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ECTOPIC THIRD MOLAR IN MAXILLARY ANTRUM ASSOCIATED WITH DENTIGEROUS CYST – CASE REPORT OF A RARE FINDING AND ITS MANAGEMENT

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ECTOPIC THIRD MOLAR IN MAXILLARY ANTRUM ASSOCIATED WITH DENTIGEROUS CYST – CASE REPORT OF A RARE FINDING AND ITS MANAGEMENT

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ABSTRACT

Dentigerous cysts associated with ectopic teeth within the maxillary antrum are very rare. A 25-year-old married female had mild pain and swelling in the right side of the face over a period of 6 months. Extra oral examination revealed diffused swelling over her right maxillary region. Cone beam computed tomography revealed uniform increase in mucosal thickening of right maxillary sinus lining, impacted 18 just below the floor of the orbit, near the infraorbital rim. A provisional diagnosis of infected dentigerous cyst was made. The cyst was enucleated along with removal of third molar by Caldwell-Luc procedure. Histopathological examination confirmed the diagnosis of dentigerous cyst.

INTRODUCTION

Maxillary antrum is an uncommon location for an ectopic tooth.¹ Few cases have been added to the literature in recent studies². The term “Dentigerous cyst” was coined by Paget in 1853. These cyst are the most common type of developmental odontogenic cyst arising from the crown of impacted, embedded or unerupted teeth³.

Ectopic teeth often get impacted in an unusual position or away from their normal anatomic position. They maybe deciduous, supernumerary or permanent teeth.⁴ Eruption of a tooth ectopically into dental

structures is not rare, but eruption of a tooth ectopically at other sites is rare. The most common sites involved are palate, mandibular condyle, coronoid process, maxillary sinus, nasal cavity, orbit or via the skin⁵.

Tooth eruption into the maxillary sinus may cause sinusitis³, the treatment of which (if infected) is surgical removal¹. We present a case of an ectopic maxillary third molar, which presented in the right maxillary sinus with purulent rhinorrhea and was removed via a Caldwell-Luc procedure.

CASE REPORT

A 25-year-old female patient reported to us with chief complaint of pain and swelling in right side of face for past 6 months. Patient was apparently asymptomatic 6 months back then she felt pain which was mild, intermittent and dull in nature and swelling over right side of face which gradually increased in size. Then she visited primary health center where conservative treatment in form of medications were given but there was no relief. Then she reported to department of Oral & Maxillofacial Surgery in our center for management.

Extra oral examination revealed a diffused swelling over right side of face, a small bulge was palpable within inferior orbital

rim and tenderness was present in right infraorbital region (fig. 1). Intraoral examination revealed mild swelling and erythema from right first premolar to second molar region. Right upper third molar was missing and there was no history of any previous extraction. Aspiration revealed sero-purulent fluid. Orthopantomogram (OPG) confirmed the presence of an ectopic molar tooth near right infraorbital margin and below floor of right orbit (fig. 2). In order to determine the exact location of the tooth since it was very close to orbital floor, patient was advised cone beam computed tomography (CBCT). By CBCT we found out there was no perforation in floor of orbit (fig. 3).



Fig. 1. Pre-operative profile view



Fig. 2. Pre-operative orthopantomograph showing an ectopic third molar in the right maxillary antrum

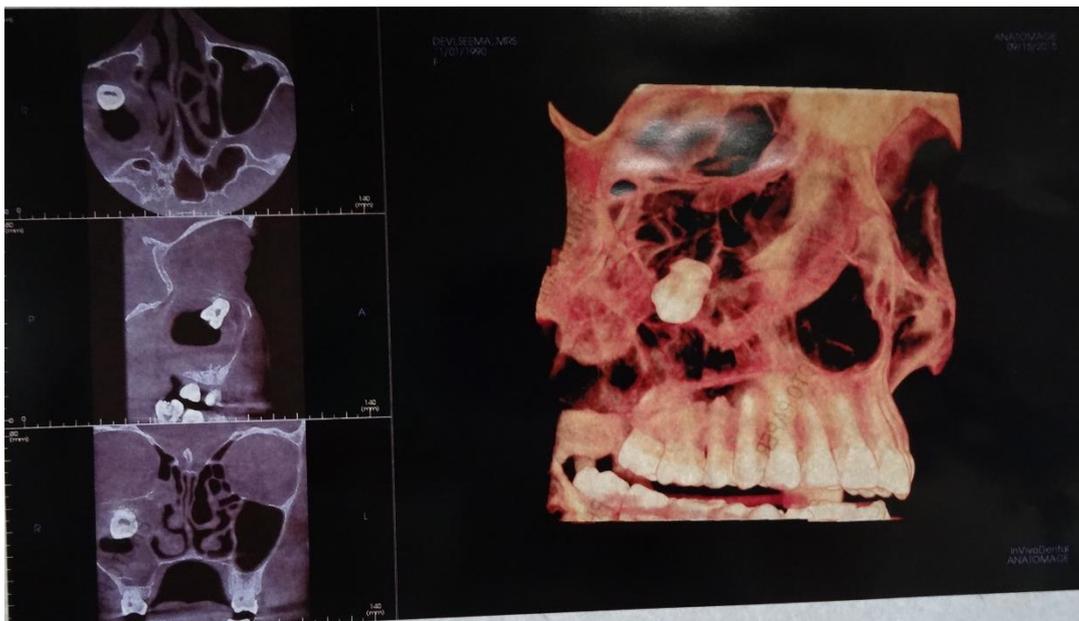


Fig. 3. CBCT showing location of an ectopic tooth in right maxillary antrum below the floor of orbit

On the basis of clinical and radiological features, a provisional diagnosis of dentigerous cyst associated with ectopic third molar was made and enucleation of cyst along with ectopic third molar was chosen as treatment option and was done using Caldwell-Luc procedure under general anesthesia. After inducing general anesthesia, crevicular incision was made from 12 to 17 tooth region. Trapezoidal

mucoperiosteal flap was reflected with periosteal elevator till infraorbital ridge preserving the infraorbital nerve and a small bony window was created in anterior wall of right maxillary sinus and enlarged with bone ronguer forcep to permit inspection of sinus cavity (fig. 4). Whole of the cystic lining was removed along with ectopic third molar which included the sac-like tissue attached to the neck of the crown that was

projecting into the lumen and was sent for histopathological examination (fig. 5). Iodoform pack was placed inside the antral cavity. Mucoperiosteal flap was repositioned and closure was done with 3-0 vicryl and iodoform pack was changed every third day in follow up. The histopathological findings

showed cyst wall lined by dentine epithelium with squamous and non-keratinizing epithelium which confirmed the diagnosis of dentigerous cyst with no signs of malignancy (fig. 6) Post-operative healing was uneventful (fig. 7 and fig. 8).



Fig. 4. Intra-operative picture of the surgical site



Fig. 5. Excised Specimen

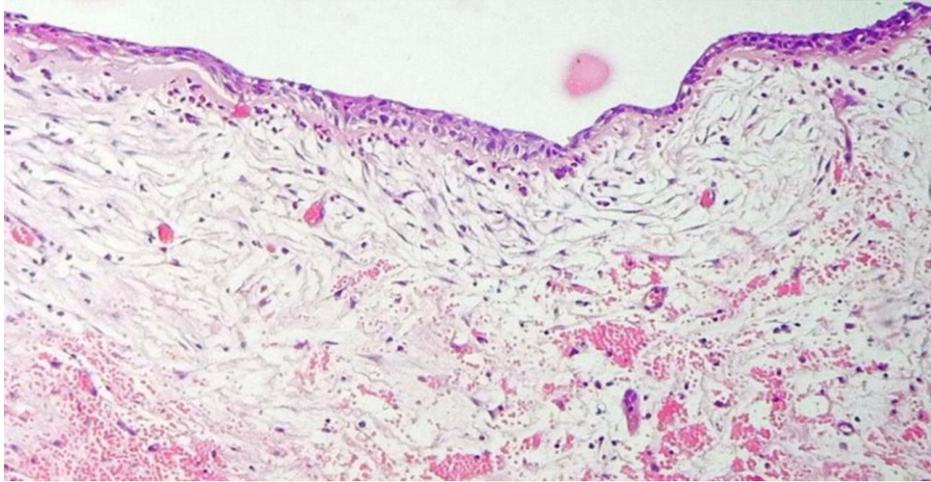


Fig. 6. Histopathologic section showing cystic lesion lined by non-keratinized squamous epithelium (H&E staining, x40)



Fig. 7. Immediate post-operative PNS view



Fig. 8. Post-operative profile view

DICUSSION

Ectopic eruption of a tooth within the dentate region is often seen in clinical practice, which is more common in mandible but such a condition in a non-dentate area like maxillary sinus is very rare⁶. Ectopic and supernumerary teeth have also been described in nondental and nonoral sites such as the mandibular condyle, coronoid process, orbit, palate, nasal cavity, nasal septum, and the chin⁷.

Hamama et al. in the year 2018⁸, reported two cases of dentigerous cyst associated with an ectopic third molar in the maxillary sinus. These cysts are the most common type of developmental odontogenic cysts arising from the crowns of impacted, embedded, or unerupted teeth. The most reasonable theory to explain its pathogenesis appears to be that the cyst is the result of the accumulation of fluid between an unerupted tooth and the surrounding reduced enamel epithelium. If a dentigerous cyst associated with ectopic tooth located in the maxillary sinus, it can cause local sino-nasal symptoms like nasal obstruction, purulent rhinorrhoea, facial

fullness, headache, hyposmia, and recurrent chronic sinusitis, elevation of the orbital floor. Extension of the lesion into the orbital floor can cause diplopia and possibly even blindness.

Histologically, dentigerous cysts are lined by a layer of non-keratinized stratified squamous epithelium, with a surrounding wall of thin connective tissue containing odontogenic epithelial rests. Cases of ameloblastoma or epidermoid carcinomas developing from the lining epithelium of a dentigerous cyst are adequately documented as potential long-term complications, whereas mucoepidermoid carcinomas are less well-documented. However, many variations in the thickness of the lining epithelium may be noted depending on type and severity of inflammation, like the spiky rete ridge hyperplasia seen in the present case⁹.

Water's view, OPG, and lateral cephalogram are simple and inexpensive projections for radiographic evaluation of an ectopic tooth in the maxillary sinus. CBCT scan provides superior bony detail, helps in determination of the size and extent of the lesion, and is

useful to distinguish a maxillary lesion of antral origin from an extra-antral lesion¹⁰.

CONCLUSION

Whenever an ectopic tooth is noticed it should be examined and diagnosed properly. Imaging studies including CBCT scans aid in diagnosis of dentigerous cysts and associated tooth abnormalities. The treatment of choice of ectopic teeth associated with cystic lesion in maxillary antrum is surgical removal of the tooth along with enucleation of the cyst. Various techniques have been discussed in the literature including intraoral approach, extraoral approach and endoscopic procedures. However, Caldwell-Luc procedure is the traditional approach allowing a direct view into the maxillary antrum.

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