

## Rhinolith in a 19-Year-Old Girl: A Case Report of a Rare Condition

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### Abstract

Rhinolith means formation of stone in the nasal cavity which is an uncommon cause of nasal obstruction. It occurs due to mineralization of an endogenous or exogenous nidus with deposition of mineral salts, calcium and magnesium phosphates. Patients usually present with foul smelling/ purulent nasal discharge, nasal bleeding, nasal obstruction, halitosis, tooth ache or palatal perforation. Endoscopic removal of rhinolith leads to less morbidity which the treatment of choice. We report a case of 19-year-old female with rhinolith on the right nasal cavity which was removed endoscopically.

**Keywords:** foreign body; rhinolith; unilateral nasal obstruction

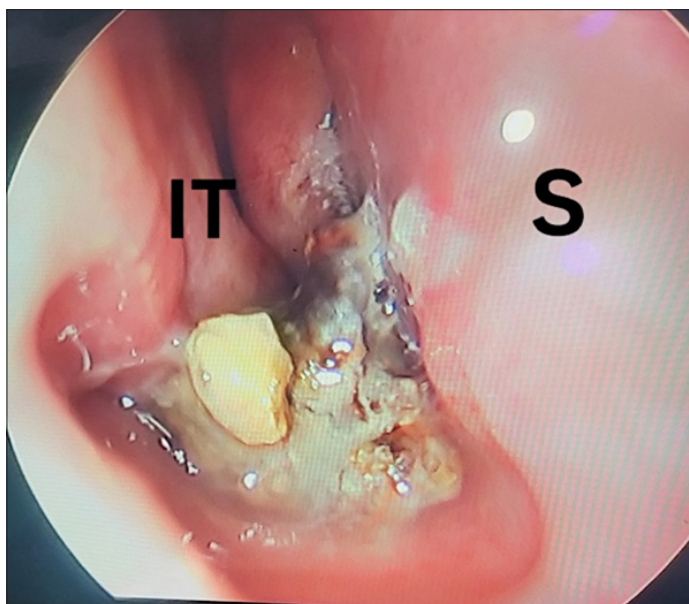
### Introduction

Rhinolith is a rare calcareous concretion formed by mineralized mass within the nasal cavity which is due to an exogenous or endogenous nidus. It is usually secondary to a forgotten foreign body in the nasal cavity [1-3]. Exogenous nidus includes paper, stone or seed grains while endogenous include dried pus, secretions, blood clots or tooth remnants. Salts of calcium phosphate, magnesium, calcium carbonate and aluminium are deposited after local inflammatory reaction [4]. Conventional radiography is helpful while identifying most of the Foreign

body of higher radiodensity and rhinoliths but computed tomography (CT) are extremely helpful for lower radiodensity foreign body [5].

### Case Presentation

The patient, a 19-year-old female, complained of nasal itching and occasional bloody discharge from right nasal cavity on nose blowing from 4 months. Physical examination and nasal endoscopy of the patient revealed a hard-yellowish bone like mass narrowing the right nasal cavity (Figure 1). In addition, there was thick pus like discharge within the right nasal cavity.



**Figure 1:** Right nasal endoscopy showing yellowish black mass at nasal cavity floor. There is hard-yellowish mass at right nasal cavity floor (IT: Inferior turbinate, S: Septum)

Non-enhanced computerized tomography (CT scan) of the nose and paranasal sinus was performed. There was a spiculated hyperdense focus (more than bone density) measuring 16x16x13 mm (Figure 2). The right maxillary, frontal and ethmoidal sinuses were clear and unremarkable. On the other hand, the left nasal cavity, left paranasal sinuses was clear and unremarkable.



**Figure 2:** CT scan of nose

Axial view CT scan of nose without contrast showing hyperdense focus (blue arrow) in right nasal cavity.

The mass was removed endoscopically under local anesthesia (Figure 3) and broken into pieces to in the hopes to find any exogenous nidus. There was no exogenous nidus so we concluded that the origin may have been endogenous like dried pus, secretions or blood clots. Pathology showed degenerated material with calcification only. The patient did not have any known co-morbidity. Her recovery was uneventful.



**Figure 3(A):** Rhinolith after being removed from the nasal cavity



**Figure 3(B):** Rhinolith broken into pieces to see nidus.

**Figure 3(A, B):** Showing rhinolith.

### Discussion

Rhinolith is a rare condition and has incidence of 1 in 10,000 patients in outpatient department. Patients usually present with foul smelling/ purulent nasal discharge, nasal bleeding, nasal obstruction and less commonly halitosis, tooth ache or palatal perforation [6]. Endogenous cause of rhinolith includes dried piece of mucus or bony fragments while the exogenous include foreign bodies like seeds or papers which is mostly seen in children [7]. Rhinoliths usually lie in the floor of the nose in between the anterior and posterior part of nasal cavity [8].

The diagnosis is usually clinical but fungal sinusitis, neonatal conditions like ossifying fibroma and osteoma needs to be ruled out. CT scan is very helpful to rule out the differential diagnosis [6]. CT scan findings usually include a homogenous, high density lesion with smooth mineralization with central portion with a lower density due to the presence of organic material or a foreign body [8].

The treatment of choice is endoscopic removal of rhinolith in local or general anesthesia with consideration of steroid ointment smeared nasal packs for prevention of synechia [6]. In our case, we did not put any nasal packs in the nasal cavity as the mucosa appeared healthy and rhinolith was removed with minimal mucosal damage. Previously, Lateral rhinotomy was used for bigger rhinoliths but now, endoscopic approach is used to remove all rhinoliths irrespective of size but in piecemeal expect in case of rhinolith in maxillary sinus for which Caldwell Luc surgery may be required [8,9].

### Conclusions

Rhinolith is a rare condition which forms due to mineralization over dried piece of mucus, bony fragments, seeds or papers. The diagnosis is usually clinical but CT scan is very helpful to rule out the differential diagnosis. Endoscopic removal of rhinolith is the treatment of choice in contrast to open procedures reserved for cases that would be difficult to manage endoscopically.

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## References

1. Ali M. Giant 'staghorn' rhinolith in a 15-year-old girl. *BMJ Case Reports CP* 2018;11:e337587. 10.1136/bcr-2018-227587
2. Noh KB, Sachlin IS, Gazali N, Shukri NM. Giant Rhinolith: A case report. *Egypt J Ear Nose Throat Allied Sci.* 2017, 18:155-7. 10.1016/j.ejenta.2016.09.005
3. Cader SH, Nair SR, Shah FA. Rhinolith: A Forgotten Identity-Series of 18 Cases with Review of Literature. *Otolaryngology Online Journal.* 2016, 1. 10.23880/ooaj-16000143
4. Shakrawal N, Choudhury B, Soni K, Kaushal D. A Colossal Rhinolith. *Bengal Journal of Otolaryngology and Head Neck Surgery.* 2021, 29:94-7. 10.47210/bjohns.2021.v29i1.352
5. Hsiao JC, Tai CF, Lee KW, Ho KY, Kou WR, Wang LF. Giant rhinolith: a case report. *Kaohsiung J Med Sci.* 2005, 21:582-5. 10.1016/S1607-551X(09)70212-8open\_in\_new
6. Chacko SP, Shere DS, Shetty AK, Sheth RK, Patangrao HD. Giant Rhinolith in a Bizarre Form. *Int J Head and Neck Surg.* 2022, 13:91-3. 10.5005/jp-journals-10001-1533
7. Chauhan P, Sharma D, Singh H, Ranot B, Guleria TC. Rhinolith: A Case Report. *J Med Sci Clin Res.* 2020, 8:246-8.
8. Sharouny H, Raman R. Rhinolith in a 13-year-old boy: a case report of a rare condition. *Thrita.* 2015, 4:e24905. 10.5812/thrita.24905
9. Primo BT, Stringhini DJ, da Costa DJ, Rebellato NL, Scariot R. Delayed removal of maxillary third molar displaced into the maxillary sinus. *Stomatologija.* 2016, 18:128-32. 10.1016/j.maxilo.2012.05.012.

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