CASE REPORT

Uncovering the Hidden Rhinolith: An Interesting Case Report on the Oddity of Rhinoliths

Shashidhar TB[1], Dilpreet Bajwa[2], Shubhi Tyagi[3], Indresh Chandra[4]

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Abstract

Aim: Uncovering a surprising pearl in the rhinolith of a middle-aged man presenting with right nasal obstruction.

Background: Rhinoliths (from the Greek rhino meaning nose, and lithos meaning stone) are rare. They usually remain local, sometimes destroying the surrounding turbinate and septum, causing a chemical reaction with the tissue. Complications such as naso-oral fistula and palatal perforation have been reported due to local irritation and destruction.

Case description: A 50-year-old patient presents to us with right nasal obstruction. On rigid endoscopy, whitish concretions were seen occupying the right nasal cavity till the anterior end of the inferior turbinate and reaching till the floor. Patient was evaluated with NCCT PNS. We performed endoscopic sinus surgery for removal of the rhinolith. To our surprise, a pearl bead was found in the center of the rhinolith. Post-op recovery was uneventful.

Conclusion: Rhinolith can be a diagnostic challenge due to its rarity and nonspecific symptoms, which can mimic other conditions such as sinusitis or nasal polyps. Healthcare providers should maintain a high index of suspicion for rhinolith in patients with nasal symptoms, particularly in those with a history of nasal trauma or surgery. A comprehensive evaluation, including imaging studies and endoscopic examination, may be necessary to make a definitive diagnosis.

Clinical significance: Overall, rhinolith can be a diagnostic challenge due to its rarity, nonspecific symptoms, imaging interpretation, patient history, and differential diagnosis.

Keywords: Case report, Chronic rhinosinusitis, Pearl, Rhinolith.

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Background

Rhinoliths (from the Greek *rhino* meaning nose, and *lithos* meaning stone) are underreported on most of the occasion. They are calcareous concretions formed by the collection of concretions on an intranasal foreign body. This foreign body then acts as the nucleus (thus becoming a focal point) for encrustations after gaining access to the nasal cavity.[1]

They are usually confined locally but sometimes cause a chemical reaction with the tissue and destroy the nearby turbinates and septum.[2] Unilateral nasal obstruction is usually the most common finding of patients with rhinolith. The finding in these patients is malodorous and unilateral nasal discharge. Symptoms of rhinolith can vary depending on the size and location of the stone. Some common signs and symptoms include:

- Foul odor (halitosis) originating from the affected nostril
- Nasal congestion or obstruction
- Nasal discharge or postnasal drip
- Facial pain or pressure
- Recurrent or chronic sinus infections
- Epistaxis (nosebleeds) in some cases

It is often confused with the diagnosis of allergic rhinitis and sinusitis.[3] Complications such as palatal perforation and nasoantral fistula have been reported due to local irritation and destruction.[4]

This report describes the surprising finding of a pearl embedded in the rhinolith of a middle-aged patient who doesn't remember any incidence of foreign body insertion in the nose.

[1–4]Department of ENT and HNS, Artemis Hospitals, Gurugram, Haryana, India

Corresponding Author: Indresh Chandra, Department of ENT and HNS, Artemis Hospitals, Gurugram, Haryana, India, Phone: +91 9916651409, e-mail: indresh0609@gmail.com

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Conflict of interest: None

Patient consent statement: The author(s) have obtained written informed consent from the patient for publication of the case report details and related images.

Case Description

A 50-year-old male patient came to us with complaints of bilateral nasal obstruction, more on the right side. Patient had complaints of severe facial pain and headache associated with it.

On nasal endoscopic evaluation, whitish concretions were seen in the right nasal cavity (Fig. 1). Scope could not be passed beyond the concretions. The patient was further evaluated with a CT scan of the paranasal sinuses. It was reported as a giant rhinolith/? Osteochondroma/? Chronic fungal sinusitis (Fig. 2).

The patient was taken up for endoscopic sinus surgery and debridement under general anesthesia.

All the concretions were removed in a piecemeal manner. It was seen to erode the mucosa overlying the septum. Thick pus was seen around the rhinolith, which was sent for pus culture and sensitivity. Posteriorly it was seen extending till the nasopharynx (Fig. 3).

Fig. 1: Right nasal cavity showing whitish concretions

Postoperatively thorough washing was done, and nasal packing was done, which was removed the next day. The rhinolith was surprisingly found to have a pearl bead at its center around which the rhinolith has formed (Fig. 4).

On further cross-examination, it was found that neither the patient nor his attenders were aware of any incident relevant to this. Postoperatively, the patient was managed with antibiotics and nasal washes, and regular follow-up was done.

Discussion

Treatment of rhinolith typically involves surgical removal. Depending on the size and location of the stone, the procedure can be performed under local anesthesia or general anesthesia. The surgeon may use various techniques, such as forceps, curettes, or endoscopic instruments, to carefully extract the rhinolith without causing additional damage to the nasal structures. In some cases, if the stone is deeply embedded or associated with extensive tissue damage, a more extensive surgical procedure may be necessary.

After the rhinolith removal, it's important to address any underlying causes or predisposing factors to prevent recurrence. This may involve improving nasal hygiene, treating

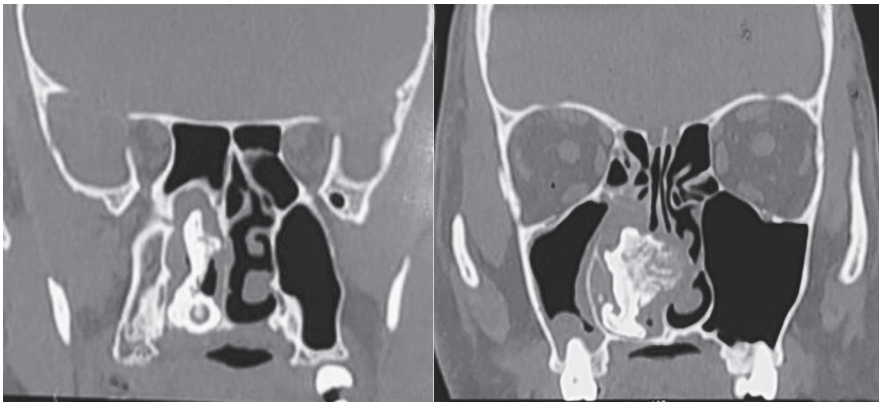

Fig. 2: NCCT paranasal sinus showing giant rhinolith in the right nasal cavity with erosion of septum and hard palate

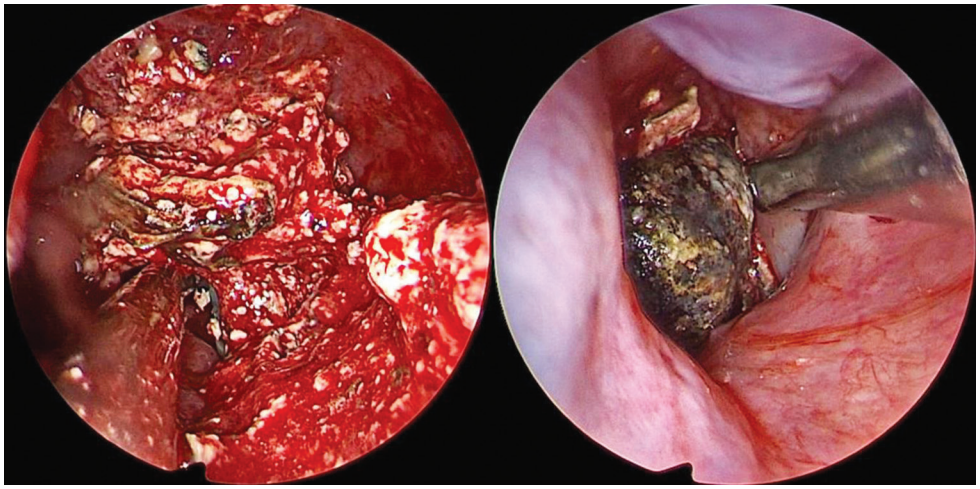

Fig. 3: Intra-op findings of rhinolith in the right nasal cavity, removed in piecemeal fashion

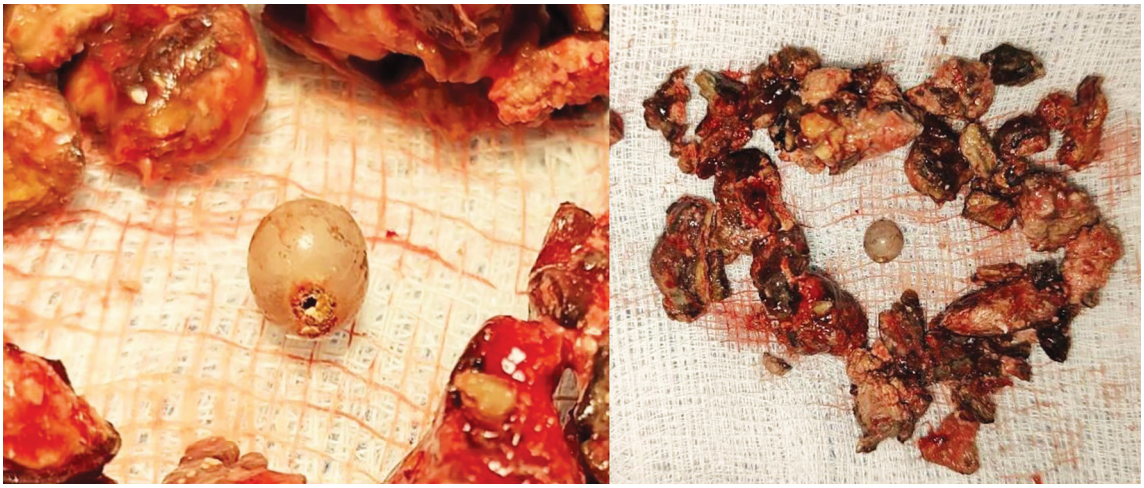

Fig. 4: Postoperative image showing pearl in the rhinolith

chronic sinusitis or infections, or avoiding nasal trauma. Regular follow-up appointments with the ENT specialist are typically recommended to monitor the healing process and ensure there are no complications.

Rhinolith can be easily confused with and overlooked with infections or obstruction of upper airways due to its underreporting.[5]

This scenario likely led to delayed diagnosis of the disease in this patient. Diagnosis of a rhinolith is made by an ENT specialist, who will perform a nasal endoscopy and may order imaging studies such as a CT scan to evaluate the extent and location of the mass. Treatment usually involves removing the rhinolith surgically, which can be done with endoscopic instruments or traditional surgical techniques.

The entity affects females more than males. The literature reports an incidence of 55–60% in females.[6] The mean age of detection of rhinoliths is 30 years due to the extended length of time for growth.[7]

Overall, rhinolith can be a diagnostic challenge due to its underreporting, nonspecific symptoms, imaging interpretation, patient history, and differential diagnosis.

Conclusion

Rhinolith can be a diagnostic challenge due to its nonspecific symptoms, which can mimic other conditions such as sinusitis or nasal polyps. Healthcare providers should maintain a high index of suspicion for rhinolith in patients with nasal symptoms, particularly in those with a history of nasal trauma or surgery. A comprehensive evaluation, including imaging studies and endoscopic examination, may be necessary to make a definitive diagnosis.

Orcid

Indresh Chandra https://orcid.org/0009-0008-5893-9498

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