

# CASE REPORT

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## AN UNUSUAL CASE OF FOREIGN BODY IN THE NOSE PRESENTING AS RHINOLITH

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**ABSTRACT:** Rhinolith (from the Greek rhino meaning nose, and lithos meaning stone) are rare. They are calcareous concretions that are formed by the deposition of salts on an intranasal foreign body. This intranasal foreign body which may incidentally or accidentally access the nasal cavity and then act as the nucleus (thus becoming a focal point) for encrustation. Nasal foreign bodies can either be endogenous or exogenous. Desiccated blood clots, ectopic teeth, and bone fragments are examples of endogenous causes, whereas exogenous causes can include fruit seeds, plant material and beads. Rhinolith can have various clinical presentations. A high index of suspicion is required for the diagnosis of such a forgotten entity. In this article, we present an unusual, forgotten plastic foreign body since childhood and later presenting as a rhinolith in adulthood.

**KEYWORDS:** Rhinolith, Foreign body.

**INTRODUCTION:** Rhinolith (from the Greek rhino meaning nose, and lithos meaning stone) are rare. They are calcareous concretions that are formed by the deposition of salts on an intranasal foreign body. This intranasal foreign body which may incidentally or accidentally access the nasal cavity and then act as the nucleus (thus becoming a focal point) for encrustation. Nasal foreign bodies can either be endogenous or exogenous. Desiccated blood clots, ectopic teeth, and bone fragments are examples of endogenous causes, whereas exogenous causes can include fruit seeds, plant material and beads. Rhinolith can have various clinical presentations. A high index of suspicion is required for the diagnosis of such a forgotten entity. In this article, we present an unusual, forgotten plastic foreign body since childhood and later presenting as a rhinolith in adulthood.

Foreign bodies normally gain entry to the nasal cavity through the anterior nares and get lodged at the floor of the nasal cavity in most situations, but they may occasionally reach the nasal cavity through the posterior choanae owing to cough or vomiting. Foreign bodies are normally introduced during childhood. It may go un-noticed for many years. Its presence causes local inflammatory reaction, leading to deposition of calcium carbonate, calcium phosphate, magnesium, iron and aluminum, in addition to organic substances such as glutamic acid and glycine, leading to slow and progressive increases in size. The presenting symptoms can be unilateral persistent nasal obstruction, foul smelling nasal discharge, recurrent rhino-sinusitis or frequent epistaxis. Diagnosis is usually by radiological findings of a radio-opaque mass along the floor of the nasal cavity. Surgical removal is the treatment of choice.

# CASE REPORT

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**CASE REPORT:** A 20 year old male presented to the ENT outpatient department at Bowring and Lady Curzon Hospitals, Bangalore, with unilateral right sided nasal obstruction and foul smelling discharge since six months. There was no history of trauma, no episodes of epistaxis and no symptoms suggestive of allergy. He did not have any co morbid conditions like diabetes mellitus, hypertension or tuberculosis.

On examination, a pale grayish-white stoney hard mass was seen along the floor of the right nasal cavity in between the lower part of the nasal septum and the inferior turbinate. There was also a sharp septal spur projecting towards the left nasal passage. Purulent, foul smelling discharge was seen along the floor of the right nasal cavity. Rest of the examination was normal. Oral cavity and hard palate was normal. Diagnostic nasal endoscopy was done to confirm the findings.

His routine investigations were within normal limits. Plain CT of paranasal sinuses was taken to rule out the bone destruction. It revealed a densely calcified triangular structure measuring about 2.2×1.2×1.0 cm size in the posterior part of the right nasal cavity between the nasal septum and the inferior turbinate with deviated nasal septum and septal spur towards the left nasal cavity (Figures 1 and 2).

After pre anesthetic evaluation and obtaining informed written consent, the patient was posted for surgery under general anesthesia. A large rhinolith was removed in pieces along with its core containing a conical plastic foreign body measuring about 15 mm in length and 8 mm in its largest diameter, which appeared to be the tip of a plastic ball point pen (Figure3). The right nasal cavity was packed with merocel after obtaining haemostasis. The merocel pack was removed on third post-operative day with the patient experiencing marked relief of his symptoms. He was discharged with antibiotic cover and nasal decongestants.

**DISCUSSION:** Bartholin first described rhinolith in 1654, since then more than 600 cases have been reported.<sup>(1,2,3)</sup> Pathogenesis of rhinolith is not clear; patients are mostly asymptomatic for many years following lodgment of the foreign body, which tends to be forgotten. As the size increases over the years, patients commonly present with nasal obstruction, rhinorrhea, epistaxis, and sinusitis, other less common symptoms include facial pain and headache. As it grows further, it compromises blood supply causing pressure necrosis, erosion and perforation of surrounding structures like hard palate or nasal septum.. Rhinolith needs time to be formed which is suggested to be around 15 years.<sup>(4)</sup>

Diagnosis is based on history and physical examination. Diagnostic nasal endoscopy is a very useful procedure as it makes diagnosis and assessment of neighboring structures easier. Rhinolith was found frequently as incidental finding during rhinoscopy, as irregular, hard dark mass with greenish foul smelling crusts all around<sup>(7,8,9)</sup> Radiological investigations such as plain X-ray and CT scan can support diagnosis, complications and direct the management. MacIntyre was the first to describe rhinolith radiographically in 1900.<sup>(5,6)</sup> Rhinolith may present with variable opacities depending on the nature of the origin. Differential diagnosis includes benign lesions such as osteoma and odontogenic tumours and malignant lesions like osteosarcoma.

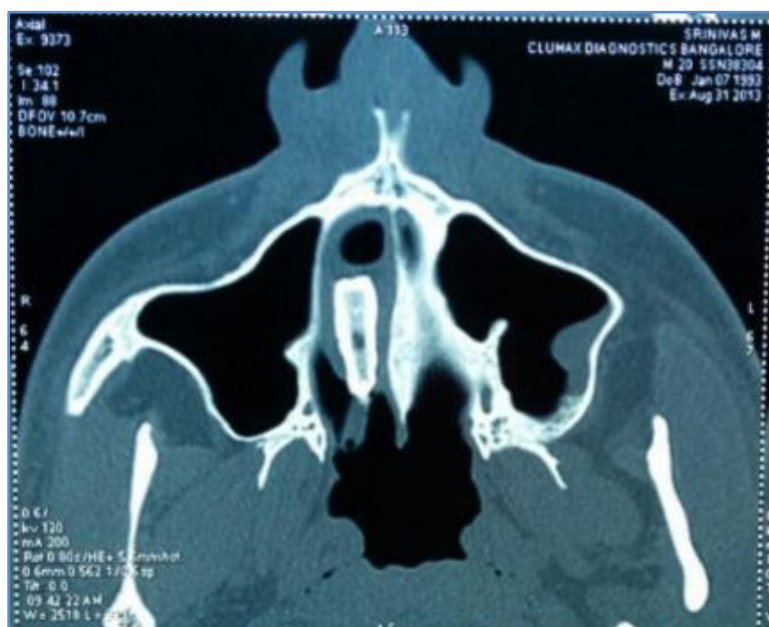
Medical treatment has not shown to be effective in these cases. Treatment of choice is endoscopic surgical removal and in extremely rare conditions, it needs external approach like

# CASE REPORT

lateral rhinotomy. Usage of local and systemic antibiotics after removal of rhinolith could improve the recovery.

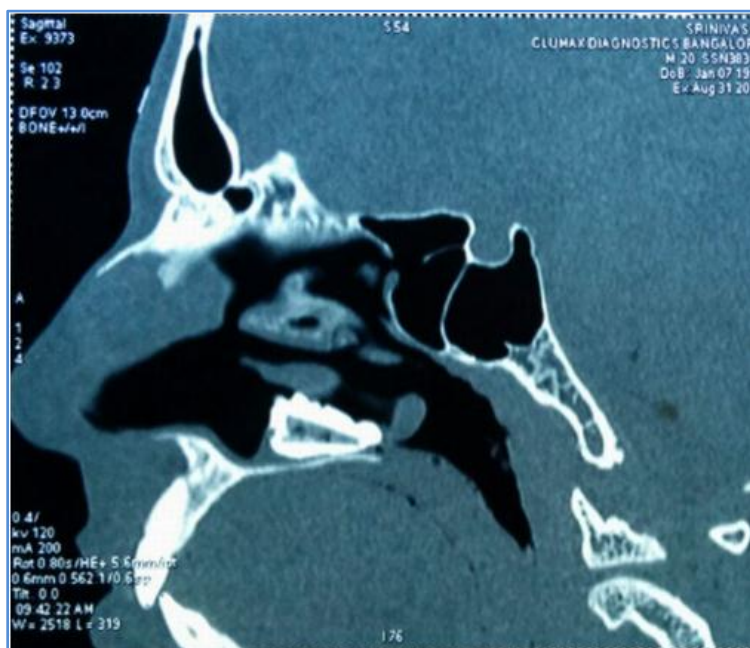
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**Fig. 1: Ct Scan nose and PNS, axial view showing the radio-opaque mass in the right nasal cavity**

## CASE REPORT



**Fig. 2: Ct Scan nose and PNS, Sagittal view showing the calcified foreign body along the floor of the right nasal cavity**



**Fig. 3: Rhinolith removed completely, revealing the plastic foreign body**

# CASE REPORT

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