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Case Report

A rare case of an intra-nasal ectopic tooth leading to rhinolith

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ABSTRACT

Teeth in non-dentate areas including the intra-sinus and intranasal teeth are rarely encountered in clinical practice. Although the majority of patients remain asymptomatic, the usual presenting complaints are nasal obstruction, epistaxis, hyposmia and headache. In this article, we present a case of an intranasal tooth in a 38-year-old male who presented with complaints of hyposmia and nasal obstruction. Computed tomography (CT) of the paranasal sinuses and nasal cavity showed a tooth-like structure in the left inferior nasal cavity extending from the hard palate. The mainstay of treatment is the surgical removal of the ectopic tooth under anaesthesia. Even in asymptomatic patients, surgical removal of the nasal tooth is advised to prevent complications. Along with a clinician's understanding of the condition, imaging aids in the diagnosis of an ectopic tooth. Imaging, particularly with CT, also helps plan the surgical approach to treatment.

Keywords: Rhinolith, Ectopic teeth, Nose

INTRODUCTION

An aberrant tooth can be found in sites outside of the oral cavity and can be a supernumerary, deciduous, or permanent tooth.[1] The maxillary sinus and palate are the most frequently affected sites, while the mandibular condyle, coronoid process, orbits, and facial skin are affected much more rarely.[1,2] The presence of supernumerary or ectopic teeth is not an uncommon fact, which occurs in 1% of the general population. However, the presence of teeth in the nasal cavity is a rare phenomenon, regardless of etiology.[3] The presence of teeth in the nasal cavity in cleft individuals is a rare phenomenon and obscure etiology and occurs in 0.1-1% of the general population.[4] Medeiros et al found a prevalence of 0.48% intranasal teeth in children with complete cleft lip and palate.[5]

The exact etiology of eruption of a tooth into the nasal cavity remains obscure. A few theories have been proposed to explain it, including the theory of developmental origin, which states that ectopic eruption may occur either due to reversion to the dentition of extinct primates having three pairs of incisor teeth, defect in migration of neural crest derivatives destined to reach the jaw bones, or due to a flaw in the multistep epithelial-mesenchymal interaction.[6] Other causes include developmental disturbances such as cleft lip and palate, trauma, or cystic lesions leading to tooth displacement, genetic factors, persistent deciduous teeth, and supernumerary teeth.[7] Here, we report a case of ectopic tooth presenting as rhinolith -which is an unusual presentation.

CASE REPORT

A 38-year-old male patient presented to us with complaints of left nasal obstruction, intermittent foul-smelling blood-stained nasal discharge which was unprovoked for the past 12 years. There was no aggravating or relieving factors. He

denied history of frequent rhinitis, prior to that and had no associated symptoms such as frontal headache, facial pain, or facial numbness. He also had no ear symptoms. There were no history of trauma or foreign body insertion. He was seen by otolaryngologist elsewhere and was treated for rhinitis. He did not respond to medical steroidal nasal spray and antihistamines. Physical examination showed (Figure 1). Cold spatula test revealed reduced nasal flow over the left compared to the right. His facial structures were symmetrical. Cranial nerves were intact. There was no cervical lymphadenopathy. Plain X-ray para-nasal sinus normal with hyper dense opacity in the left nasal cavity. Rigid nasal endoscopy revealed a rhinolith on the floor of the left nasal cavity with surrounding granulation tissue. The nasal cavities were normal, with clear osteomeatal complexes bilaterally. Naso-pharynx was also normal. The lesion was embedded on the floor of the left nasal cavity (Figure 2). Tomography-para-nasal sinus- revealed unilateral densely calcified mass in the nasal cavity between the inferior meatus and the nasal septum (Figure 3). He was subjected for examination under general anaesthesia whereby the rhinolith was removed under endoscopic guidance. Intra-operatively, the surrounding granulation tissue was removed, and the rhinolith was scooped out with a freer's elevator, with minimal manipulation (Figure 4). There was a rhinolith which was removed. Following its removal, a smooth bulge was seen in the floor obsructing the nasal airway which after careful removal and histopathology was proven to be ectopic teeth (Figure 5).

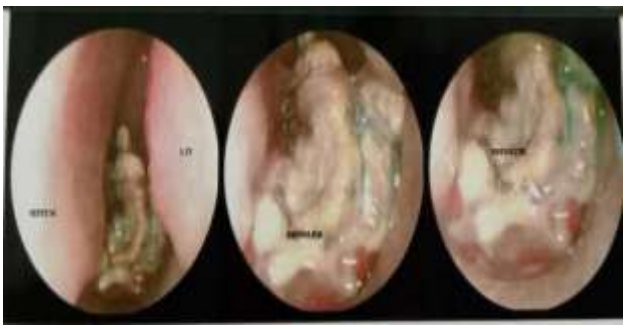

Figure 1: Nasal endoscopy revealed rinolith located between the septum and inferior turbinate.

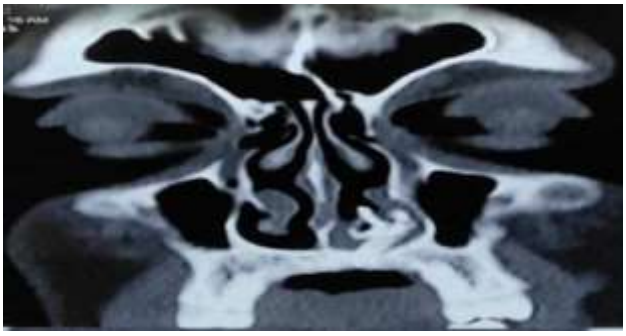

Figure 2: Coronal computerized tomography showing both rhinolith with ectopic tooth in the left nasal cavity.

Following removal, floor of the nasal cavity was intact with no intraoral communication. Post removal, haemostasis was attained. Intra-nasal pack was applied which was removed on second post-operative day. One week after the surgery endoscopic cleaning was done. The patient was well with no more nasal symptoms. He was referred for proper dental assessment.

Figure 3: View of rhinolith with ectopic teeth after endoscopic removal.

DISCUSSION

Intranasal tooth represents a small portion of all reported cases of ectopic eruption in the literature. Although the occurrence of supernumerary teeth is rare, up to 1%, it overcomes the prevalence of deciduous and permanent teeth found in the nasal cavity.[8] In this report, we show a rare cases of permanent teeth found intranasally, one in a 38-year-old man. The age range reported for detecting the nasal tooth is broad, from 3 to 62 years.[9] Late detection, at 38 years, happened due to irregular follow-up and patient ignoring the symptoms. There is no predisposition for left or right nostril.[10] Etiology of the ectopic tooth may be; obstruction by the time of eruption caused by persistent deciduous teeth; no space in the arc; intrusive luxation; facial deformities, such as cleft palate; cysts; and genetic predisposition.[11] To accomplish a precise diagnosis, CT scans were requested for both patients in order to make a differential diagnosis between tooth in the nasal cavity, benign tumors, rhinolith, and calcified inflammatory lesions due to tuberculosis and syphilis.[12,13] These hypotheses were negated by matching clinical and tomographic findings. Theories have been developed to explain the formation of a supernumerary tooth, like single nucleotide polymorphisms dental lamina hyperactivity.[8,9,14] Although histological examination has been performed by other authors to confirm the diagnosis of a tooth in the nasal cavity. To solve symptoms and prevent further complications, surgically removing the tooth has been proposed as treatment.[15] When the tooth is inserted in the bone, the procedure becomes complex, but it still has important possible major complications, such as infection and hemorrhage, that indicate general anesthesia as a safer protocol to be followed. Finally, intranasal ectopic tooth is somehow rare but is potentially harmful when left untreated; thus, surgically removing the

intranasal ectopic tooth is important to improve patient's quality of life. Furthermore, the diagnosis is simple, fast, and cheap.

CONCLUSION

Patients with unilateral nasal symptoms not responding to conventional treatment require proper ear, nose, and throat (ENT) evaluation to rule out other pathology. Intranasal tooth is uncommon; however, it should be one of the differential diagnoses to be considered for patients presenting with unilateral nasal symptoms. Early endoscopic evaluation is essential for optimal diagnosis and treatment.

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