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RHINOLITH IN A YOUNG ADULT: THE SECOND REPORTED CASE IN THE MALDIVES

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Abstract

Rhinoliths are rare calcified masses (Author1 et al., Year) that form within the nasal cavity. This case report presents an uncommon instance of rhinolith in a young female, marking the second reported case in the Maldives within a two-year period. The patient presented with intermittent epistaxis and unilateral nasal obstruction. Diagnosis was confirmed via anterior rhinoscopy, which revealed a rough, yellowish, stony-hard mass located between the middle and superior turbinates in the right nasal cavity. The rhinolith was successfully removed under general anesthesia using an endoscopic procedure, with the largest fragment measuring 2 cm × 1.5 cm. Post-removal follow-up demonstrated significant symptomatic improvement, and the patient expressed high satisfaction with her relief. This case emphasizes that rhinoliths are not limited to older adults and children but can also develop in young adult (Author2 et al., Year), highlighting the importance of careful evaluation in patients with a long-term history of unilateral nasal bleeding and obstruction.

INTRODUCTION

Rhinoliths are stony hard masses that form within the nasal cavity due to the gradual deposition of calcium, magnesium, and iron salts around a nidus over time (Author3 et al., Year). This process leads to an increase in size, potentially resulting in clinical symptoms. Common symptoms include unilateral nasal obstruction, epistaxis, foul-smelling nasal discharge, anosmia, facial pain, and headaches (Author1 et al., Year). However, many cases remain asymptomatic (Author4 et al., Year) for extended periods and are discovered incidentally during routine ENT examinations.

Rhinoliths can affect individuals of all age groups, including pediatric8 and adult populations, though they are most commonly found in older adults1. While both males and females can develop rhinoliths, studies suggest a higher prevalence in females (Author5 et al., Year). Due to its variable presentation, rhinoliths may be overlooked in clinical practice. A general nasal examination is usually sufficient for identification, though endoscopic evaluation is crucial for confirming the diagnosis and ruling out differential diagnoses. CT imaging of the paranasal sinuses (PNS) is frequently used to assess the anatomy of the rhinolith(Author1 et al., Year).

Treatment involves complete excision7,9,10, which can be performed under local anesthesia2,6,10 in an outpatient setting. However, many patients prefer general anesthesia due to fear of pain. Endoscopic procedures are the preferred approach, with small rhinoliths being removed intact, while larger ones

are fragmented to prevent mucosal injury. Complete symptom resolution is typically achieved following removal.

Case Report: A 22-year-old female presented to the ENT outpatient department with complaints of right-sided nasal bleeding, variable in amount, and nasal obstruction persisting for five days. Upon further inquiry, she reported experiencing similar symptoms intermittently for over two years. She denied having halitosis, anosmia, nasal discharge, facial pain, or headaches. There was no history of foreign body insertion, prior nasal procedures, trauma, or injury

On examination, a foul odor was noted. Nasal endoscopy revealed a rough, irregular, yellowish mass located in the right nostril between the superior and middle turbinates (Fig-02). A CT scan of the paranasal sinuses showed a densely calcified lesion within the right nasal cavity with adjacent mucosal thickening (Fig-01). The primary lesion measured approximately 18 mm × 9 mm × 20 mm, consistent with rhinolith, along with mild mucosal thickening of the right maxillary antrum, suggestive of chronic sinusitis.

The rhinolith was removed under general anesthesia using an endoscopic procedure. Due to its size, the mass was fragmented before removal, with the largest fragment measuring 2 cm × 1 cm. Bleeding was controlled using adrenaline and oxymetazoline soaked pledgets, followed by nasal packing for 24 hours. The post-operative period was uneventful, and the patient was discharged the following day in stable condition with prescribed medications. A one-week follow-up demonstrated significant improvement in symptoms. Subsequent reviews at one month and six months showed a healthy nasal cavity with no recurrence or foul odor.

Discussion: The term "rhinolith" originates from the Greek words "rhino" (nose) and "lithos" (stone)1,2,4. The incidence of rhinoliths is approximately 1 in 10,000 cases in ENT outpatient departments4. The first documented case was reported by Danish physician Bartholin1,4,8,10. Rhinoliths develop due to the slow deposition of mineral salts around a foreign body (nidus) in the nasal cavity, leading to chronic inflammation1,3–8. The nidus can be exogenous (e.g., foreign objects) or endogenous (e.g., blood clots, mucus plugs), with mineralization involving calcium, magnesium phosphate, and carbonate salts (Author1 et al., Year).

Rhinoliths are often asymptomatic (Author4 et al., Year), but larger masses can lead to serious complications such as sinusitis, palatal perforation, and septal deviation2,3,5,6. Common symptoms include unilateral nasal obstruction, offensive nasal discharge, epistaxis, halitosis, facial pain, and headaches (Author1 et al., Year). In this case, the patient presented with intermittent unilateral nasal bleeding and obstruction. Although she denied halitosis, a foul odor was detected upon examination. Diagnosis is typically made through clinical examination, with nasal endoscopy and CT imaging providing confirmation (Author6 et al., Year). Nasal endoscopy reveals a brown-yellow or grayish, hard, immobile mass, while CT imaging shows an irregular hyperdense shadow between the turbinates. Differential diagnoses include benign lesions such as hemangioma, osteoma, and fibroma, as well as malignant tumors like chondrosarcoma and osteosarcoma (Author7 et al., Year).

Fig 1: CT scan of PNS showed rhinolith in the Rt nasal cavity.

Most reports of rhinoliths describe their occurrence in children or older adults, but this case highlights that they can also develop in young adults. Although uncommon, early recognition is crucial to prevent complications. Literature suggests that rhinolith formation is more frequent in older individuals due to prolonged calcification processes5,7. However, the presence of a rhinolith in a young adult suggests that certain predisposing factors, such as unrecognized nasal trauma or chronic inflammation, may accelerate mineral deposition1,4–9. Further research and case series are necessary to better understand the epidemiology of rhinolith formation in younger populations.

Fig 2: Endoscopic view of rhinolith (Pre-operative) & post-removal fragments (multiple)

The definitive treatment for rhinoliths is surgical removal (Author8 et al., Year), which can be performed under local or general anesthesia (Author8 et al., Year),10. Endoscopic guidance is preferred to minimize mucosal damage. Large rhinoliths are often fragmented to prevent injury to surrounding tissues. Ideally, post-removal microscopic examination should be conducted to analyze the composition of the mass. However, this facility was unavailable in our healthcare setting.

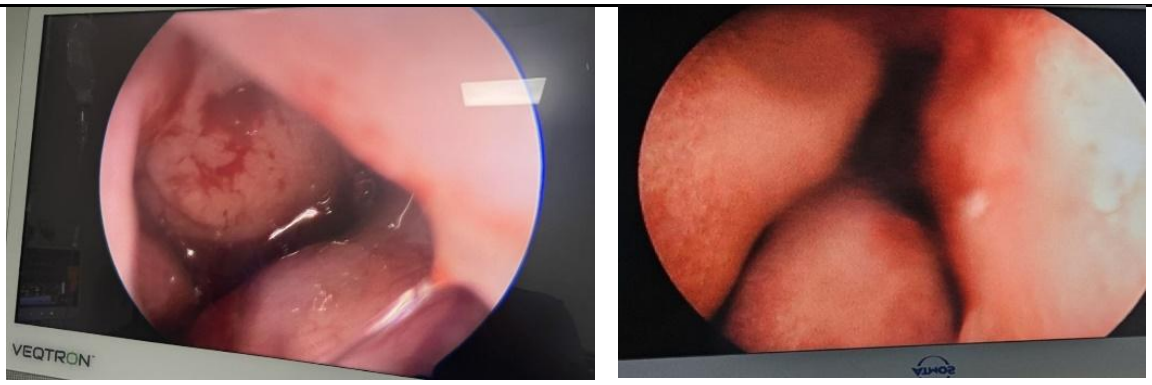

Fig 3: Post-removal endoscopic view of Rt nostril (Post operative day 3 and Day 7)

Conclusion: Although rhinoliths are more commonly found in children and older adults, this case highlights that they can also occur in young adults. Physicians should consider rhinoliths as a potential diagnosis in young patients presenting with similar symptoms. This case underscores the need for nasal endoscopy and radiological imaging to confirm the diagnosis and rule out other conditions. The presence of rhinoliths in young adults suggests the need for further investigation into potential risk factors. Prompt removal is essential to prevent complications and ensure symptom resolution.

Ethical Considerations: Informed verbal consent was obtained from the patient before writing this case report. She was informed that her clinical information and images would be shared solely for educational purposes. The patient understood the significance of the case and agreed to publication. Strict confidentiality was maintained throughout the report. Additionally, written informed consent was obtained before the surgical removal of the rhinolith.

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