

Rhinolithiasis: case report of an uncommon foreign body

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Section: Head & neck imaging

Area of Interest: Ear / Nose / Throat

Procedure: Decision analysis

Imaging Technique: CT

Special Focus: Foreign bodies Case Type: Clinical Cases

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Patient: 21 years, female

Clinical History:

A 21-year-old woman was admitted to hospital complaining of gradually increasing right nasal obstruction, rhinorrhoea and headache present for several years. No history of inserting a foreign body was recalled.

Imaging Findings:

A CT scan of the nasal cavity was performed and revealed a heterogeneous calcified irregular foreign body, lodged in the inferior meatus of the right nasal cavity (Fig. 1, 2, 3). There was no deviation of the nasal septum. No bony destruction was evident.

Anterior rhinoscopy revealed obstruction of the right nasal cavity by a hard irregular mass. This foreign body was extracted and the patient's symptoms resolved.

Consequent pathological examination showed no evidence of malignancy.

Discussion:

Rhinoliths are mineralized foreign bodies in the nasal cavity [1]. The term rhinolithiasis or rhinolith was first used in 1845.

Chemical examination made by Axmann in 1829 revealed that their general composition is a combination of inorganic (nearly 90%) and organic (around 10%) material [2]. Mineralogical analyses of rhinoliths have revealed that they may contain Whitlockite $[(Ca, Mg)_3 (PO_4)_2]$ and Dahllite $[Ca_5 (PO_4, CO_3)_3 OH]$ [3].

Symptoms are usually purulent rhinorrhoea and ipsilateral nasal obstruction. Less common are fetor, epistaxis, sinusitis and headache [3].

CT imaging can be performed whenever rhinolithiasis is suspected. It can precisely define the site and size of the rhinolith and identify any coexisting sinus disease. However, a calcified nasal mass should also raise the suspicion of other pathologic entities such as ossifying fibroma, odontoma, osteoma, exostosis or osteosarcoma [4].

Treatment is complete removal of the rhinolith, either by anterior rhinoscopy or nasendoscopy [5].

Differential Diagnosis List: Rhinolithiasis, Osteoma, Exostosis

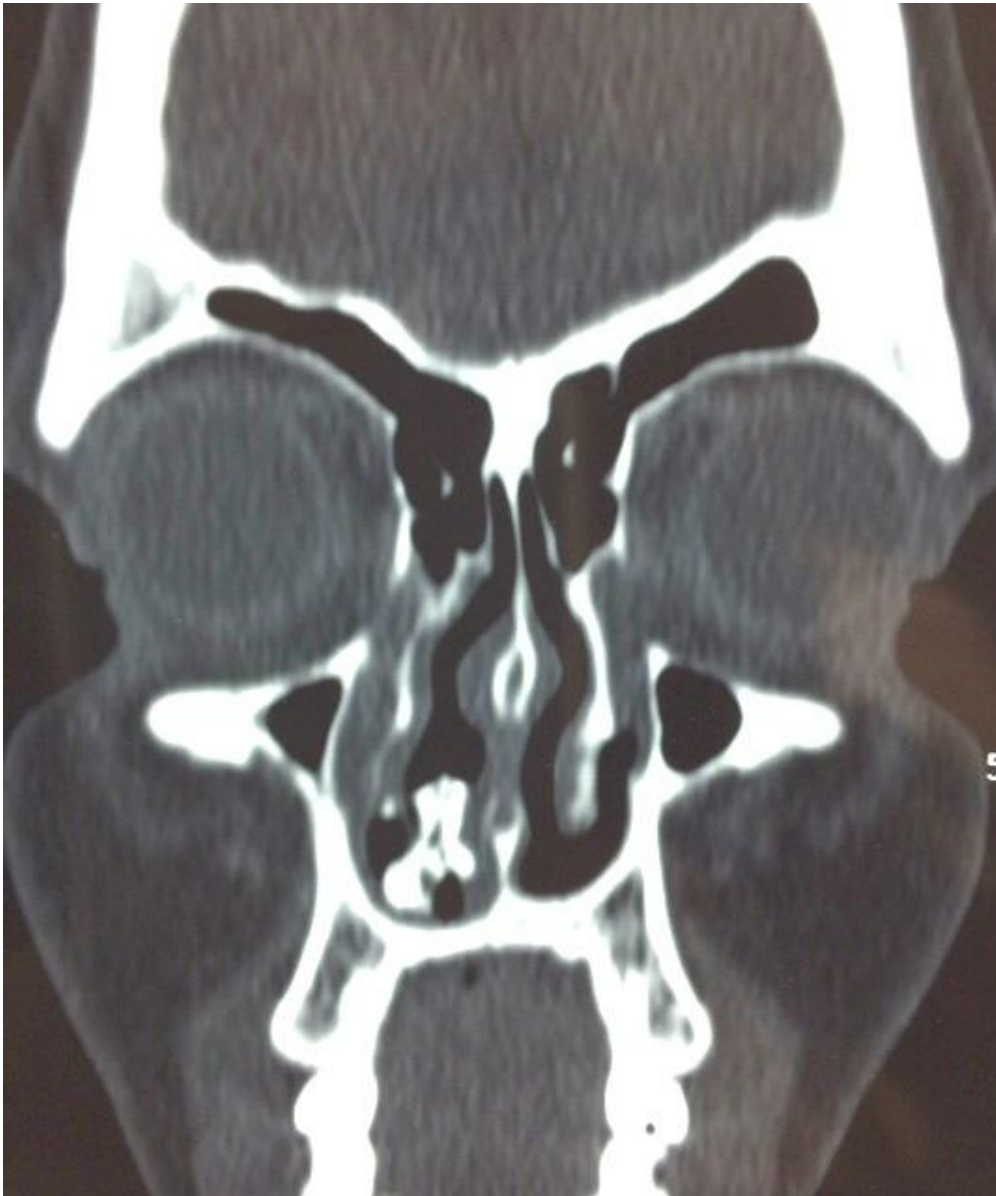
Final Diagnosis: Rhinolithiasis

References:

- Brehmer D1, Riemann R. (2010) The rhinolith-a possible differential diagnosis of a unilateral nasal obstruction. Epub 10.1155/2010/845671 (PMID: [20592993](#))
- P. T. Marfatia (1968) Rhinolith. A brief review of the literature and a case report. Postgrad Med J 44(512):478-9 (PMID: [5665750](#))
- Yildirim N, Arslanoglu A, Sahan M, Yildirim A. (2008) Rhinolithiasis: clinical, radiological, and mineralogical features. Am J Rhinol 22(1):78-81. (PMID: [17976254](#))
- Hadi U, Ghossaini S, Zaytoun G (2002) Rhinolithiasis: A forgotten entity. Otolaryngol Head Neck Surg 126:48-51. (PMID: [11821765](#))
- Pacheco PC, Busquets JM. (2015) A 44-year-old Rhinolith: A Case Report and Review of the Literature. P R Health Sci J 34(2):105-7. (PMID: [26061063](#))

Figure 1

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Description: Coronal CT scan shows the calcified foreign body in the right inferior meatus. **Origin:** CHU hôpital militaire mohamed V rabat

Figure 2

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Description: Axial CT scan shows the calcified foreign body in the right nasal fossa. **Origin:** hôpital militaire mohamed V rabat.

Figure 3

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Description: Sagittal CT scan shows the heterogenous calcified foreign body above the hard palate.

Origin: hôpital militaire mohamed V rabat