

Rhinolithiasis: A Case Report

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Abstract

Original Research Article

Rhinolithiasis is a rare condition characterized by a hard mass in the nasal cavity, consisting of mineral deposits around a central endogenous or exogenous focus. This study presents the case of a 32-year-old patient with right nasal obstruction, diagnosed with rhinolithiasis through endonasal examination. The rhinolith was extracted under general anesthesia with endoscopic guidance, and histopathological examination confirmed the diagnosis. This report aims to discuss the management of this uncommon condition, highlighting the importance of early surgical extraction to prevent complications and the usefulness of nasal endoscopy and imaging in diagnosis and pretherapeutic assessment. Recurrences of rhinolithiasis are unusual.

Keywords: Rhinolithiasis, nasal obstruction, endonasal examination, endoscopic extraction, histopathological examination, nasal cavity.

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INTRODUCTION

Rhinolithiasis is a hard mass in the nasal cavity, consisting of mineral deposits around an endogenous or exogenous central focus [1-3]. It is a very rare condition that tends to disappear in developed countries, and its etiopathogenesis remains unknown [1, 2, 4]. Its progression can be marked by complications [2]. Diagnosis is simple and based on endonasal examination. Atypical circumstances may lead to the recognition of rhinolithiasis, such as a picture of a nasosinus tumor or infectious complication.

MATERIALS AND METHODS

We report the case of a 32-year-old patient who presented with right nasal obstruction. Endonasal examination confirmed the diagnosis of rhinolithiasis. The purpose of this study is to report a case of

rhinolithiasis and discuss the management of this rare condition.

RESULTS

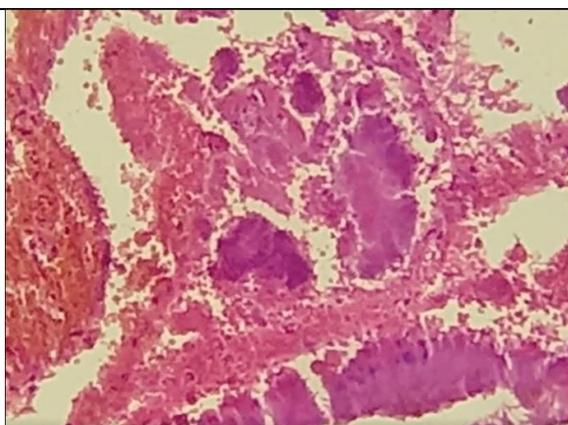
The patient was a 32-year-old man with no significant medical history. He presented with unilateral right nasal obstruction, which had been evolving for 1 year, associated with purulent rhinorrhea and cacosmia. Nasal endoscopy revealed an irregular whitish formation with a hard consistency covered in purulent secretions. The facial CT scan revealed a dense material wedged in the middle of the right nasal cavity measuring 23.5mm in width and 13mm in length. Rhinolithiasis was extracted under general anesthesia, guided by a rigid endoscope, using a Blakesley forceps after fragmentation of the mass. Histopathological examination confirmed the diagnosis of rhinolithiasis. Endoscopic follow-up did not reveal any recurrence.



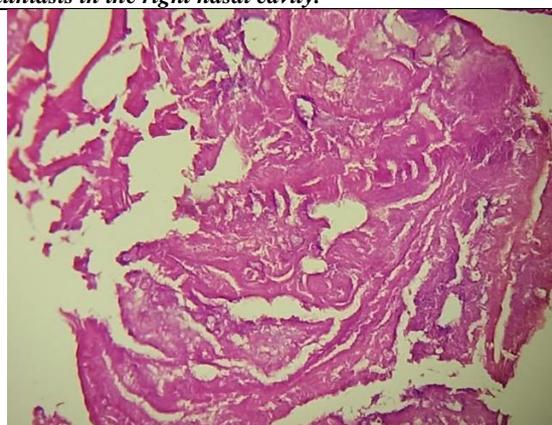
Rhinolithiasis: Macroscopic aspect



CT scan of the facial bones in coronal sections showing rhinolithiasis in the right nasal cavity.



This material contains grains of actinomycetes



Histologically, it corresponds to a calcified amorphous eosinophilic material

DISCUSSION

Rhinolithiasis is a hard mass made of mineral deposits located in the nasal cavity [1, 3, 5]. It is a rare condition with a slow evolution, usually affecting young women [1, 3, 4]. It is more common in underdeveloped countries and rural areas, suggesting a relationship with low socioeconomic status [2, 4]. Its etiopathogenesis remains unknown [2, 4]. However, two hypotheses are suggested: an endogenous origin, resulting from organic tissue such as a blood clot, ectopic tooth, squamous cells, or even bone sequestra, and an exogenous aggression from an external element such as plastic material, fruit seeds, stones, button batteries, etc [2, 4]. Clinically, rhinolithiasis manifests as a chronic, non-specific unilateral rhinologic syndrome with nasal obstruction, purulent rhinorrhea, cacosmia, facial pain, and rarely epistaxis [1, 2, 4]. Endonasal examination by anterior rhinoscopy or with a rigid endoscope allows for the detection of the rhinolith in the anterior part of the nasal cavity. It presents as a white-greyish, sometimes blackish mass with an irregular surface, usually embedded in the inter-turbinate-septal space. Gentle palpation with a stylet reveals the hard character of the mass [1, 2, 5]. However, rhinolithiasis can be asymptomatic and fortuitously discovered [5]. Nonetheless, some

complications may be indicative, such as orbital phlegmon, acute ethmoiditis. Endoscopic endonasal examination also allows for a local-regional assessment of associated anomalies and pathologies (septal deviation, endonasal polyp, hypertrophy of the turbinates, pus discharge from the middle meatus, etc.) [1, 2]. In case of diagnostic doubt or if the calculus appears extensive, computed tomography is indicated. It specifies the volume and location of the rhinoliths [6-9]. CT scanning allows for the visualization of the rhinolith as a calcic opacity. It specifies the location, shape, dimensions of the rhinolith, as well as associated lesions. It also enables differential diagnosis with other tumoral lesions (enchondroma, osteoma, chondrosarcoma, osteosarcoma) or other pathologies (fungal infections, chronic granulomatous infections, tuberculosis, calcified polyps) [1, 3, 4]. The most common location of rhinoliths is between the inferior turbinate and the nasal septum. In rare cases, it can be found in the nasopharynx [2]. The structure of rhinolithiasis made of inorganic salts can cause erosion of the pituitary mucosa, septal and/or palatine perforation, overinfection, maxillary or ethmoidal sinusitis [1, 2]. The ideal therapeutic approach consists of extracting the rhinolite through natural pathways under local anesthesia with 5% naphazoline xylocaine.

General anesthesia with orotracheal intubation is necessary in children, apprehensive subjects, in cases of giant or embedded rhinoliths in the posterior part of the nasal fossae, and if there are associated lesions (sinusitis, polyp, major hypertrophic rhinitis, mycosis). Extraction under rigid endoscopic guidance provides good working conditions. A suitable hook, a foreign body clamp, and suction are generally used. Removal of the rhinolith by external surgical means is exceptionally indicated, particularly in cases of giant rhinolith associated with a giant turbino-septal malformation and in cases of massive granulomatous reaction encompassing the rhinolith. Lithotripsy is not a reliable therapeutic means for rhinolithiasis. It is rarely practiced and remains in the realm of clinical research [1, 3, 4].

CONCLUSION

Rhinolithiasis is a pathology on the verge of disappearing. One must think of it in the presence of a chronic, nonspecific unilateral rhinological symptomatology. Nasal endoscopy and imaging are of considerable help in the diagnostic and pretherapeutic assessment. Early surgical extraction prevents complications. Recurrences are unusual.

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