A Rare Case of Dentigerous Cyst Associated with Ectopic Tooth in the Maxillary Sinus

Keshav Kumar†, Gokkula Krishnan††

† Associate Professor, Department of General Surgery, Rohilkhand Medical College & Hospital, Bareilly (U.P).
†† Professor & Head, Department of Oral & Maxillofacial Surgery, Institute of Dental Sciences, Bareilly (U.P).

Date of Receiving : 28/Apr/2013
Date of Acceptance : 03/June/2013

Abstract: This paper describes a case report of a patient with the ectopic tooth in the maxillary sinus. This ectopic tooth was found to be associated with dentigerous cyst. Literature suggests that tooth associated with dentigerous cyst in the maxillary sinus is relatively a rare occurrence. Plain sinus X-ray assessment showed the presence of an ectopic molar in the maxillary sinus entrapped in cystic like cavity. Surgical removal of the tooth and the diseased antral tissue was undertaken via a Caldwell- Luc procedure with resolution of symptoms.

Key words: Ectopic Molar, Maxillary Antrum, Sinusitis, Dentigerous cyst, Caldwell luc

INTRODUCTION

Diverse oral anatomical locations can infrequently be the site of an ectopic tooth eruption. Such locations include the nasal cavity1, chin2, mandibular condyle3, coronoid process4, and palate. One of the sites for an ectopic tooth in a nondental location is the maxillary sinus. Teeth in the maxillary sinus are rare. Due to its rarity, the literature that deals with this entity is sparse. Ectopic eruption may be associated with one of three distinct processes: developmental disturbances, pathologic processes, and iatrogenic activity. The etiology of ectopic tooth is not always known. Tooth eruption into the maxillary sinus may cause sinusitis, cyst or tumor. The treatment of which (if infected) is surgical removal. An ectopic maxillary third molar, in the left maxillary sinus reported to us with purulent nasal discharge and a growth associated, which was removed via a Caldwell-Luc procedure.

CASE REPORT

A 20 year-old female reported to our department with a chief complaint of recurrent purulent nasal discharge on the left side of the face (Fig 1) with associated pain and swelling for the past six months. The problem did not resolve in spite of several courses of antibiotics prescribed by medical & dental practitioners. Extra oral examination revealed a swelling of approx. 3x3 c.m. below the Left malar (Fig 1) area. Swelling was non-tender on palpation. Intra oral examination revealed the absence of the left upper third molar. There was no swelling seen intraorally. PNS view revealed a tooth like structure associated with a well circumscribed radiolucent lesion on the antero-superior aspect of the left maxillary antrum (Fig 2). The OPG confirmed the presence of an ectopic third molar tooth with fully developed roots and a well circumscribed radiolucent lesion on the antero-superior aspect of the left maxillary antrum (Fig 3). The C.T. scan (axial section) showed a well-defined circular opacity surrounded by a soft tissue mass in the right maxillary antrum (Fig 4). Based on all these findings a provisional diagnosis of ectopic tooth associated with cyst was made. Surgery was planned for removal of both the ectopic tooth and the cyst under general anesthesia via a Caldwell Luc procedure. A vestibular incision was made from Lt. lateral incisor to first molar. Mucoperiosteal flap was elevated. A bony window (2 x 2 c.m.) was created in the canine fossa (Fig 5). Purulent discharge with some lining tissue was seen which was curetted, following which, tooth was visible. The tooth was extracted with some lining that was attached to the neck of tooth (Fig 6). Haemostasis was achieved by packing the sinus with anesthetized gauze and the wound closed with 3.0 vicryl suture. After 24 hr., gauze pack was removed. Histopathology of the soft tissue revealed a Dentigerous Cyst (Fig 7) with no evidence of malignancy. The patient has been asymptomatic over a 2 year follow-up.

DISCUSSION

Ectopic eruption of a tooth into the dental environment occurs commonly whereas ectopic eruption of a tooth in other sites is rare. Those that have been reported include the nasal cavity, chin and maxillary sinus. In 1979 Smith et al, identified 27 well documented cases of intranasal teeth. After that, Pracy et al listed four instances of this abnormality. Elango et al, described an upper third molar in the roof of the maxillary sinus. As the patient was asymptomatic, he was recalled for regular follow-up. An ectopic tooth in maxillary sinus need not to be removed, but such patient should be followed up regularly. Occasionally, the tooth may erupt into the maxillary antrum and present with local sino-nasal symptoms attributed to recurrent or chronic sinusitis. The diagnosis of this condition can be made radiographically with plain sinus radiographs and CT scans taken in axial and coronal sections. Dentigerous cyst is the most common of all follicular cysts, more common in males, occurring in the second or third decade of life. About
70% of dentigerous cysts occur in the mandible and 30% in the maxilla. If infected, the treatment of choice is complete enucleation of the lesion intraorally with removal of the associated tooth. It is also important to completely remove all diseased antral tissues and thoroughly assess all resected soft tissue histologically. It is believed that the displacement of tooth buds by the expansion of these dental cysts results in the displacement of the tooth to other areas, which is attributed to the ectopic appearance of the third molar. Recurrence and malignant or ameloblastic transformation may occur. So close observation and follow-up with periodic radiographs is required. The treatment of an ectopic tooth in the maxillary sinus is usually removal, as if left untreated, it has the tendency to form a cyst or tumor. Caldwell-Luc procedure was followed in this case. The importance of ruling out related dental conditions in any patient presenting with such signs and symptoms of the head and neck region cannot be overemphasized.

CONCLUSION

Ectopic eruption of teeth into regions other than the oral cavity is rare although there have been reports of teeth in the nasal septum, mandibular condyle, coronoid process and the palate. An ectopic tooth in maxillary sinus need not to be removed, but such patient should be followed up regularly, rarely does any pathology gets associated with the teeth which warrents attention, which was similar to our case where there was a cyst like structure developing around the teeth. Early diagnosis and prompt intervention averted many serious complications in our case.

REFERENCE

LIST OF PHOTOGRAPHS

Fig 1 - Pre-op view of patient. Notice the facial asymmetry.

Fig 2 - PNS view showing tooth like structure in the left maxillary sinus.

Fig 3 - OPG revealing ectopic tooth with cyst in the left maxillary sinus.

Fig 4 - Axial section of CT scan revealing radio opaque mass with lining in the left maxillary sinus.

Fig 5 - Caldwell luc approach for removal of the ectopic tooth.

Fig 6 - Tooth with lining after removal.

Fig 7 – Histopathological picture.