

# Bilateral ectopic third molars in maxillary sinus associated with dentigerous cyst identified with ophthalmic, nasal and maxillary complication: A rare case report

Merve Arici, Tolga Bayar, Betul Tas-Ozyurtseven, Metin Gungormus

Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Gaziantep University, Gaziantep, Turkey

## Abstract

Ectopic tooth eruption is the occurrence of the tooth germ in a nonanatomical position. It can be associated with dentigerous cyst, which is the second most seen in the development of odontogenic cyst commonly presented in mandibular region and seen in single form. It is usually accompanied with mandibular third molar followed by canine. Bilateral and multiple dentigerous cysts in nonsyndromic patients are fairly rare phenomenon and barely documented in the literature. We report a rare case of bilateral dentigerous cysts associated with ectopic third molars in the maxillary sinuses. Computerized tomography scan confirmed the diagnosis. A 32-year-old female patient manifesting as postnasal discharge accompanied with chief complaint of nasal obstruction, pain at blinking right eye from pressure of cyst at the inferior orbital rim, and headache for the last 1 year. This report presented our management of rarely seen case of bilateral dentigerous cysts related with ectopic third molars in maxillary sinuses. Ectopic teeth eruption in maxillary sinus should be treated as early as possible once it is diagnosed, in consideration of related complication of orbital and nasal involvement. The symptoms totally recovered with the suitable management method for our patient. The prevalence of maxillary third molars ectopic eruption in the maxillary sinus (Antrum of Highmore) is extremely rare in the literature. Lack of treatment protocol for such ectopic eruptions in the maxillary sinus and its rareness deserved to be added to the literature.

**Keywords:** Dentigerous cyst, ectopic teeth, maxillary third molars maxillary sinus

**Address for correspondence:** Ms. Merve Arici, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Gaziantep University, Gaziantep, Turkey.  
E-mail: dmdmerve@gmail.com

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## INTRODUCTION

Ectopic tooth eruption is occurrence of a tooth away from its normal anatomical location, can be related with a cyst called the dentigerous cyst is the most common type of developmental odontogenic cyst originated from the the material inside which locates between the reduced enamel epithelium and the

unerupted tooth. The engaged tooth is usually the most seen one as known as mandibular wisdom tooth. The second most common is the maxillary canine. However it can be associated with supernumerary or ectopic tooth as well.<sup>[1,2]</sup> Ectopic tooth eruption into nondental areas like in maxillary sinus is not common as in the oral cavity.<sup>[3]</sup>

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Ectopic tooth eruption's etiology may take origin from 3 processes, which are abnormal tissue interaction during development, pathological processes like tumor or cyst and iatrogenic activity.<sup>[4]</sup> Tooth eruption into different anatomical areas associated with dentigerous cyst may cause different potential complications, which are in case of maxillary sinus; sinusitis,<sup>[4]</sup> in case of orbital involvement blindness,<sup>[5]</sup> in case of nasal cavity involvement nasal airway obstruction<sup>[2]</sup> occurs.

The standard treatment is usually enucleation of the cyst and the respective teeth either via a Caldwell-Luc approach or endoscopic sinus surgery.<sup>[6]</sup>

We present a rare clinical case of bilateral ectopic third molars eruption in maxillary sinus with dentigerous cyst and its complications in a healthy nonsyndromic female patient.

### CASE REPORT

A 32-year-old female patient was referred to the Department of Oral and Maxillofacial Surgery with head complaint of pus containing fluid discharge from right nostril, facial swelling, discomfort and pain. There was no significant disease, no trauma and no any other syndromes in the patient's anamnesis. Her clinical appearance involved pain on blinking the right eye, feeling pressure on her right eye and asymmetry of face. There was also a complaint of trouble breathing through the nose in result of nasal airway obstruction on her right nostrils. Mild tenderness was present on palpation on her right cheek especially. Intraorally, other than missing maxillary first and second molar on her left side and right lower mandibular first molar there were no other significant findings were noted. Orthopantomography revealed bilateral ectopic maxillary third molars in the maxillary sinus [Figure 1]. The cystic lesion, exact location of maxillary molars and adjacent areas were imaged with cone-beam computed tomography (CBCT). [Figures 2 and 3] CBCT showed that the lesion was lined by a well-structured opaque lines and the maxillary wisdom teeth in both side was actually in the maxillary sinus. Partial destruction of buccal cortex and lateral and medial wall of the sinus was observed. The upper border of cyst cavity was so close to important structures such as the orbita and ethmoid.

It was also clear that the expanded lesion has caused slightly bony resorption at the inferior orbital rim. CBCT also showed the osteomeatal complex on the right side has been obstructed. A hyperdense area was seen in the right maxillary sinus, indicating the chronic right maxillary sinusitis. The floor of the orbit and cyst border was too close to each other. According to the CBCT scan, the lesion was approximately 45 mm × 36 mm × 26 mm.



Figure 1: Preoperative orthopantomography

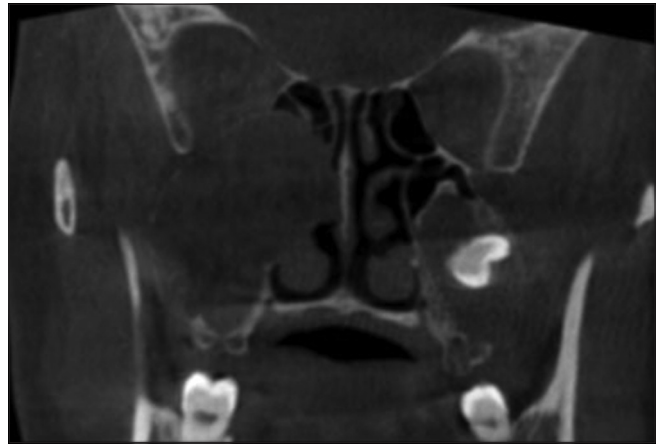


Figure 2: Coronal section of computed tomography

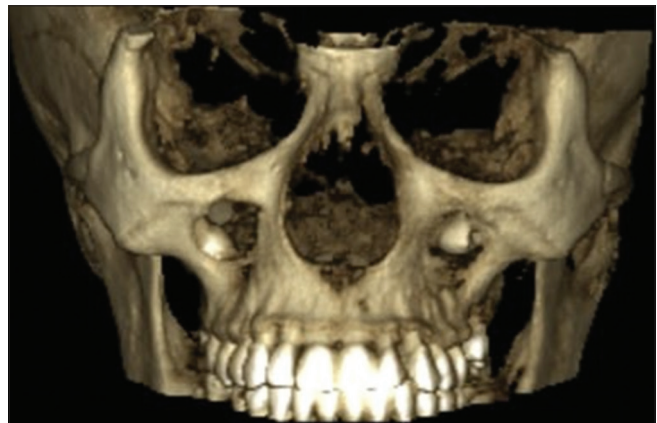


Figure 3: Three-dimensional image of computed tomography

On the basis of clinical and radiological examination, surgical removal of all impacted third molars along with cyst enucleation was planned through intraoral approach under local anesthesia.

Under local anesthesia, a vestibular sulcular incision with vertical releasing flap on both sides was given from first premolar to second molar, a bony window was prepared in anterolateral wall of maxillary sinus. Cyst overlying all over the sinus was cleaned away with pus, the biopsy was taken and sent for histopathological examination [Figure 4].

Total removal of whole the cyst and its lining was carried out along with extraction of maxillary third molars via the Caldwell-Luc antrostomy with intraoral approach. Maxillary sinus was properly and copiously washed away with saline.

The histopathological result revealed the wall of cyst coated by a layer of nonkeratinized stratified squamous epithelium at places covered by granulation tissue and infiltration by mononuclear cells. The maxillary sinus mucosa epithelium was also seen proximal to it. These features approved the diagnosis of an infected dentigerous cyst which did not present any evidence of malignancy [Figure 5]. In the



Figure 4: Specimen sent for biopsy

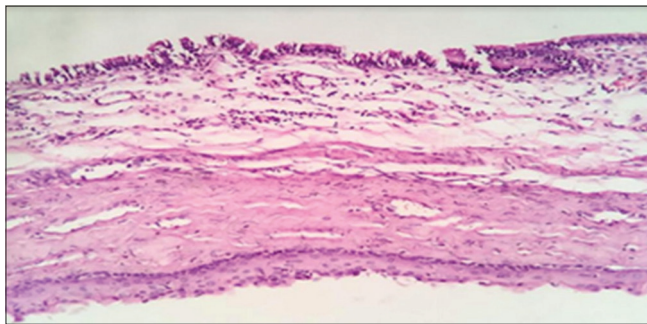


Figure 5: Nonkeratinized stratified squamous epithelium lining



Figure 6: Postoperative orthopantomography

1st week, the pain on each blinking in her right eye was ameliorated. The patient relieved of pain on her right cheek and lower orbital region. The patient was able to breathe normally after surgery. Postoperative period was uneventful. The patient remained symptom free over a postoperative follow-up of 1 year [Figure 6].

## DISCUSSION

Ectopic tooth eruption is mostly asymptomatic. In other words, when ectopic tooth associated with dentigerous cyst invaded maxillary sinus, symptoms often present late in the process which are a facial pain, swelling, headache, purulent discharge and nasolacrimal obstruction.<sup>[5]</sup> In our clinical report, our patient main complaint was pain in blinking her right eye, headache including including the maxilla mostly accompanied with postnasal discharge and recurrent sinusitis.

Dentigerous cysts have commonly seen in a single lesion. There is rarity occurrence in bilateral and multiple forms of it. However, patients have been reported to have multiple forms of dentigerous cyst related with other different kinds of syndromes such as basal cell nevus syndrome, Gardner syndrome, cleidocranial dysplasia<sup>[7]</sup> Bilateral maxillary dentigerous cysts in nonsyndromic patient is rare occurrence.<sup>[2]</sup>

Alkhuddair *et al.* in the year 2019 reported a case of bilateral dentigerous cyst and its endonasal endoscopic enucleation of the cyst and extraction of the ectopic tooth through endoscopy.<sup>[2]</sup> The effect of ectopic tooth in maxillary sinus can be facial fullness, headache, recurrent chronic sinusitis, local sinonasal symptoms and elevation of the orbital floor. The lesion elongate along to floor of the orbita can cause diplopia and maybe even blindness.<sup>[5]</sup> In our report, the head trouble of the patient was pain on palpation on her right side around inferior orbital rim region, pain on blinking the right eye, facial swelling and asymmetry on her right side especially, difficulty on nasal breathing in result of nasal obstruction, headache occasionally and purulent nasal discharge on her right nostril. Many different techniques have been discussed in the literature involving extraoral approach, intraoral approach, and endoscopic procedures. Hasbini *et al.*<sup>[8]</sup> used transnasal endoscopic sinus technique to create a large middle meatal antrostomy and to remove the tooth and its cystic contents. Jalal *et al.*,<sup>[3]</sup> used midfacial degloving approach to for the removal ectopic tooth and its cyst. In our case, treatment was to remove the ectopic tooth and cyst enucleation by transoral approach and primarily sutured the area with help of buccal fat pad while young women patient desire for cosmesis.

### Ethical approval

According to our institution guideline, case report does not require ethical approval.

### Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

### REFERENCES

1. Girish G, Mahesh Kumar R, Umashankar DN, Sharma R, Veeresh M, Bhandari A. Dentigerous cyst in maxillary sinus: A rare occurrence. *Int J Oral Maxillofac Pathol* 2011;2:20-3.
2. AlKhudair B, AlKhatib A, AlAzzeh G, AlMomen A. Bilateral dentigerous cysts and ectopic teeth in the maxillary sinuses: A case report and literature review. *Int J Surg Case Rep* 2019;55:117-20.
3. Jalal H, Hicham S, Lahcen K, Karim EK. Dentigerous cyst associated with an ectopic third molar in the maxillary sinus: Report of cases and review of literature. *Oral Maxillofac Pathol J* 2018;9:31-5.
4. Bodner L, Tovi F, Bar-Ziv J. Teeth in the maxillary sinus: Imaging and management. *J Laryngol Otol* 1997;111:820-4.
5. Savundranayagam A. A migratory third molar erupting into the lower border of orbit causing blindness in the left eye. *Aust Dent J* 1972;17:418-20.
6. Tournas A, Tewfik M, Chauvin P, Manoukian J. Multiple unilateral maxillary dentigerous cysts in a non-syndromic patient: A case report and review of the literature. *Int J Pediatr Otorhinolaryngol Extra* 2006;1:100-6.
7. Khandeparker RV, Khandeparker PV, Virginkar A, Savant K. Bilateral maxillary dentigerous cysts in a nonsyndromic child: A rare presentation and review of the literature. *Case Rep Dent* 2018;2018:7583082.
8. Hasbini AS, Hadi U, Ghafari J. Endoscopic removal of an ectopic third molar obstructing the osteomeatal complex. *Ear Nose Throat J* 2001;80:667-70.