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A CASE OF AN EXTENSIVE DENTIGEROUS CYST IN THE MAXILLARY SINUS LEADING TO EPIPHORA AND NASAL OBSTRUCTION

Utkan Kamil Akyol, PHD,* and Ilknur Akyol Salman, MD†

*Department of Oral and Maxillofacial Surgery, Mareşal Çakmak Soldier Hospital, Erzurum, Turkey, and †Department of Ophthalmology, Atatürk University Faculty of Medicine, Erzurum, Turkey

Reprint Address: Utkan Kamil Akyol, PHD, Department of Oral and Maxillofacial Surgery, Mareşal Çakmak Soldier Hospital, Yeni Mahalle Terminal Cad.Kosem Apt., A Blok. No:38 Kat 4, Yenisehir, Erzurum 25240, Turkey

☐ **Abstract—Background: The dentigerous cyst is defined as a cyst that originates by the separation of the follicle from around the crown of an unerupted tooth. The clinical examination reveals a missing tooth or teeth and possibly a hard swelling, sometimes resulting in facial asymmetry and possible pathologic fracture. A large maxillary cyst involves the whole sinus and can transmit pressure to the walls of the sinus and, consequently, cause ophthalmologic and nasal symptoms to develop. Objectives: To report the case of an extensive dentigerous cyst with swelling of the right cheek, accompanied by unilateral nasal obstruction and epiphora. Case Report: A 21-year-old man presented with swelling of the right cheek, right-sided nasal obstruction, and watering of the right eye. Panoramic radiography revealed a relatively large and well-defined radiolucency enveloping an unerupted maxillary canine tooth. Computed tomography scan showed a cystic lesion measuring 5.2 cm horizontally, 4.3 cm vertically, and 4 cm sagittally, with expansion and erosion of the anterosinus cortical bone. The mass was seen to extend into the right half of the nasal cavity up to the right ethmoid air cells, and was in contact with the base of the skull. The bony margins of the right maxillary antrum were thinned out, the osteomeatal complex was pushed medially-superiorly, and the pterygoid plates were intact. Excision of the dentigerous cyst of the right maxilla was performed using the Caldwell-Luc approach under general anesthesia. Conclusion: A dentigerous cyst arising from an unerupted tooth should be considered in the differential diagnosis of nasal obstruction, watering or epiphora of the eye, and fistula of the gingivobuccal sulcus.** © 2012 Elsevier Inc.

☐ **Keywords—dentigerous cyst; nasal obstruction; epiphora; fistula of the gingivobuccal sulcus**

INTRODUCTION

The dentigerous cyst is defined as a cyst that originates by the separation of the follicle from around the crown of an unerupted tooth (1). It is formed by fluid accumulation between the reduced enamel epithelium and the enamel surface. Such a cyst surrounds the crown of an unerupted tooth, most often the mandibular third molars and maxillary canines (2).

The clinical examination reveals a missing tooth or teeth and possibly an area of hard swelling, sometimes resulting in facial asymmetry and possible pathologic fracture. The dentigerous cyst may exist for several years without being noticed due to its asymptomatic nature. It is tentatively diagnosed on routine dental radiography (3). Radiographically, the dentigerous cyst appears as well circumscribed, demarcated, and unilocular, although some are multilocular and have a scalloped margin or discontinuity (4,5). A large maxillary cyst may involve the whole sinus and can transmit pressure to the walls of the sinus; consequently, ophthalmologic and nasal symptoms may develop (6). The patient does not usually report pain or discomfort.

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We report a case of an extensive dentigerous cyst associated with an unerupted maxillary canine tooth in a 21-year-old man who presented with swelling of the right cheek accompanied by unilateral nasal obstruction and epiphora.

CASE REPORT

A 21-year-old man presented with swelling of the right cheek, right-sided nasal obstruction, and watering of the right eye. The patient had been treated with antibiotics by a general practitioner, as a case of chronic tooth abscess, but his complaints did not improve.

On intraoral examination, there was a fistula of the right gingivobuccal sulcus, and the maxillary canine tooth was missing on the right side (Figure 1). The fistula was in the place of an unerupted canine. Also, external examination revealed that the face was slightly asymmetrical due to maxillary extension. Eye movements and visual acuities were normal. Nasal air flow was decreased on the right side. There were no other abnormalities identified on clinical examination.

Panoramic radiography revealed a relatively large and well-defined radiolucency enveloping an unerupted maxillary canine. The unerupted maxillary canine tooth was in the superior part of the first premolar. Computed tomography scan showed a cystic lesion measuring 5.2 cm horizontally, 4.3 cm vertically, and 4 cm sagittally, with expansion and erosion of the anterosinus cortical bone (Figures 2, 3). The mass was seen to extend into the right half of the nasal cavity up to the right ethmoid air cells, and was in contact with the base of the skull. The bony margins of the right maxillary antrum were thinned out, the osteomeatal complex was pushed medially-superiorly, and the pterygoid plates were intact. There was no evidence of orbital extension.

Figure 1. Fistula of the right gingivobuccal sulcus.

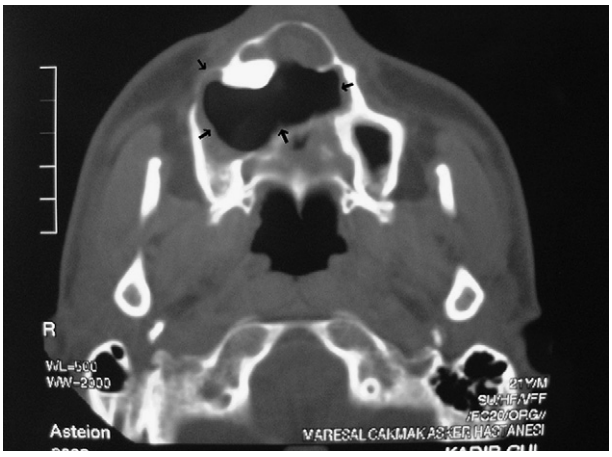

Figure 2. Computed tomography scan of the lesion.

Hematological and biochemical examinations were within normal limits.

Excision of the dentigerous cyst of the right maxilla was performed using the Caldwell-Luc approach with the patient under general anesthesia. The cystic sac was identified and dissected from the sinus walls. The antero- and posterolateral walls of the maxillary sinus were found to be partially eroded (Figure 4). A maxillary canine tooth was found at the anterolateral wall of the maxilla, near the first premolar teeth root. The cyst was touching the base of the skull superiorly. The cyst, along with its wall and an unerupted canine tooth, were removed (Figure 5). These were submitted for histopathologic analysis, which revealed a lining of stratified squamous epithelium with

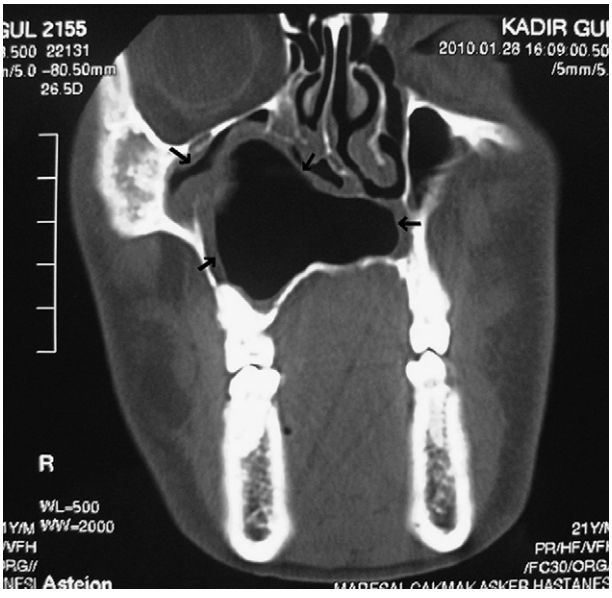

Figure 3. Computed tomography scan showing a cystic lesion measuring 5.2 cm horizontally, 4.3 cm vertically, and 4 cm sagittally, with expansion and erosion of the anterosinus cortical bone.