters, such as patient age, prevalence, location, border contour and effect on adjacent structures.

A radicular cyst is the most common odontogenic cyst and occurs between the fourth and sixth decade of life. It results from inflammation secondary to caries and has a typical periapical location with well-defined sclerotic borders.

A follicular cyst is typically diagnosed in patients between 30 and 40 years of age, represents a common developmental lesion and is invariably located around the crown of the tooth. Margins are well-demarcated and sclerotic. The lesion is usually larger than a radicular cyst.

An odontogenic keratocyst (OKC) is lined by keratinizing squamous epithelium. Similar to idiopathic bone cyst, OKC is common in the body or ramus of the mandible, but occurs in an older age group and is more destructive. There is often resorption of the lamina dura and teeth displacement.

Ameloblastoma is most common between 20 and 50 years. The predilection site is the molar-ramus region of the mandible. Most mandibular ameloblastomas are well-defined. Tooth displacement, root resorption, cortical expansion and erosion are common. The internal structure varies from totally radiolucent to mixed with the presence of bony septa.

Although clinical and radiological features can narrow the differential diagnosis, histological confirmation is often mandatory for a definite diagnosis.

Management of an idiopathic bone cyst consists of a conservative opening into the lesion. This usually initiates bleeding and subsequent healing. Radiographic follow-up is advised.

## Bibliography

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