Huge rhinolith nasal cavity an interesting case report and a review of literature

Corresponding Author:
Dr. Balasubramanian Thiagarajan,
Professor, Department of otolaryngology, Stanley Medical College, Chennai Tamilnadu, Otolaryngology online, sreemagal, 20 officers colony rajaram metha nagar chennai India 600029, 600029 - India

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Abstract

Rhinoliths are calcareous deposits (stone like) inside the nasal cavity. These stone like structures are highly friable and may crumble when crushed. This interesting case report discusses a patient with a huge rhinolith inside the nasal cavity. Rhinoliths since they crumble easily can be removed after crushing with a luc's forceps via the nasal cavity. Since the rhinolith in this patient was very large extending up to the choana it was removed via lateral rhinotomy approach in order to avoid excessive injury to nasal mucosa during the process of removal.

Introduction

Rhinoliths are also known as nasal calculi are calcareous deposits present inside the nasal cavity 1. Rhinoliths are of two types: Exogenous and Endogenous.

Exogenous rhinolith: If concretions occur around a impacted foreign body then it is considered to be exogenous in nature. These calcareous deposits around intranasal foreign bodies is the most common variety of rhinolith 2.

Endogenous rhinolith: If concretions occur around blood clot / inspissated foreign body then it is considered to be endogenous in nature.

This condition is commonly diagnosed by history and anterior rhinoscopy 3. This condition is common in adults and elderly individuals. Unilateral foul smelling blood tinged nasal discharge in an adult should always raise suspicion of rhinolith. Since rhinoliths are commonly seen in the anterior nasal cavity, anterior rhinoscopic examination of nose clinches the diagnosis 4.

Patients with rhinolith usually present with:
- Unilateral nasal obstruction
- Unilateral foul smelling blood tinged nasal discharge
- Hard mass inside the nasal cavity

Case Report(s)

60 years old male came with complaints of
- Right sided nasal block – 3 years
- Foul smelling blood tinged discharge right nose – 3 years
- Right sided head ache on and off – 4 years

Anterior rhinoscopy:
Dirty white irregular hard mass could be seen occupying the entire right nasal cavity. The same mass was found pushing the nasal septum to the left side. The mass was found to be gritty on probing. The probe could be passed all around the mass.

CT scan:
Axial and coronal CT scan showed radio opaque irregular mass occupying the entire right nasal cavity.

Management:
Since the mass was quite large and was extending up to the posterior end of middle turbinate it was decided to remove it using lateral rhinotomy approach in order to prevent damage to nasal mucosa. A pervia naturalis approach was not considered because the mass was considerably hard (not friable) and was large. Under general anesthesia, using Moore's lateral rhinotomy approach the nasal cavity was entered. The mass was removed completely and the wound was closed in layers.

Discussion

The term rhinolith is derived from Greek (rhino – nose lithos – stone). It is considered to be a rather rare condition i.e. About 1 in 10,000 otolaryngology patients 5. It was Bertholin who first gave the accurate description of this condition in 1654 2. Rhinoliths are usually irregular brownish / grey colored masses present in the anterior portion of the nasal cavity.

For some unknown reason males seem to be commonly affected than females 3. The exact pathogenesis involved in the development of rhinolith is still not known. It has been suggested that impacted foreign body / mucous plugs / blood clot may incite
inflammatory reaction and stimulate deposition of minerals and salts. The salts which gets deposited around the nidus is derived from nasal secretions, tear and inflammatory exudate 1. The nidus of rhinolith is usually a foreign body 5. Even gauze swabs inadvertently left inside the nasal cavity following surgery has been known to cause rhinolith. Radiology is usually diagnostic. Typical radiological picture is radio opacity with sometimes central opacity. The central radiolucency could be due to the presence of organic material which could have formed the nidus for rhinolith. This description was first given by Mac Intyre 6 in 1900. CT scan usually cannot differentiate rhinolith from other calcified masses.

Differential diagnosis of rhinolith include:
- Hemangioma
- Osteoma
- Calcified polyp
- Chondroma
- Osteosarcoma

Conclusion

This case is being presented because of its large size, lack of friability and the surgical approach which was resorted to inorder to remove it. Lateral rhinotomy approach was resorted to inorder to prevent mucosal damage which could occur if removal is attempted pervia naturalis.

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Illustrations

Illustration 1

Anterior rhinoscopy showing rhinolith

Illustration 2

Coronal CT scan of nose and paranasal sinuses showing rhinolith
Illustration 3

Axial CT of nose and sinuses showing rhinolith

Illustration 4

Image showing the gross specimen after removal
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