# INTRANASAL ECTOPIC TOOTH PRESENTING AS RHINOLITH - A RARE CASE REPORT

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**ABSTRACT**

**BACKGROUND**

Rhinoliths are formed by calcareous deposition over an intranasal foreign body. They are very commonly found in children and young adults. The commonest presentation is unilateral nasal bleeding and foul smelling nasal discharge. It should be suspected when patient presents with nasal obstruction and found to have stony mass on examination. Teeth are defined as ectopic when they erupt in regions other than their natural positions. It is very rare that rhinolith can form over an ectopic tooth. Here we present the case of a 19-year-old male patient with rhinolith in left nasal cavity developed over ectopic tooth, which was removed by endoscopic approach.

**KEYWORDS**

Rhinolith, Ectopic Tooth, Nasal Foreign Body, Epistaxis.

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## BACKGROUND

Rhinolith are also known as nasal calculi. A "rhinolith" is a partially or totally calcified mass of tissue in the nasal cavity. They are classified as 'endogenous' when they formed around normal body material such as blood clots, misplaced tooth remnants or bony sequestra. Exogenous rhinoliths form around foreign bodies inserted into the nose – usually of nonhuman material.[1] Its common presentation is unilateral nasal obstruction and foul-smelling discharge, which is very often blood stained and a hard mass in nasal cavity.[2]

Diagnosis is made by endoscopic examination, which can be confirmed by x-ray or CT scan. Linear, multidirectional computed tomography have been helpful since they provide sectional multiplanar images. Typical radiological picture is radio-opacity with laminated appearance and central radiolucency. The central radiolucency could be due to the presence of organic material, which could have formed the nidus for rhinolith. Treatment of choice is endoscopic removal, but in case of huge rhinolith lateral rhinotomy approach is considered. On the other hand "Ectopic teeth" are a rare finding; less than 20 cases have been reported in the international literature till now.[3]–[5] They can arise throughout the mid face including the palate, mandibular condyle, coronoid process, orbit, maxillary antrum and nasal cavity. Nasal teeth are unlikely to be diagnosed following clinical examination alone, as they are often covered in granulation tissue and infected debris.

But CT scan PNS can easily diagnose an ectopic teeth. This report presents a rhinolith around an ectopic teeth in nasal cavity presenting as nasal obstruction.

## CASE REPORT

A 19-year-old male presented with complaints of left-sided nasal obstruction with intermittent nasal bleeding for 1 year duration. There was no history of trauma, foreign body insertion or any systemic illness. Clinical examination revealed greyish white irregular stony hard mass on the floor of left nasal cavity between inferior turbinate and septum. The mass was immobile and pressing over the left inferior turbinate. The mass was covered with mucoid discharge and granulation.

X-ray PNS revealed the rhinolith to be an ectopic tooth arising from incisive foramen. As the patient was poor, CT scan could not be done. A diagnosis of rhinolith over ectopic teeth was clinically and radiologically made and the patient was admitted for removal of the rhinolith.

Under local anaesthesia, 0 degree rigid nasal endoscope was used for inspection of the nasal cavities. We used 4% xylocaine with 1:1000 adrenaline for nasal packing and 2% xylocaine with 1:100000 adrenaline for infiltration. Infiltration was done over septum, floor, inferior turbinate and greater palatine foramen. The rhinolith was found between inferior turbinate and septum of left nasal cavity. It was gently mobilised with a malleable probe and removed by Lucs forceps by displacing it posteriorly. Haemostasis was maintained with light anterior nasal packing, which was removed after 24 hours. At the postoperative period, the patient's symptoms were completely relieved and an endoscopic examination of the left nasal cavity on the 7th postoperative day was completely normal.

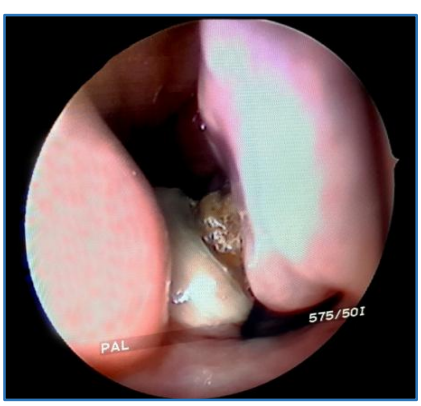


***Figure 1. Nasal Endoscopy revealed a Stony Hard Mass Located between the Nasal Septum and the Inferior Turbinate of the Left Nasal Cavity***

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***Figure 2. X-Ray PNS demonstrating Tooth in Left Nasal Cavity***


***Figure 3. Rhinolith with Ectopic Tooth after Total Endoscopic Removal***

**DISCUSSION**

Bartholin first described rhinoliths in 1654 and the first chemical analysis was conducted by Axmann in 1829.[6] Rhinoliths are found in all age groups, but more commonly in children and young adults. For some unknown reason males seem to be commonly affected than females. The nidus of rhinolith is usually a foreign body. They usually have a laminated structure that involves layers of mucin aggregating around the foreign body. Each mucin layer subsequently becomes calcified, perhaps aided by the presence of turbulent air currents.[1] Chemical analysis of the calcified deposits in the nasal cavity have been investigated by various authors.[7] In general, rhinolith mainly consists of 90% inorganic material and 10% organic ingredients. The main mineralogical constituent of a rhinolith is formed by mineral whitlockite (Ca3 (PO4)2) and the remaining part is formed by carbonated apatite (dahllite) and mineral apatite (Ca5 (OH, F, Cl) (PO4)3).

Endogenous rhinoliths are formed in the nasal cavity around the body's own material-like inspissated mucus, dried clots, ectopic teeth, etc.

Teeth are rarely located outside the alveolar arch. During odontogenesis, any abnormal developmental tissue interaction may result in tooth ectopy. The common sites for ectopic tooth are floor of nasal cavity, palate, coronoid process and mandibular condyle.

In our case as there was no foreign body found in nose, the aetiology of the rhinolith was accepted to be endogenous origin arising from the ectopic tooth.

Rhinoliths often remain asymptomatic for a long time. As it gets bigger, it compromises vascular supply causing pressure necrosis, then erosion and perforations of sorrounded structures. Examination should include anterior rhinoscopy and rigid endoscopy.

The appropriate treatment of a rhinolith is removal. If it is too large it can be crushed into small pieces. Some cases of huge rhinoliths may require lateral rhinotomy. But in our case as the rhinolith was not so big and it was present in anterior part of nasal cavity we preferred endoscopic removal.

**CONCLUSION**

Rhinolith can be a cause of unilateral nasal bleeding and nasal obstruction. Diagnosis of a rhinolith require a high index of suspicion based on symptomatology, careful clinical and endoscopic examination. History of foreign body insertion should be asked. The diagnosis must be supported radiologically. Endoscopic removal is the treatment of choice.

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