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Research Paper

ECTOPIC TOOTH IN THE MEDIAL WALL OF MAXILLARY SINUS - A CASSE OF INFECTED ODONTOGENIC KERATOCYST

Medical Science

KEYWORDS : Ectopic tooth, Odontogenic keratocyst

DR.SANKAR VINOD V	HOD, DEPT OF ORAL AND MAXILLOFACIAL SURGERY MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691
DR.AABU VARGHESE	PG-FINAL YEAR, DEPT OF ORAL AND MAXILLOFACIAL SURGERY MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA 686691
DR.ARUN GEORGE	READER, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA -686691
DR.PAUL STEAPHEN	PG, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691
DR.NINAN THOMAS	READER, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691
DR.KIRAN K.S	DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691

ABSTRACT

Ectopic tooth in maxillary sinus is a rare entity. It may lead to local sinonasal symptoms. The ectopic teeth in non-dental localizations have been reported in the nasal cavity, maxillary sinus, chin, mandibular condyle, coronoid process , palate and orbital cavity. The pathogenesis of ectopic teeth is unknown and various tissue interactions during tooth development leads to its formation. Permanent, deciduous, or supernumerary teeth can be ectopic. The treatment of an ectopic maxillary molar is surgical removal through Caldwell Luc procedure, transnasal extraction and endoscopically assisted extraction. We present a case of an ectopic third molar tooth which was present in the medial wall of left maxillary sinus and was removed via the anterior wall osteotomy with its diseased antral tissue.

INTRODUCTION

Abnormal tissue interaction during development may potentially result in the formation of ectopic tooth [2].

Infected odontogenic keratocyst associated with third molar tooth in maxillary sinus is a rare entity and is often associated with local Sino nasal symptoms[1]. Permanent, deciduous, or supernumerary teeth can be ectopic [3].Some authors reported nasal obstruction, facial fullness, headache, and hyposmia were assossiated with ectopic tooth in maxillary sinus[3]. Various radiographs have been advocated to rule out maxillary sinus pathology. In our case Cone beam computed tomography revealed maxillary third molar present in relation to medial wall of the left maxillary sinus and obliteration of the entire left maxillary sinus. The standard treatment for an ectopic tooth is extraction of the tooth[4]. We present a case report of a patient who had a long standing tooth in the left maxillary sinus which results in the formation of infected odontogenic keratocyst and successfully managed by surgical intervention .

CASE REPORT

A 28 year-old male reported with chief complaint of pain and swelling of the left side of face for last three days and is under antibiotic coverage from a medical practitioner. He consulted medical practioners for several times as he had recurrent episodes of purulent discharge from the left nostril since seven months. On clinical examination the maxillary left third molar was missing and tenderness was elicited over the left maxillary sinus. Impacted mandibular molars were also noticed. An Orthopantomograph (OPG) (Fig 1) was taken initially and an ectopically erupted tooth was present within the sinus cavity and Cone Beam Computed Tomography (CBCT) were advised which revealed the presence of an ectopically erupted tooth within the medial wall of sinus cavity with definite hyper dense area suggestive of a tooth surrounded by soft tissue (Fig 2 (a),(b),(c)(d)(e)). This was indicative of an infected cyst in left maxillary sinus. The condition was then treated by removal of the tooth with cyst enucleation by anterior wall osteotomy under general anesthesia. A trans vestibular incision was placed extending from canine to third molar region. A buccal bony window was created and the tooth was removed with enucleation of cystic lining (Fig 3 (a),(b)). The cavity was irrigated and complete haemostasis was achieved and wound was closed with 3.0 vicry(lfig 4). The post operative period was uneventful. Histopathologic examination of the soft tissue lining revealed the presence of infected odontogenic kertocyst associated with ectopic tooth.

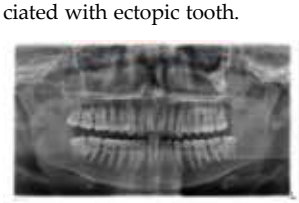

Figure 1

fig 2(a)

Fig 2(b)

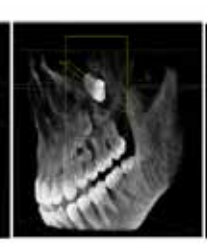

fig2(c)

fig 2(d)

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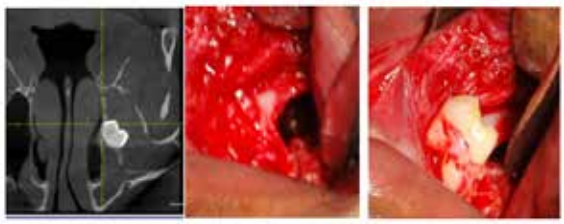

Fig 2(e) fig 3 (a) fig 3(b)

DISCUSSION

Ectopic tooth in maxillary sinus is a rare entity[5],[8]. Abnormal tissue interaction during development may potentially result in the formation of ectopic tooth and eruption. The etiology of ectopic eruption is still unclear and many theories have been suggested including trauma, infection, cyst, tumor, crowding, and developmental abnormalities[10],[11],[13]

The ectopic teeth in non-dental localizations have been reported in the nasal cavity, maxillary sinus, chin, mandibular condyle, coronoid process , palate and orbital cavity. Ectopic teeth, are commonly observed in the second or third decade of life with male predominance. Ectopic teeth are usually asymptomatic and are found out during routine clinical or radiologic investigations[5],[7]

If the tooth erupts into the maxillary antrum, it can present itself with local sinonasal symptoms like nasal obstruction, facial fullness, headache, hyposmia and recurrent choronic sinusitis. Other rare symptoms include epistaxis, fever, rhinorrhea, nasolacrimal duct obstruction and a deviation of the nasomaxillary anatomy[9],[10].Literature review shows only few case reports of ectopic tooth in the maxillary sinus. Kwon HI, Lim WB reported odontogenic keratocyst associated with ectopic tooth in maxillary sinus[1].

Beriat et al., Erkmen et al.Vijay et al.reported ectopic molar tooth in the maxillary sinus[3],[14].Smith et al., Pracy et al., and Spencer and Couldery, Subramaniam et al. Mansour et al. reported the presence of intranasal teeth.[14],[15],[17] Subramaniam et al. reported a case in which a patient with missing upper lateral incisor was found in the nasal cavity[17]. Gadalla[14],[15] reported a case in which two teeth that had erupted through the chin. Elango and Palaniappan presented an ectopic third molar in the roof of the maxillary sinus[14],[15],also Di Felice and Lombardi reported ectopic third molar in the maxillary sinus.[14],[15]

The diagnosis of the ectopic tooth can be made radiographically with panoramic radiography , Water's view (PNS),plain skull radiography X-rays and CT scans taken in axial and coronal sections and CBCT.. Water's view, panoramic radiography and plain skull radiography are simple and relatively inexpensive methods. CBCT imaging can be considered as a gold standard for determining the exact localization[5],[6].

In our case OPG and CBCT was performed for paranasal inspection .Caldwell-Luc procedure is commonly used to remove the pathologies and tooth from maxillary sinus[3],[12],[16].

In our case for ease of access in to the medial wall anterior wall osteotomy and a buccal bony window was created in the molar region. The whole procedure was done under general anesthesia.Tooth was identified and removed. Sinus lining tissues were enucleated and sent for histopathologic examination and report came as infected odontogenic cyst.

Post operative period was uneventful

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