International Journal of Otorhinolaryngology and Head and Neck Surgery
Thakkar HJ. Int J Otorhinolaryngol Head Neck Surg. 2025 Apr;11(2):181-183
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20250800

Case Report

Ectopic tooth eruption from inferior turbinate with rhinolith, rare case of ectopic tooth in nose: a case report

Himanshu Jagdishchandra Thakkar*

Department of Otolaryngology, Dr Thakkar's Ent and Dental Surgical Hospital, Rajkot, Gujarat, India

Received: 11 February 2025
Revised: 20 March 2025
Accepted: 21 March 2025

***Correspondence:**
Dr. Himanshu Jagdishchandra Thakkar,
E-mail: drhimanshuthakkar@gmail.com

ABSTRACT

We report a rare occurrence of an ectopic tooth in the nose, which erupted from the inferior turbinate and was associated with rhinolith formation, in a 38-year-old female patient with chronic rhinosinusitis. The condition caused significant nasal obstruction, headache, and unilateral foul-smelling nasal discharge. This case highlights the diagnostic challenges and treatment strategies involved in managing this uncommon condition. The intra-nasal tooth and rhinolith were removed endoscopically. Ectopic teeth, growing in abnormal locations like the maxillary sinus, are rare occurrences, with uncertain causes including trauma, infection, and developmental abnormalities. They often appear in the second or third decade of life, sometimes without symptoms. They are often missed as symptoms can mimic chronic sinusitis but may include sino-nasal issues like obstruction and facial pain. Complications ranging from recurrence to potential blindness or carcinoma have been reported. Diagnosis involves radiographic imaging, with CT scans providing precise localization. Following accurate diagnosis, treatment typically involves surgical removal, with endoscopic procedures gaining popularity due to reduced risks. Follow-up for asymptomatic cases can be conducted through periodic radiographs.

Keywords: Ectopic tooth, Rhinolith, Inferior turbinate, Nasal endoscopy, Epistaxis

INTRODUCTION

Ectopic teeth in the nasal cavity are extremely rare, and their presence can lead to chronic rhinosinusitis, nasal obstruction, headaches, foul-smelling nasal discharge, and other complications. This report discusses the clinical presentation, diagnostic approach, and successful management of a patient with an ectopic tooth in the inferior turbinate, contributing to the understanding of this rare phenomenon.[1]

An ectopic tooth is a condition where a permanent tooth grows in an abnormal location, often leading to issues like misalignment and premature loss of primary teeth.[2] Typically, teeth erupt normally when the tooth germ is positioned correctly, the eruption pathway is clear, and the dental follicle/periodontal ligament (PDL) is intact. However, if any of these factors are compromised, it can lead to disturbances in tooth eruption. Ectopic teeth occur in approximately 1.5% to 4.3% of the population.[2-5]

CASE REPORT

A 38-year-old female presented with chronic unilateral nasal obstruction, foul-smelling nasal discharge from the right side, and headaches persisting for ten years.

There was no history of trauma, surgery, cleft palate, or any congenital anomalies, and the patient was otherwise healthy. Intraoral examination revealed no missing teeth. Intra-nasal endoscopy with a zero-degree endoscope showed a whitish mass on the right side of the nasal cavity, surrounded by granulation tissue and mucopurulent secretions.

The mass was difficult to palpate between the nasal septum and inferior turbinate on the right side. The mass appeared to have erupted from the right inferior turbinate.

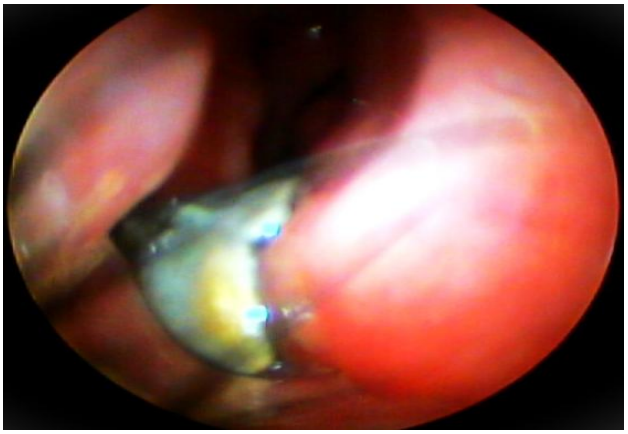

Figure 1: Nasal endoscopic view of ectopic tooth situated between nasal septum and inferior turbinate right side.

Diagnostic imaging via computed tomography revealed an ectopic tooth in the inferior turbinate, associated with rhinolith formation. The tooth, along with the rhinolith and granulation tissue, was removed using a zero-degree nasal endoscope and nasal forceps. CT findings in our case revealed a smooth, hypodense soft tissue lesion located in the floor of the right nasal cavity, between the inferior turbinate and nasal septum. An internal homogeneous high attenuation area, equivalent to that of a tooth, was noted. The lesion was surrounded by soft tissue. High attenuation area measured 15.3×8.9×22.8 mm (TR×CC×AP). Additionally, there was a deviated nasal septum, bilateral ethmoid and maxillary sinusitis, and a right maxillary polyp.

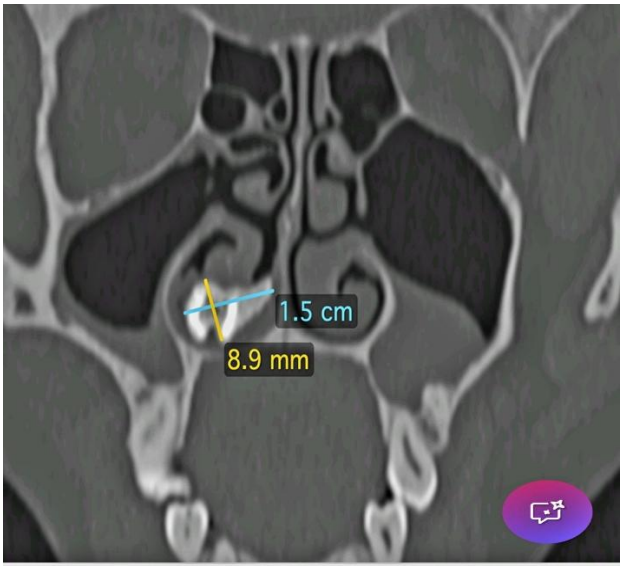

Figure 2: CT scan para nasal sinus showing radio opaque tooth like structure originates from inferior turbinate.

Suction clearance was performed to remove the foul-smelling nasal secretions, and the specimen was sent for histopathological examination. The surgery was successful, leading to the resolution of symptoms.

Figure 3: Post-operative photo of ectopic tooth with rhinolith.

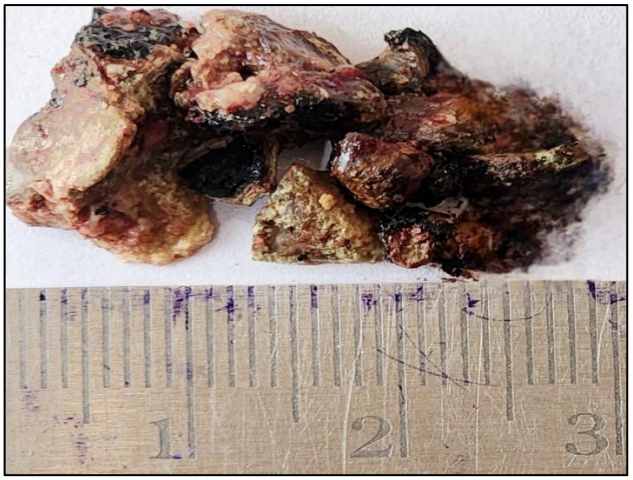

Figure 4: Measurement of specimen removed ectopic tooth with rhinolith.

DISCUSSION

The etiology of an intranasal tooth is broadly classified into two groups based on abnormalities in tooth germ development and migration. Predisposing factors for ectopic nasal teeth include trauma, supernumerary teeth, odontogenic or rhizogenic infections, and congenital conditions such as cleft lip or cleft palate.[1] Ectopic teeth can emerge as additional teeth on the palate or grow into the nasal cavity. Ectopic teeth located outside the oral cavity may be deciduous, permanent, or supernumerary.[6]

Several theories explain the development of ectopic teeth. One is the developmental origin theory, which suggests

that primates originally had three pairs of incisors. This theory proposes that the formation of ectopic teeth results from a reversion to ancestral dentition patterns seen in extinct primates. Another explanation is the dental lamina hyperactivity theory, which states that supernumerary teeth arise from an additional tooth bud in the dental lamina.[7] According to this theory, an intranasal tooth may develop from a dental lamina near the permanent tooth bud or due to the splitting of a permanent tooth bud.[7]

The incidence of ectopic or supernumerary teeth is rare, accounting for approximately 0.1-1% of cases. The most commonly affected sites are the maxillary sinus and the palate, whereas involvement of the nasal cavity, coronoid process, mandibular condyle, and orbits is rare.[8] Supernumerary tooth growth may also be linked to eruption blockage caused by factors such as dental crowding, retained deciduous teeth, or thick bone.[8]

Clinical and radiological examinations are crucial for diagnosing intranasal teeth. Clinically, they may appear as white masses surrounded by granulation tissue or as an external bump along the floor of the nasal cavity on the affected side.[9]

Ectopic teeth can exhibit atypical crown orientations, either horizontally or vertically. The condition may be asymptomatic or present with various symptoms, including hyposmia, nasal obstruction, facial pain, epistaxis, and headaches.[10] If left untreated, intranasal teeth can lead to complications such as naso-oral fistula, rhinitis caseosa with perforation, external nasal deformities, and fungal infections (e.g., aspergillosis).

The differential diagnosis for intranasal teeth includes foreign bodies, rhinoliths, infections such as tuberculosis or aspergillosis with calcification, nasal polyps with calcification, and benign tumors such as osteomas.[11] Although rare, intranasal ectopic teeth can cause significant complications if left untreated, potentially leading to oronasal fistula and septal perforation.[8]

CT scanning is used for diagnosis and treatment planning. Surgical or endoscopic removal of an ectopic tooth is the recommended treatment.[12]

CONCLUSION

A CT scan is useful for assessing the depth of eruption and planning treatment for an intranasal tooth. Surgical or endoscopic removal is recommended to prevent symptoms and complications. A combined clinical and radiological approach ensures accurate diagnosis and appropriate management.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Yeung KH, Lee KH. Intranasal tooth in a patient with a cleft lip and alveolus. Cleft Palate Craniofac J. 1996;33(2):157-9.
2. Yaseen SM, Naik S, Uloopi KS. Ectopic eruption: a review and case report. Contemp Clin Dent. 2011;2(1):3-7.
3. Ismail MQ, Lauridsen E, Andreasen JO, Hermann NV. Ectopic eruption of the second premolar: an analysis of four different treatment approaches. Eur Arch Paediatr Dent. 2020;21(1):119-27.
4. Barberia-Leache E, Suarez-Clúa MC, Saavedra-Ontiveros D. Ectopic eruption of the maxillary first permanent molar: characteristics and occurrence in growing children. Angle Orthod. 2005;75(4):610-5.
5. Bondemark L, Tsiopa J. Prevalence of ectopic eruption, impaction, retention and agenesis of the permanent second molar. Angle Orthod. 2007;77(5):773-8.
6. Bergamaschi IP, Olsson B, Sebastiani AM, Trento GDS, Rebellato NLB, Klüppel LE, et al. Intranasal Ectopic Tooth in Adult and Pediatric Patients: A Report of Two Cases. Case Rep Surg. 2019;2019:8351825.
7. Ong HY, Ng JJ, Ong HJ, Wong SJ, Gopalan S. A Rhinolith Turning Out to Be an Intranasal Tooth. Cureus. 2021;13(2):e13616.
8. Raubaite R, Rakauskaite A, Sukyte-Raube D, Zaleckas L, Rauba D. An Intranasal Ectopic Tooth in an Adult. Cureus. 2022;14(4):e24410.
9. Agrawal M, Khan TS, Gupta T, Khanna S. Intranasal tooth: ectopic eruption 1 year after maxillofacial trauma. BMJ Case Rep. 2014;2014:bcr2014204432.
10. Sejdini M, Çerkezi S. Dental Number Anomalies and Their Prevalence According To Gender and Jaw in School Children 7 To 14 Years. J Med Sci. 2018;6(5):867-73.
11. Sharma A, Singh VP. Supernumerary teeth in Indian children: a survey of 300 cases. Int J Dent. 2012;2012:745265.
12. Ray B, Singh LK, Das CJ, Roy TS. Ectopic supernumerary tooth on the inferior nasal concha. Clin Anat. 2006;19(1):68-74.

Cite this article as: Thakkar HJ. Ectopic tooth eruption from inferior turbinate with rhinolith, rare case of ectopic tooth in nose: a case report. Int J Otorhinolaryngol Head Neck Surg 2025;11:181-3.