

# Rhinolith - A Rare Case

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## Case Report

**Abstract:** Rhinoliths are uncommon clinical entities reported in practice presenting as unilateral foul smelling nasal discharge and nasal obstruction. These are mineralized foreign bodies in nasal cavity. A case of 43 year old female with left side foul smell nasal discharge and nasal obstruction for the past 10 years diagnosed as rhinolith after thorough clinical examination and confirmed by endoscopy and radiological examination. Endoscopic surgical removal was done. A high index of suspicion is required.

**Keywords:** Clinical manifestations, Endoscopic surgical removal, Rhinolith.

### Introduction

Rhinolithiasis was first described by Bartholin in 1654<sup>(1)</sup>. Rhinolith (from the Greek rhino means nose and lithios means stone) are rare. They are calcareous concretions that are formed by the deposition of salts on an intranasal foreign body. Nasal foreign body may be exogenous (plastic part, seeds, insect, wood, grains) or endogenous resulting from blood clots, mucosal necrosis, tooth fragments. Symptoms are normally progressive unilateral foul smelling nasal discharge and nasal obstruction, less commonly nasal bleeding, headache, facial pain.

A high index of suspicion is required for the diagnosis. Endoscopic surgical removal is the treatment of choice.

### Case Report

A case of 43 year old female patient came with complaints of recurrent attacks of unilateral foul smelling nasal discharge, nasal obstruction and headache for the past 10 years. Nasal discharge was mucopurulent foul smelling unilateral, nasal obstruction was insidious in

onset and slowly progressive. Nasal discharge was subsided after medication.

### On Examination

**Nose:** Anterior rhinoscopy:- After clearing the nasal cavity of the secretion by aspiration and detumescence of the mucosa, a blackish solid foreign body was detected at the level between middle and inferior turbinate on left side, which was occluding the left nasal cavity.

**Ears:** Tympanic membrane shows inactive central perforation in the right ear. Left ear was normal.

**Oral cavity and Oropharynx:** Was normal by routine examination. Routine blood investigations were done. She was found to be hypertensive. She was treated by cardiologist for hypertension. Diagnostic nasal endoscopy was done confirmed rhinolith in the left nasal cavity. CT Scan of paranasal sinuses was done to confirm diagnosis. The coronal / axial CT Scan of the nasal cavity, obtained to exclude bony destruction and revealed a large, dense, space-consuming lesion located in the inferior and middle turbinate on the left. Lesion presented partly regular, partly irregular margins and caused haziness of the left maxillary sinus (Figure 1 and Figure 2). No bony destruction was evident. Under general anaesthesia, functional endoscopic sinus surgery was done and the rhinolith was broken into fragments and removed (Figure 3). Left middle meatal antrostomy was done. After applying the usual postoperative care, the patient became symptom-free, and an endoscopic inspection of the maxillary sinus performed on the 5<sup>th</sup> postoperative day revealed healed, bland endothelial mucosa.



Figure 1: Coronal CT cuts showing Rhinolith

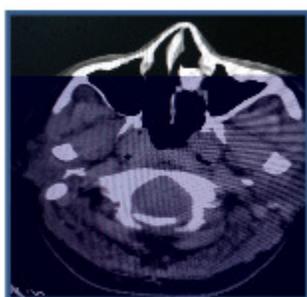


Figure 2: Axial CT cuts showing Rhinolith



Figure 3: Rhinolith after removal

## Discussion

Rhinoliths are rare. They are calcareous concretions that are formed by the deposition of salts on an intranasal foreign body. <sup>(2)</sup> Although the pathogenesis of rhinoliths remains unclear, a number of factors are thought to be involved in their formation. These include entry and impaction of a foreign body into the nasal cavity, acute and chronic inflammation, obstruction and stagnation of nasal secretions, and precipitation of mineral salts. <sup>(3)</sup> Usually, it takes a while for a rhinolith to form, therefore the course of development and progression of this disease is believed to take a number of years. Most of the patients complain purulent rhinorrhea and/or ipsilateral nasal obstruction. Other symptoms include fetor, epistaxis, sinusitis, headache and, in rare cases, epiphora. In some patients, rhinoliths are discovered incidentally. Examination should include anterior rhinoscopy and rigid endoscopy. Computed tomography of the paranasal sinuses can accurately determine the site and size of the rhinolith and identify any coexisting sinus disease which may also require treatment. <sup>(4)</sup> Diagnosis can be established by keeping a high index of suspicion based on symptomatology, history of foreign body introduction into the nose, physical examination and complementary tests. Simple X-ray and paranasal sinuses CT scan supports the diagnosis through the presence of calcified concretions in the nasal fossa, in addition to supporting the planning of surgical approach. Endoscopic appearance is the main step in diagnosis which can be supported by radiology. Complete resolution of symptoms occurs after endoscopic

surgical removal. <sup>(5-7)</sup> The surgical approach chosen depends on the location and size of the rhinolith and the presence (if any) of complications, but most of which may be removed endonasally.

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## Conclusion

Rhinoliths are rare. Diagnostic nasal endoscopy and CT paranasal sinuses are helpful in diagnosis. Endoscopic surgical removal is the treatment of choice.

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