A 55 year-old male presented with a painless swelling in the right mandible.

His extraoral examination showed a mild asymmetry between the right and left sides.

His intraoral examination revealed some missing teeth and many restorations. There was a mild swelling in the left mandibular 3rd molar area and the mucosa was slightly of red colour. In the right mandible there was a tender swelling extending from the area of 46 to level of the area of 48 with normal gingiva and mucosa texture. There was no sign of exudate at the level of the gingiva in this area. Teeth 47 and 48 were vital.

A panoramic radiograph was acquired followed by a cone beam CT of the maxillo-facial compels.

In the right mandible tooth 48 was impacted in a horizontal position. There is a well-defined corticated radiolucency apparently originating at the CEJ level of 48 and extending anteriorly and at the level of the apices of 47 and 46 to the area of missing 45, inferiorly to the level of the mandibular cortex. In its posterior segments, the radiolucency extends to the level of the alveolar crest superiorly and to the level of the mandibular canal at the mid-level of the ramus along the distal root of 48.
This lesion is likely to be a dentigerous cyst taking into account its size relative to the age of the patient. These cysts usually develop at the age of 30 and can reach large sizes if left untreated. They can also cause root resorption if they were in contact with the teeth for a long period of time. If left untreated some dentigerous cysts can become either keratocystic odontogenic tumors (KOT) or mural ameloblastomas. In this case the distinction is not clear. With the presence of the radiolucency noted distal to 15 that can be a KOT or a lateral periodontal cyst, the likelihood of the large mandibular lesion of being a KOT also increases.

For impacted 38 there is a highly likelihood of pericoronitis and reactive osteosclerosis. This needs to be addressed to avoid any spread of the possible infection to the retromolar area.

Prior to any further exam an aspiration of the lesion is advised to evaluate the content of this lesion. Usually a dentigerous cyst will show some clear fluid and KOT will give out a cheesy yellowish colour, while the ameloblastoma will yield some blood.

The patient underwent surgical removal of teeth 48, 47 and 47 and enucleation of the lesion in the right mandible. About 16 days later, clinical healing appeared to be progressing well and the patient will be re-evaluated in six months time with a new OPG to monitor bony infilling. The histopathology was in keeping with a dentigerous cyst.
Cropped panoramic reconstruction with tracing of the mandibular canal

Cross Sectional views of the right mandible showing the expansion of the cortical plates and the displacement of the mandibular canal

Sagittal view of the right mandible showing the location of 48

Cropped panoramic reconstruction with tracing of the mandibular canal

Sagittal view of the right mandible showing the location of 48
Axial view showing the positioning of 48

**EPIDEMIOLOGY**

Dentigerous cysts are the second most common odontogenic cysts after those related to the roots of the teeth (periapical cysts). These types of cysts usually present in the 2nd to 4th decades of life and are uncommonly seen in childhood because they almost exclusively occur in secondary dentition.

**CLINICAL PRESENTATION**

Typically, dentigerous cysts are painless and are usually discovered during routine radiographic examination, however they may be large and result in a palpable mass. Additionally, as they grow they might displace adjacent teeth.

**PATHOLOGY**

A dentigerous cyst is formed by the hydrostatic force exerted by the accumulation of fluid between reduced enamel epithelium and the tooth crown of unerupted teeth. As such the cyst encloses the crown and is attached at the neck at the cemento-enamel junction. They almost exclusively occur in permanent dentition. The cyst is lined by stratified squamous nonkeratinising epithelium.

Over 75% of all cases are located in the mandible, with the most commonly involved teeth being:

- Mandibular third molar (most common)
- Maxillary third molar (2nd most common)
- Maxillary canine
- Mandibular second premolar

Recurrence is uncommon, but may occur if parts of the cyst lining are left in situ.

**COMPLICATIONS**

- Pathological jaw fracture if large enough
- In rare cases dentigerous cysts may develop into a mural ameloblastoma
- There is a potential for development of squamous cell carcinoma in the context of chronic infection
REFERENCES


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