



## Unilateral Rhinolith with Fractured Nasal Bone-A Case Report

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### Abstract

Large nasal stones are now a very rare occurrence, since improved diagnostic techniques, such as endoscopic/microscopic rhinoscopy, now make it possible to identify foreign bodies at an early stage. We report the case of a 43 year-old male patient who was carpenter by occupation. He presented with complain of bilateral nasal obstruction for 20 years and pain & fetid smell from right nostril for 1 week. On examination, a large rhinolith was seen in right nasal cavity. There was severe DNS (deviated nasal septum) to left with fractured right nasal bone on palpation. The stone was removed endoscopically from the right nasal cavity under GA (General Anaesthesia).

**Keywords:** Middle aged male; Large unilateral rhinolith; Fractured nasal bone; DNS

**Abbreviations:** GA: General Anaesthesia, DNS: Deviated Nasal Septum, CT: Computed Tomography.

### Introduction

The first well documented case of rhinolithiasis was reported by Bartholin in 1654. Rhinoliths are mineralized foreign bodies in the nasal cavity that are a chance finding at anterior rhinoscopy. Their formation is caused by in situ calcification of intranasal endogenous or exogenous foreign material. Rhinolithiasis is often an asymptomatic condition, which may remain undetected for many years, until the rhinolith grow large enough to cause symptoms of nasal obstruction, discharge, epistaxis, erosion of the nasal septum and the medial wall of the maxillary sinus, leading the unwary physician to the erroneous diagnosis of rhinitis or unresolved sinus infection [1-4].

### Case Report

A 43 year old male, carpenter by occupation, presented in outpatient department with complain of bilateral nasal

obstruction for 20 years and pain with a fetid smell from right nasal cavity for 1 week. On examination, a swelling was present over right side of dorsum of nose with unclear border. On palpation, it was tender and hard in consistency with crepitus which was suggestive of bony fracture. Diagnostic nasal endoscopy revealed an impacted rhinolith completely obstructing right nasal cavity with granulation tissue all around it. It was pushing nasal septum to left side with obstruction of left nasal cavity also (Figure 1).

Patient could not afford CT (computed tomography) paranasal sinuses, so, X-ray paranasal sinuses was done (Figure 2). Patient was taken under general anaesthesia. Under endoscopic guidance, after decongestion of bilateral nasal cavity rhinolith of size more than 4.5 cm in greatest dimension was broken and then taken out in pieces (Figure 3a & 3b). Fractured /displaced segment of right sided nasal bone was repositioned. Nasal cavity was irrigated with normal saline and merocele packing was done with plaster of Paris dressing. Post-operative period was uneventful. Anterior nasal packs were removed after 48 hrs.



Figure 1: An impacted rhinolith obstructing right nasal cavity with granulation tissue all around it.



Figure 2: Rhinolith in right nasal cavity.

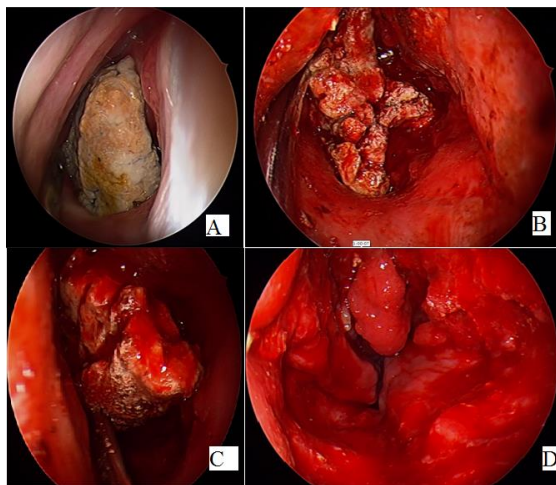


Figure 3a: Endoscopic view of rhinolith while removal in ot.



Figure 3b: Rhinolith of size more than 4.5cm in greatest dimension was broken and then taken out in pieces.

### Discussion

The term rhinolith was first coined in 1845 to describe a partially or completely encrusted foreign body in the nose. Rhinoliths are calcareous concretions that are formed by the deposition of salts on an intranasal foreign body<sup>5</sup>. Its origin may be exogenous or endogenous, in which various substances may function as a potential nucleus for the deposition of mineral salts [5]. Those rhinoliths that have developed around non-human material introduced into the nose and remaining in situ such as cherry stones, stones, forgotten nasal swabs, or similar objects are termed exogenous. Endogenous rhinoliths are those that have developed around the body's own material such as ectopic teeth in the maxillary sinus, bone sequester, dried blood clot in the nasal cavity, and in spissated mucus [6,7]. Our patient being carpenter by occupation with regular exposure to wood dust increased the risk for exogenous rhinolith formation.

Time is a major factor in the development of a rhinolith. Bader and Hiliopoulos [8] reported a rhinolith that was discovered incidentally and removed (remained in situ for 61 years). Our patient reported in outpatient department for pain and mild swelling in right nasal cavity for 1 week for which diagnostic endoscopy was carried out which showed large unilateral rhinolith which had remained there for 20 years. Several complications have been occasionally described such as septal deviation [9], septal perforation, bony destruction and expansion of the calculus to involve the maxillary sinus [10], oronasal and oronasal fistula [11,12]. A single case of meningitis has also been described [13]. In most cases removal of the rhinolith is easy, through the anterior nares, either en masse or in pieces. If they are bulky, they may be

displaced posteriorly into the nasopharynx and removed trans-orally. Extremely large and impacted calculi however may require a Caldwell –Luc approach or on rare occasions, a lateral rhinotomy incision [14].

We removed the rhinolith endoscopically via anterior nares in pieces as it was tightly impacted in right nasal cavity with surrounding granulation tissue. It had also caused fracture of right nasal bone which was reduced after removal of rhinolith.

## Conclusion

Occasionally otolaryngologist may be confronted with such big rhinolith during their practice. These lesions should be differentiated from other benign and malignant conditions with similar presentations. Surgical removal is compulsory without delay to prevent anticipated complications.

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