

Lisa R. Amir, PhD
Editor



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CLINICAL REPORTS IN DENTISTRY

LISA R. AMIR
EDITOR



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Chapter 19

MANAGEMENT OF MAXILLARY DENTIGEROUS CYST IN A 14-YEAR-OLD FEMALE: A CASE REPORT

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ABSTRACT

Introduction: Dentigerous cyst is the most common odontogenic cyst in the jaw after radicular cyst and more frequently occurs in males at the 20s – 30s years. This cyst is commonly associated with impacted or embedded teeth, such as the third mandibular molar. Dentigerous cyst is frequently discovered accidentally when radiographs are used to investigate a failed tooth eruption or missing tooth, and it can could grow to be an ameloblastoma. This case report described the diagnosis and management of a right maxillary dentigerous cyst.

Case Report: A 14-year-old female visited the Oral and Maxillofacial Surgery Clinic of Cipto Mangunkusumo Hospital because she has had a swelling in her right maxilla from 3 months ago. Enucleation of the cyst along with odontectomy of the unerupted tooth were performed under general anesthesia. The diagnosis was a maxillary dentigerous cyst due to an impacted maxillary canine.

Conclusion: An adequate and appropriate treatment to prevent further maxillary damage and recurrence is necessary in the rare case of maxillary dentigerous cyst.

Keywords: dentigerous cyst, impacted canine, enucleation

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Management of Maxillary Dentigerous Cyst in 14 Years Old Girl : A Case Report

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Abstrack

Objective - Dentigerous cysts are the second most common odontogenic cysts in the jaws after radicular cysts and are more frequent in males ages of twenties or thirties. These cysts commonly associated with impacted or embedded teeth like third molar of mandibula. Dentigerous cysts are frequently discovered accidentally when radiographs are taken to investigate a failure of tooth eruption or a missing tooth. **Case Report** – This case report is to describe the diagnosis and management of dentigerous cyst in a 14-year-old girl, with a chief complaint of swelling in the right maxillary region since 3 months before admission. The patient was treated with surgical enucleation of the cyst along with extraction of the involved tooth under general anesthesia. **Conclusion** – Dentigerous cyst in the maxillary region caused by an impacted maxillary canine of a 14-year-old girl is a rare case. It takes appropriate treatment to prevent further damage in the maxillary region.

Keywords: Dentigerous Cyst, Impacted Canine, Enucleation

Introduction

The dentigerous cyst is usually formed by the accumulation of fluid between the reduced enamel epithelium and results from proliferation of reduced enamel epithelium after the enamel formation of an impacted tooth¹. This cyst is benign odontogenic lesion occurs in the permanent dentition. There is usually no pain or discomfort associated with the cysts unless they become bigger swelling or pain from secondarily infected². However, dentigerous cyst can cause local destruction, bony expansion, root resorption, or displacement of teeth, which occurs more commonly with long-standing lesions³.

Radiographically, dentigerous cysts show typically appears as a well-defined unilocular radiolucency with a radiopaque border and surrounds the crown of an impacted or unerupted tooth. The microscopic features of dentigerous cysts must be evaluated because they have the potential to develop into an aggressive ameloblastoma or squamous cell carcinoma⁴. Early detection and removal of the cyst is required to prevent the foreboding associated with the lesion as the prognosis is excellent and recurrence is rare if completely removed. The treatment protocol for a dentigerous cyst involves surgical enucleation and extraction of the impacted or unerupted tooth associated with the cyst⁵.

Case report

A 14-year-old girl was referred to the oral and maxillofacial surgery clinic of Cipto Mangunkusumo Hospital with the chief complaint swelling on the right side cheek since 3 months before admission. It was small at the beginning and slowly getting bigger. No history of pain or discharge related to swelling. On general examination, the patient was healthy. Allergy, heart disease, hypertension, diabetes Mellitus, were denied. There was no history of past illness or hospitalization or trauma to the jaw.

On extra-oral examination, facial asymmetry with a single mild swelling was found overlying on the right maxillary sinus region about 4 x 3 x 1,5 cm. The swelling consistency was cystic with ill defined border. The mucosa over the swelling was normal, the colour and temperature was same as surrounding with no active discharge of pus.



Figure 1. Extra Oral

On intra-oral examination, oral hygiene was moderate. There was swelling on right maxillary vestibule area measuring about $3 \times 2 \times 1$ cm, extending from regio 11 to 16. The mucosa over the swelling appeared normal, the colour was same as surrounding, and there was no evidence of discharge from the swelling region. On palpation, the swelling was immobile, smooth surface, no tenderness, and cystic consistency. All permanent teeth were present except for maxillary right canine. Deciduous right maxillary canine was present in 1st quadrant with grade II mobility. No other caries lesion or periodontal condition was present.



Figure 2. Intra Oral

The orthopantomography revealed a well-defined radiolucent lesion extending from distal aspect of lateral incisor of the right maxilla to distal aspect of second permanent

molar of the right maxilla with margins of lesion attached to the neck of the permanent canine, that was located near to the floor of orbit. Radiolucency included deciduous canine with complete root resorption and partial root resorption of first and second premolar.



Figure 3. Orthopantomography

On aspiration of the lesion, a straw-colored fluid was aspirated. Laboratory examination was in normal limit. After clinical, radiological and cystic fluid finding provided us with a presumptive diagnosis of a cyst⁶. The treatment was surgical enucleation of the lesion and removal of impacted teeth under general anesthesia.



Figure 4. Aspiration Fluid

The patient was intubated in a supine position, asepsis and antisepsis of the operation site using povidone iodine, identify the lesion, and local anesthetic with vasoconstrictor was injected around the lesion. Full thickness mucoperiosteal flap was elevated to expose the lesion with blade number 11 from distal 21 to distal 16. The soft-consistency lesion fenestrating the alveolar ridge was observed. Dissection of buccal mucosa was performed to reach the lesion, then the cyst enucleated and the impacted maxillary canine tooth removed, followed by extraction of 53,14,15 and 16. The incision was closed by 3–0 black braded silk sutures and the specimen was sent for histopathological investigation.



Figure 5. Vasoconstrictor injected



Figure 6. Flap



Figure 7. The Cyst after flap



Figure 8. The Cyst after enucleation



Figure 9. Extraction the teeth



Figure 10. The Space after enucleation



Figure 11. The Closure

On histopathological examination, the cyst wall is consist of connective tissue lined by squamous and cuboidal , one layer to stratified epithelium. On subepithelial layer found infiltration of acute and chronic inflamatory cells, as well as focus tissue granulation. There is also found groups of odontogenic epithelium. On the wall of the cyst and there is one side of hyperplasia epithelium which formed flexiform. Histologic result accordance with the dentigerous cyst with hyperplasia epithelium focus.

Discussion

Dentigerous cyst is the second most common odontogenic cyst in the jaws after radicular cyst. It develops from the accumulation of fluid between the enamel epithelium and the crown of the permanent tooth germ. It usually encloses the crown of an unerupted tooth, expands the follicle, and is attached to the cemento enamel junction of the tooth⁷. The

mandibular and maxillary third molar are the most common unerupted teeth involves followed by maxillary permanent canines.

Generally dentigerous cyst occur more in the ages of twenties or thirties. Usually it is asymptomatic unless it become secondarily infected or achieve a large size producing bone deformation or adjacent tooth retention or displacement⁸.

Clinical and radiographic examination are needed for diagnosis of this cyst. Radiographically, other lesions may share the same radiological features as dentigerous cyst such as periapical cysts, residual cyst, odontogenic keratocysts, or unicystic ameloblastomas⁹. The involvement of the tooth, cortical expansion, and radicular resorption are characteristics more related to dentigerous cyst. It presents as well-defined unilocular radiolucency, often with a sclerotic border and this radiolucency surrounds the crown of an impacted tooth¹⁰.

The treatments of dentigerous cyst are marsupialisation or enucleation. It depends on the size and location of the cyst, patient age, and cyst proximity to vital structures. It should be treated to avoid bone destruction, resorption root of teeth, displacement and obliteration of the maxillary antrum and nasal cavities¹¹. In this case we choose total enucleation and curettage of the cyst with removal of the impacted tooth.

Conclusion

This case report describes a rare presentation of inflammatory dentigerous cyst in young age. The case was discovered after the patient have the complaint of swelling on her face. The lesions can destruct more anatomy area if she didn't have complaint. All specialists, as well as general dental practitioners, must thoroughly evaluate missing teeth so that an accurate diagnosis and timely treatment can be planned for the best management of the patient.

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None declared

Conflict of interest

No potential conflict of interest relevant to this article was reported

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