

## Case Report:

### Endogenous adult Rhinolith

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#### ABSTRACT:

The incidence of adult rhinolith is very low. Nasal foreign bodies lead to unilateral nasal symptom like nasal obstruction or discomfort with or without foul smell discharge. Rhinoliths are mineralized deposits inside the nasal cavity. We report a case of a 29-year-old female patient who was absolutely unaware of the foreign body in her right nasal cavity. She complained of difficulty in breathing with foul smelling discharge through the right nostril since last one year. The endogenous rhinolith was seen in anterior rhinoscopy. CT-Scan was advised which showed a dense foreign body in her right nostril. The stone was removed under general anaesthesia with the help of endoscope. The possible genesis and review of literature of rhinolith is discussed.

**Key words:** Rhinolith

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#### INTRODUCTION

Rhinoliths are calcareous deposits inside the nasal cavity. They are mixture of 90% inorganic material and 10% organic substances incorporated into the lesion from nasal secretions<sup>1</sup>. They are classified into two types viz Exogenous and Endogenous. Exogenous rhinolith are more common, formed due to concretions around impacted foreign body<sup>2</sup>. Endogenous rhinolith are uncommon and develop spontaneously with deposition of mineral around accumulated secretions<sup>3,4</sup>. The symptoms depend upon the size of rhinolith and may range from unilateral nasal discharge, rhinitis, sinusitis, facial pain, headache, epistaxis, complete nasal obstruction, fetor, anosmia, palatal perforation<sup>3,5</sup>, and septal perforation<sup>6</sup>. The duration of the history may range from months to decades<sup>7</sup>. The diagnosis is established on the basis of the medical history, anterior rhinoscopy, nasal endoscopy and radiological examination.

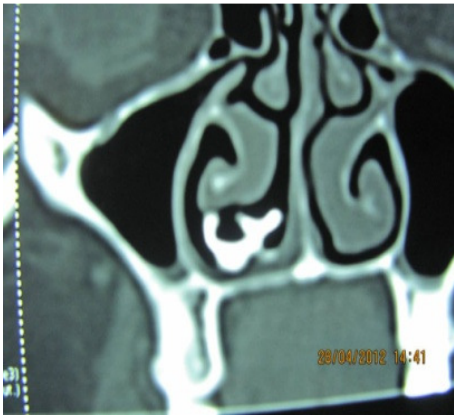
#### CASE HISTORY

A 29-year-old female presented with right nasal blockage for last one year. The symptom became gradually worsened. It was associated with intermittent nasal discharge. There was no history of pain, epistaxis, trauma or foreign body insertion in the nose. External examination of the nose was unremarkable. On anterior rhinoscopy, there was presence of yellowish-white material between inferior turbinate and septum in the right nasal cavity. It was stony hard and gritty on probing. There were no intranasal mass or polyps. CT-Scan revealed a dense shadow in right nostril [fig 1, 2]. The probable diagnosis of rhinolith was made. Nasal endoscopic examination under general anesthesia showed a stony mass between inferior turbinate and septum [fig 3]. The stone was successfully removed [fig 4]. She was discharged on the next day with no post-op complications.

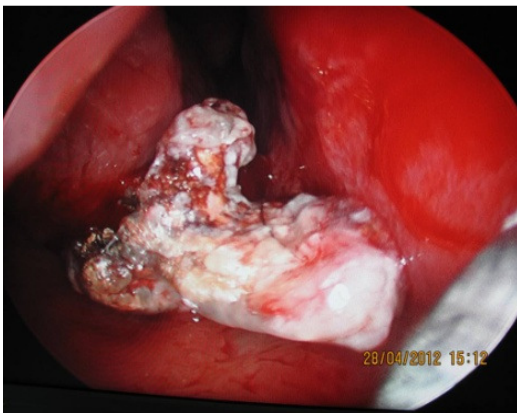
**Fig 1:** Axial section showing opaque mass



**Fig 2:** Coronal section showing opaque mass in the inferior meatus



**Fig 3:** Endoscopic picture of rhinolith



**Fig 4:** Rhinolith



## DISCUSSION

The term rhinolith was first coined in 1845 to describe a partially or completely encrusted foreign body in the nose<sup>8</sup>. Rhinoliths are usually unilateral but an unusual case of bilateral rhinolithiasis has been reported in the literature<sup>9</sup>. In most of the cases, the rhinolith is located in the inferior nasal meatus<sup>9</sup>. Although examples of endogenous source of rhinoliths have been reported, the exogenous source is more common. Endogenous rhinoliths are those that have developed around the body's own material such as ectopic teeth in the maxillary sinus, bone sequestrs, dried blood clots and inspissated mucus in the nasal cavity<sup>10,11</sup>. The literature of living foreign body (leech) have also been reported<sup>12</sup>. Reports of rhinoliths with severe complications such as perforation of hard palate, bony destruction, extension of stone into the maxillary sinus and septal perforation are also present in literature<sup>5,6,8,13</sup>. The diagnosis of rhinolith is usually clinical. It can be confirmed by using nasal endoscopy. The rhinolith can form around a nidus of materials without being noticed by the patient. It is sometimes identified accidentally on routine radiological investigation for other problem and sometimes even the nidus could not be identified<sup>14</sup>. Radiological investigations

including X-ray and CT-Scan demonstrate the exact location, dimension and its invasion into surrounding areas<sup>15,16</sup>.The treatment for rhinolith is removal preferably under general anaesthesia (GA), as done in our case. Local anaesthesia is not advisable because of the size and concretion of the material which may induce intolerable pain, massive epistaxis. Large impacted rhinolith can be crushed as they are friable and can be removed in piecemeal. Surgical correction of nasal septum and inferior turbinate can be done if required for better exposure and removal<sup>17</sup>.The differential diagnosis of opaque mass include

calcifying angiofibroma, chondrosarcoma, chondroma, osteosarcoma, and calcifying polyps.

#### CONCLUSION

The diagnosis of rhinolith should be suspected in a patient with history of long standing unilateral foul smelling nasal discharge.

The confirmation of diagnosis is done by nasal endoscopy and radiological examination. The procedure is preferably done under GA to ensure complete removal of rhinolith with minimal trauma to surrounding tissues.

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