DENTIGEROUS CYST ASSOCIATED WITH IMPACTED ANTERIOR MAXILLARY

(KISTA DENTIGEROUS TERKAIT DENGAN IMPAKSI GIGI ANTERIOR RAHANG ATAS)

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ABSTRACT

Dentigerous cysts arise from the dental follicle of unerupted teeth and are cysts of the epithelial lining of the jaws. These cysts and unerupted teeth are frequently discovered during routine radiography examinations. Dentigerous cysts are usually asymptomatic unless the cyst grows large enough to cause swelling. Most dentigerous cysts are common in association with third molars and maxillary canines. Clinical, radiological, and histopathologic findings are used to make a diagnosis. We report a case of a dentigerous cyst associated with two impacted anterior maxillary teeth. The care of a dentigerous cyst in the upper left canine region with lateral incisor and canine impaction is described in this case report. The patient was treated surgically by enucleation of the cyst under general anaesthesia. The healing was good two weeks after surgery, according to the examination.

Keywords: dentigerous cysts, third molars, and maxillary canines

ABSTRAK

Kista dentigerous muncul dari folikel gigi dari gigi yang belum erupsi

dan merupakan kista dari lapisan epitel rahang. Kista ini, bersama dengan gigi yang belum erupsi, sering ditemukan selama pemeriksaan radiografi rutin. Kecuali jika kista tumbuh cukup besar untuk menyebabkan pembengkakan, kista dentigerous biasanya tidak menunjukkan gejala. Kebanyakan kista dentigerous biasanya berhubungan dengan molar ketiga dan kaninus rahang atas. Temuan klinis, radiologis, dan histopatologis digunakan untuk membuat diagnosis. Kami melaporkan kasus kista dentigerous yang berhubungan dengan dua gigi anterior rahang atas yang impaksi. Perawatan kista dentigerous di regio kaninus kiri atas dengan insisivus lateral dan impaksi kaninus dijelaskan dalam laporan kasus ini. Pasien dirawat dengan pembedahan dengan enukleasi kista dengan anestesi umum. Penyembuhannya baik dua minggu setelah operasi, menurut pemeriksaan

Kata kunci: *Kista dentigerous, geraham ketiga, gigi taring rahang atas*

BACKGROUND

Dentigerous cysts are the most frequently developing cysts of the jaws and the second most common type of odontogenic cysts after radicular cysts.[1] Dentigerous cyst is caused by a fluid accumulation between reduced enamel epitheliumand enamel surface of a formed tooth. It originates from the separation of the follicle around the crown of an unerupted tooth.[2] It is usually associated with impacted or unerupted teeth. The most frequently involve the mandibular third molars, maxillary canines, and mandibular premolars. Rarely a dentigerous cyst is associated with deciduous teeth and supernumerary teeth.[2,3] It is frequently noted as incidental findings on the radiographs because most of this cyst is asymptomatic.

Histological features of the cyst wall show that the cyst is covered by reduced enamel epithelium. Uninfected cysts have a solid layer of 2-4 layered epithelium composed of primitive ectomesenchyme. This cell layer is slightly cuboid than columnar and looks rete peg. The loose connective tissue stroma is rich in acid mucopolysaccharides. Inflamed dentigerous cysts are hyperplastic rete

ridges, and cyst walls exhibit inflammatory infiltration.[4]

We present the case of a 28-year-old woman diagnosed with a dentigerous cyst and an impacted anterior maxillary—diagnosis results from clinical examination, radiographic and histopathologic. As well as to give information to clinicians about surgical cysts, Removing two teeth impaction and treatment for infection of dentigerous cysts infected with swelling at intraoral.

CASE PRESENTATION

A 28-year-old woman came to the Department of Oral and Maxillofacial Surgery with a complaint of swelling in the left maxillary for one month. The patient noticed gradually increasing swelling on the buccal side. The patient had no systemic disease. There was no history of trauma to the maxillary anterior region.

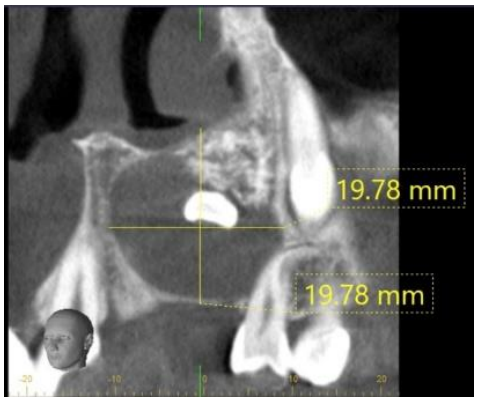
Intraoral clinical examination revealed a firm, diffused, tender buccal swelling in the maxillary anterior region on the left side of the midline. The labial mucosa was normal (Figure 1).

The panoramic radiograph showed a large, well-defined unilocular radiolucent lesion with sclerotic borders in the anterior maxilla. The lesion extended from the left central incisor to the left first premolar region. The impacted left lateral incisor and

canine were also noted on the radiograph (Figure 2).

Figure 2. Panoramic view

CBCT confirmed well-defined, corticated, mixed radiolucent-radiopaque, with driven-snow appearance, foci-radiopaque crescent shape on crown left lateral incisor (Figure 3, 4, and 5).



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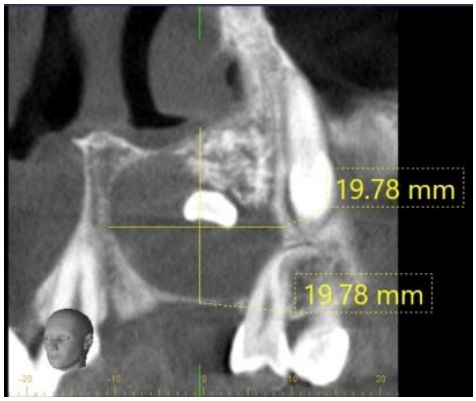

Figure 3. CBCT view.

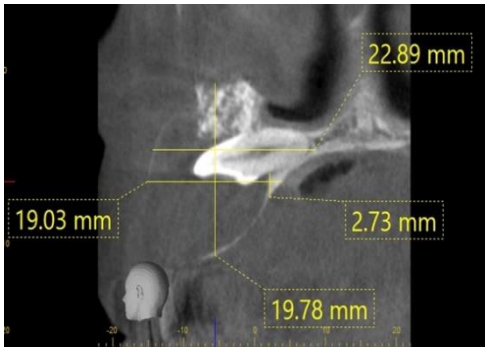

Figure 4. CBCT view.

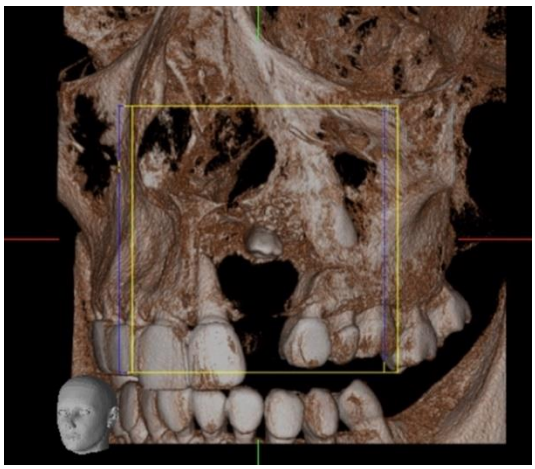

Figure 5. CBCT view

Based on the clinical and radiographic characteristics, differential diagnosis was a radicular cyst, dentigerous cyst, calcifying epithelial odontogenic tumor.

The clinical presentation and subsequent investigations led to the final diagnosis of a dentigerous cyst associated with impacted anterior maxillary. The lesion was enucleated with the impacted anterior maxillary under general anaesthesia (Figure 6-12).

Figure 6. Cyst cavity.

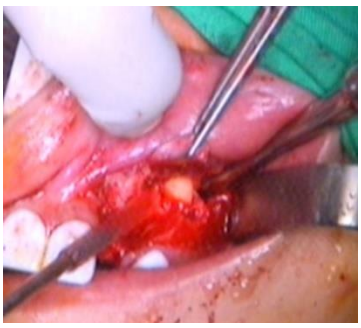

Figure 7. Impacted left lateral incisor.

Figure 8. Wall of the cyst

Figure 9. Impacted lateral canine.

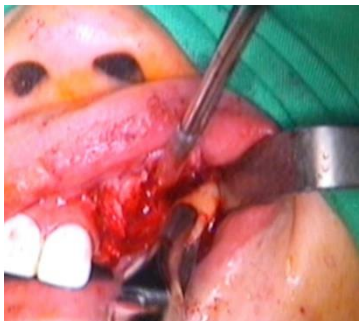

Figure 10. Removal impacted tooth

Figure 11. Alveolar bone after enucleation

Figure 12. Post suturing.

Surgically enucleated specimens were sent to the Department of Pathology at Dr Hasan Sadikin Hospital for histopathological evaluation. Microscopic findings revealed odontogenic epithelium lining, which was 2-3 cell layers thick. The connective tissue capsule was collagenous with mild inflammatory cell infiltrate. No evidence of malignant changes was noted. The patient was followed up for six months, and the postoperative period was uneventful.

DISCUSSION

Dentigerous cysts are odontogenic cysts that develop around the crowns of impacted permanent teeth. Routine radiography or swelling of the affected jaw region are the most common ways to find these cysts. The primary reason for their diagnosis is their attachment to the cementoenamel junction of the affected teeth. They are linked to mandibular third molars, maxillary canines, mandibular second premolars, maxillary third molars, mandibular first premolar, maxillary second premolar, and mandibular canine in decreasing order of frequency.[5] Dentigerous cysts are approximately 16.6% of all jaw cysts, and about 95% of these cysts involve permanent dentition and only 5% are associated with supernumerary teeth. Dentigerous cysts can be seen as a well-defined unilocular or multilocular radiolucency enclosing the crown of an

unerupted tooth on radiographs.[4] The cementoenamel junction of the tooth is where the radiolucency appears typically. Radicular cyst, odontogenic keratocyst, and odontogenic tumours such as ameloblastoma, Pindborg tumour, odontoma, and cementomas are the all different diagnoses for such radiolucency.[6]

The dentigerous cyst's exact histogenesis is unknown. Based on theory, the dentigerous cyst forms around the crown of an unerupted tooth due to the buildup of fluid between the decreased enamel epithelium and enamel layers of the enamel organ. The pressure imposed by an emerging tooth on an impacted follicle obstructs the venous outflow, causing fast transudation of serum across the capillary wall, resulting in fluid buildup.[7] According to Roller[8], the breakdown of proliferative cells of the follicle after the delayed eruption is the most likely cause of the dentigerous cyst. The increased osmotic tension caused by these breakdown products leads to cyst development.

Enucleation and extraction of the related supernumerary tooth are the typical treatments for a dentigerous cyst.[9] When a single draining is ineffective and total removal of the surrounding structure is not desirable, marsupialization is advised.[10] Scolozzi et al. [11] advocated enucleation followed by an immediate bone grafting operation for a giant cyst. In this case, the impacted tooth was surgically removed, and the associated cyst was enucleated without needing bone grafting.

In such infrequent circumstances, early identification and adequate treatment planning are required to minimize future complications. In this instance, an uncommon incidence of a dentigerous cyst with impacted lateral incisor and canine maxilla was reported. In the event of a dentigerous cyst, treatment consists of cyst enucleation and intraoral extraction of the teeth implicated. The patient was satisfactorily handled, with no postoperative problems.

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