

## UNILATERAL FOUL SMELLY NASAL DISCHARGE IN AN ADULT

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### ABSTRACT

The incidence of rhinolith is by far very low compared to the nasal foreign bodies, especially in adult. Foreign body (FB) in the nostril will lead to unilateral nasal symptom which can start with nasal obstruction or discomfort. In younger children, they may miss to report the problem to the parents but, later on, the FB will manifest itself with unilateral nasal discharge, which at most of the time fouds smells. We report a case of a healthy adult female who presented with unilateral foul smelly nasal discharge which later was diagnosed as rhinolith, with rubber-tip pencil eraser as the nidus of calcification.

**Keywords:** Nose, foreign body, adult, concretion, rubber.

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### INTRODUCTION

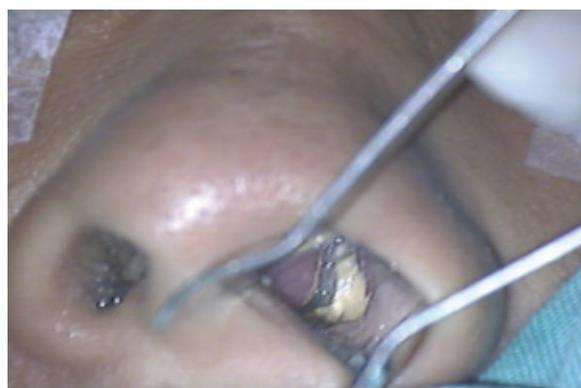
A neglected nasal foreign body (FB) can be a nidus for calcification, which is called rhinolith. It consists of a mixture of 90% inorganic material, with the remaining 10% is made up of organic substances incorporated into the lesion from nasal secretions.<sup>1</sup> Besides that, endogenous origin of rhinolith may divert the provisional diagnosis as it is often believed that rhinolith must always be originated from external FB. The incidence of rhinolith is very small, with local figures amounting only less than five cases per year. The epidemiological data of rhinolith is very scarce, with reported collection series of seven cases in four-year duration.<sup>2</sup> Orhan *et al.* in 2006 reported that the incidence was 28 cases in 18 years period.<sup>3</sup>

### CASE SUMMARY

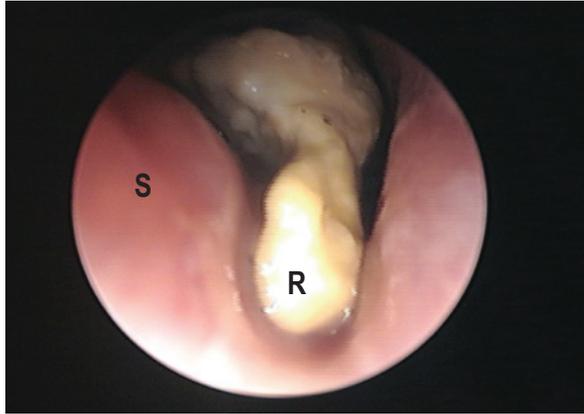
A 31-year-old Malay lady presented with left nasal blockage for 11 years. The symptom became gradually worsened, mostly on morning and night time. It was associated with intermittent clear nasal discharge. There was no nasal pain, no epistaxis and deny history of trauma or FB in the nose. Her spouse claimed that she had severe snoring. Two weeks prior to admission, she noted a yellowish-white material in the left nostril. She had attempted to remove it but failed.

Clinical examination revealed a well-built adult female. External examination of the nose was unremarkable. On anterior rhinoscopy, there was presence of yellowish-white

material between inferior turbinate and septum in the left nasal cavity. It was stony hard and gritty on probing. There was no intranasal mass or polyps. Oral cavity examination revealed normal finding with small tonsils and normal soft palate. Nasoendoscopic examination showed a mass extended along the inferior turbinate and septum with the main bulk was at the posterior end of the inferior turbinate. The diagnosis of rhinolith was made. She was taken for examination under anaesthesia (EUA). The stone was successfully removed and the nasal cavity cleaned. The core of the rhinolith was identified as the rubber eraser of a pencil tip. She was discharged on the next day with no post-op complications or any residual symptoms.



**Figure 1:** Anterior rhinoscopy revealed a yellowish mass on the floor of the left nasal cavity



**Figure 2:** Yellowish hard mass which is later identified as rhinolith (R) filling the left nasal cavity (S is the nasal septum)



**Figure 3:** Rubber-tip pencil eraser identified as the core of the rhinolith, after cleaned from the calcified material

## DISCUSSION

The diagnosis of rhinolith is usually clinical. However, as demonstrated in this case, the patient may just present with the symptom but at very distant late point of time. The formation of rhinolith may take years from the point of FB insertion and the size can attain as big as 3 cm x 1.5 cm.<sup>4</sup> The adult rhinolith patient most of the time could not recall any history of FB insertion during their childhood days.

The diagnosis can be confirmed by using nasoendoscopy. It can be seen as a yellowish-white concretion that usually takes the shape of the space between middle and inferior turbinates and the septum, and the floor of the nasal cavity.<sup>5</sup> Often, the rhinolith can form around a nidus of materials used and accidentally left during surgery, or as a result from FB that enter the nostril during motor vehicle accident without being noticed by the patient. It is not uncommon that the

rhinolith is identified accidentally on routine radiological investigation for other problem mainly dental in origin, and sometimes even the nidus could not be identified.<sup>6</sup> Irfan *et al.* in 2008 reported a 47-year-old male presented with features consistent with rhinolith and later on was confirmed that the nidus was an intact deciduous canine.<sup>7</sup> Although few other examples of endogenous source of rhinoliths such as blood clots and bone pieces have been reported, the exogenous source (from outside the body) is more common.

The role of plain x-ray is very limited as the condition need to and only can be confirmed under direct visualisation with endoscope. However, it may be very helpful in primary care setting as this bony concretion will demonstrate some degree of opacity thus aid the working diagnosis. Computed tomography (CT) scan of the nose and paranasal sinuses is warranted in more complex cases of rhinolith for example the concretion being in the unusual site (other than the floor), or for a giant-sized rhinolith. Thus, radiological investigations including x-ray and CT are regarded as complementary tools to demonstrate the exact location, dimension and possible invasion of the adjacent structures.<sup>1,2</sup>

Regardless the sources, the treatment for rhinolith is removal preferably under general anaesthesia (GA), as demonstrated in our case. Local anaesthesia though have been used in nasal FB removal, is not advised because of the size and concretion of the material which may induce intolerable pain, massive epistaxis and ends up with inadequate removal. Large impacted rhinolith can be removed by piecemeal, or by pushing it posteriorly and retrieval is achieved through oropharynx. Surgical procedure to the nasal septum and inferior turbinate can widened the working space for the removal process.<sup>8</sup>

In this type of cases, the role of primary care physician is of paramount important. Detection or at least suspicion of rhinolith must be there whenever the patient presented with similar presentation, which is unilateral foul smelly nasal discharge even without history of FB. Removal of rhinolith is almost always done in the Operation Theatre unlike the usual fresh nasal FB which can be safely attended in the clinic. It is because the sharp edges and the size of the concretion may induce more traumas to the normal structure in the nose whenever attempt removal is made without direct vision by using nasal endoscope. There is no attempt to reconstruct the actual rhinolith shape and size after removal. It is because the configuration of rhinolith is different from one case to another. Even though the mass evidently opaque on x-ray, other possibilities include calcifying angiofibroma, chondrosarcoma, chondroma, osteosarcoma, and calcifying polyps.<sup>1</sup> Thus, a patient with unilateral nasal symptoms necessitate further evaluation by Ear, Nose and Throat (ENT) colleague.

The complication of left-in-situ rhinolith is that the size may grow bigger and the symptom of nasal obstruction may become worsen. Besides that, infection include sinusitis secondary to stasis of nasal secretion may set in. Erosion to adjacent bony structures such as nasal septum and hard palate can be the presentation of long standing rhinolith.

## CONCLUSION

In conclusion, the diagnosis of rhinolith should be suspected when a patient presented with unilateral foul smelly nasal discharge with or without history of nasal FB. The patients which mostly will present to primary care physicians require ENT referral for confirmation of the diagnosis by nasoendoscopic examination before the needful definite treatment can be instituted. Removal of rhinolith should be done preferably under GA to ensure adequate and minimal trauma to the surrounding healthy nasal tissue.

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