

Dentigerous cyst in the medial wall of maxillary sinus

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Key clinical message:

This is the image of dentigerous cyst detected in the medial wall of maxillary sinus, a rare location for the mentioned cyst, which emphasizes the superiority of radiographic features from the site of the lesion. Moreover, the present case showed no facial asymmetry despite the extension of the lesion.

Keywords:

Dentigerous cyst, impacted third molar, maxillary sinus

Case description:

A 22-year-old woman was referred to the private radiographic center for a cone beam computed tomography (CBCT) scan due to a lesion discovered in a previous panoramic radiography. The patient chief complaint was pus drainage at the distal portion of upper left last tooth. No facial asymmetries or other clinical features were identified, and the patient did not report any other complications including airway obstruction. No medical history was also reported.

The evaluation of CBCT scan, including axial, coronal, sagittal and 3-dimensional reconstructed aspects, revealed an extensive lesion surrounding the coronal part of the impacted ectopic tooth no. 16, locating in the left maxillary sinus. The border of the lesion was well-defined and corticated. Double cortex view was visible in coronal, sagittal and axial aspects. The internal structure of the lesion was unilocular and radiolucent. However, it was responsible for the opacity observed in the left maxillary sinus. The dimensions of the lesion were 41 mm vertically, 36 mm antero-posteriorly and 25 mm medio-laterally.

The lesion displaced tooth no. 16, pushing it towards nasal fossa. It had also occupied the entire left maxillary sinus, caused displacement and thinning of the left maxillary sinus walls. Bony perforation was visible at the distal site of the tooth no. 15, probably responsible for the pus drainage at the distal portion of tooth no. 15. Additionally, severe displacement of the medial wall of left maxillary sinus to the midline with prolapse into the ethmoidal air cells and nasal fossa, narrowing of left nasal airway, and obstruction of the left maxillary sinus ostium were visible.

The lesion was attached to the tooth via cemento-enamel junction as seen in figure 1.

Among differential diagnoses including unicystic ameloblastoma and dentigerous cyst, based on these radiographic findings, the diagnosis of a dentigerous cyst was made. The patient was then referred to an oral and maxillofacial surgeon for further management of the lesion, which may include marsupialization or enucleation, as well as pathological evaluations.

Dentigerous cyst (DC) also called follicular cyst, is the most common noninflammatory and also the second most common odontogenic cyst originating from the reduced enamel epithelium, which is proliferated due to the osmotic pressure resulting from a fluid filled sac (1, 2). It is more frequent in males and the incidence of the aforementioned cyst is approximately 70% in the mandible and its occurrence in the maxilla is rare

(2, 3). In cases with the diagnosis of DC in the maxilla, the impacted canine is usually the responsible tooth and the diagnosis of DC involving a maxillary impacted third molar is very rare (3). Radiographically, DC is a radiolucent lesion, presenting either unilocular or scalloping multilocular pattern (2). The important diagnostic key is the engagement of the cyst's well-defined and corticated periphery to the cemento-enamel junction of the involved tooth (1).

Author contributions

Maryam Mohebiniya: Conceptualization, investigation, project administration, supervision, visualization, writing – review & editing. Soheila Jadidi: writing – original draft, writing – review & editing.

Conflict of interests

None

Declaration of patient consent

The patient has given her consent for her clinical information to be reported in the journal.

Acknowledgment

None

References

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Figure Legends

Figure 1: (a) axial and (b) coronal CBCT scan revealing an extensive lesion surrounding the coronal part of the impacted ectopic tooth no. 16, locating in the left maxillary sinus. Note the attachment of the lesion to the tooth via cemento-enamel junction.

