



Rhinolith misdiagnosed as recurrent sinusitis

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Abstract

Rhinolith is a kind of stone which is formed in nasal cavity. Since formation of rhinolith is not common, patients with rhinolith are often misdiagnosed as cases of acute sinusitis. We are reporting a 45-years old female presenting with rhinorrhea, left nasal obstruction and chronic headache for two years who were initially diagnosed as a case of recurrent sinusitis. Later endoscopic examination, radiological and histopathological investigations confirmed presence of rhinolith.

Keywords: recurrent, misdiagnosed, sinusitis, Rhinolith

Introduction

A rhinolith is a stone present in the nasal cavity. It forms around the nucleus of a small exogenous foreign body, blood clot or secretion by slow deposition of calcium, magnesium, carbonate and phosphate salts. Rhinoliths are usually asymptomatic; as they progress they may cause pressure necrosis of the nasal septum or lateral wall of the nose. So early diagnosis is necessary to avoid possible sequela.

Case report

A 45-years old female presented with rhinorrhea, left nasal obstruction and chronic headache for two years. At first, she was treated as a case of acute sinusitis by the general practitioner. But she since she experienced several episodes of similar attacks which were not completely resolved despite treatment, she was referred to an ENT specialist. On examination she had no external deformity of nose except deviation of nasal septum to right side with hypertrophied left inferior turbinate. The endoscopic examination revealed an irregular dark gray mass with hard consistency in left nasal cavity. A CT scan of paranasal sinus revealed a fairly large elongated densely calcified mass in the left nasal cavity responsible of a septum deviation to the right without the sign of osteolysis. The diagnosis was assessed through endoscopic and radiological findings. An endoscopic extraction under general anesthesia was performed after fragmentation of the giant rhinolith. Histopathological examination revealed fragments of non-viable tissue with areas of calcifications suggestive of rhinolith. A clinical follow up after 3months showed the regression of the symptoms with no sign of nasal obstruction.

Discussion

Rhinolith is an uncommon nasal calculi and rare entity encountered in clinical practice^[1]. The first case report of a rhinolith in the nasal cavity was published by Thomas Bartholini, Danish physician in 1654^[2]. The pathogenesis of rhinolith is not clear^[3]. They can be exogenous or endogenous calcified nasal mass^[1, 3]. The exogenous nuclei are formed by foreign bodies^[3].

The presence of foreign body leads to a local inflammatory reaction. Salts and minerals deposit around the core subsequently. The endogenous nuclei include intranasal thick secretions, epithelial debris, blood clots and ectopic teeth^[4, 5].

The first chemical analysis of rhinolith was performed by Axmann in 1829^[2]. The main materials are inorganic such as calcium phosphate, calcium carbonate and magnesium phosphate^[2, 4]. The organic components are derived from nasal secretion and lacrimal fluid^[4].

Rhinolith may be asymptomatic for many years until the continuous growth of rhinolith cause nasal obstruction and may be frequently misdiagnosed as acute sinusitis, as our case. Other symptoms include foul smelling nasal discharge, epistaxis, headache and epiphora^[1].

Although a number of cases have been reported, rhinolithiasis remains an uncommon clinical entity^[6]. Rigid nasal endoscopy plays a vital role in making a diagnosis and evaluating the posterior extent of a rhinolith^[7]. The most common differential diagnosis includes impacted teeth, mycolith, calcified polyp, hemangioma, dermoid and osteoma^[7].

The radiological findings of rhinolith were first described by MacIntyre in 1900^[7]. The typical radiological features of rhinolith are radio-opacity with central translucency. On CT scan of paranasal sinuses, it presents as a homogenous, high-density lesion with smooth mineralization^[7].

Treatment consists of removal of rhinolith and the surgical approach depends on size and location of rhinolith and presence of complications but most of them can be removed endoscopically under general anesthesia. Post-operative extensive nasal douching is really important to prevent further complications.

Conclusion

Although rhinoliths are rare clinical condition doctors should be aware of it and should have a high index of suspicion in cases with progressive unilateral nasal obstruction, rhinorrhea, headache and unilateral nasal bleeding.

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