CASE REPORT

Giant Rhinolith in a Bizarre Form

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Received on: 09 April 2022; *Accepted on:* 02 July 2022; *Published on:* 28 October 2022

Abstract

Background: Rhinoliths are masses of calcified nature seen in the nasal cavity. It is a rare condition caused by gradual deposition of calcium and magnesium over an object which could be thick mucus plug or a piece of paper or seed. In such conditions the symptoms usually develop over the years causing persistent unilateral nasal discharge which could be foul smelling or bloodstained associated with nasal obstruction.

Case description: We report one such case of a 39-year-old woman who presented with similar complaints in the right nostril, on evaluating her we were surprised to see the huge bizarre shaped rhinolith.

Conclusion: A relatively rare condition is rhinolith, suspicion needs to be given in cases who present with unilateral foul-smelling rhinorrhea with bony hard mass seen in nasal cavity during examination. Computed tomography will help in planning the procedure. In cases with huge irregular rhinolith bleeding needs to be anticipated hence general anesthesia should be considered.

Clinical significance: Suspicion of rhinolith needs to be given in cases who present with long-standing unilateral foul-smelling rhinorrhea after excluding other differential diagnoses by doing a computed tomography of paranasal sinuses.

Keywords: Computed tomography (CT), Endoscopic sinus surgery, Foreign body, Nasal bleed, Nasal cavity, Rhinolith.

International Journal of Head and Neck Surgery (2022): 10.5005/jp-journals-10001-1533

Introduction

Rhinoliths are masses of calcified nature seen in the nasal cavity. It is a rare condition caused by gradual deposition of calcium and magnesium over an object which could be thick mucus plug or a piece of paper or seed. In such conditions the symptoms usually develop over the years causing persistent unilateral nasal discharge which could be foul smelling or bloodstained associated with nasal obstruction. We report one such case of a 39-year-old woman who presented with similar complaints in the right nostril, on evaluating her we were surprised to see the huge bizarre shaped rhinolith.

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How to cite this article: Chacko SP, Shere DS, Shetty AK, *et al.* Giant Rhinolith in a Bizarre Form. Int J Head Neck Surg 2022;13(3):85–87.

Source of support: Nil

Conflict of interest: None

Case Description

A 39-year-old woman otherwise healthy presented to us with complaints of right-sided nasal discharge non-foul smelling with intermittent nasal obstruction for 2 years, since last 2 months she developed blood-stained nasal discharge. On examination white mass was seen in the right nasal cavity medial to the inferior turbinate, (Fig. 1) on probing, the mass was hard and irregular abutting the turbinate and septum resulting in bleeding. We went ahead with computed tomography of paranasal sinuses which revealed a densely calcified mass seen insinuating the right inferior turbinate and extending laterally to the inferior meatus. The lesion measured approximate 2.78 cm in craniocaudal extent, 1.4 cm in transverse dimension and 3 cm in anterior posterior dimension. There were few linear cranial ramifications abutting and insinuating along the middle turbinate (Figs 2 and 3). Considering the size and shape of rhinolith we decided to go ahead with endoscopic removal of rhinolith under general anesthesia. Zero-degree endoscope was negotiated in the right nasal cavity. Nasal mucosa was decongested with cottonade soaked with 4% lignocaine with adrenaline solution. Spicules from the hard mass was seen abutting the septal mucosa resulting in granulations, similarly wings with spicules were seen abutting the inferior turbinate extending to the inferior meatus there were granulations over the inferior turbinate as well, wings were also seen between inferior and middle turbinate and sharp spicules was seen extending superiorly toward the sphenoid-ethmoidal recess. The rhinolith was removed completely in piecemeal (Fig. 4) and nasal cavity wash was given. Steroid ointment was smeared over the raw areas of mucosa to prevent adhesions. Ointment smeared polyvinyl alcohol (PVC) pack was kept. Fragment of removed rhinolith when scraped revealed a seed that was probably the exogenous nidus. Nasal pack was removed, she was discharged on oral antibiotic for 5 days along with nasal douching four times a day. She was relieved of all her symptoms, repeat nasal endoscopy under local anesthesia after 7 days revealed well-healed mucosa.

Discussion

Rhinolith is a rare condition with an incidence of 1 in 10,000 otorhinolaryngology outpatients.[1] In 1654 Bartolini first reported calcified foreign body in the nose.[2] Rhinolith develops inside the nasal cavity by encrustation of calcium and magnesium salts over a nidus.[3,4] The nidus may be exogenous or endogenous. A piece of paper, stone or a seed introduced into the nasal cavity is usually the exogenous nidus[5] whereas thick mucus plug is the endogenous nidus.[6] The most common symptoms seen are nasal obstruction, purulent and foul-smelling rhinorrhea, epistaxis.[7]

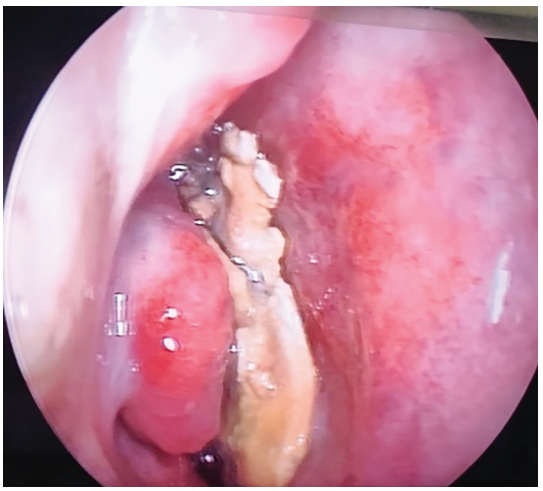

Fig. 1: White mass seen in the right nasal cavity medial to the inferior turbinate

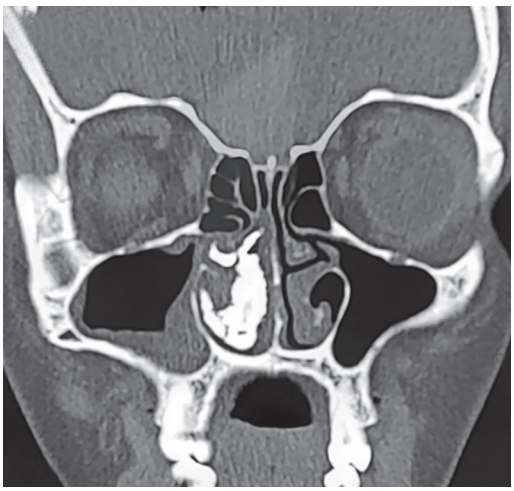

Fig. 3: Computed tomography revealed linear cranial ramifications abutting and insinuating the middle turbinate

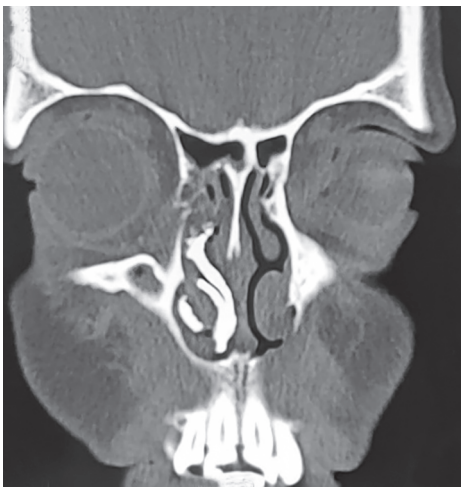

Fig. 2: Computed tomography of paranasal sinuses revealed a densely calcified mass seen insinuating the right inferior turbinate and extending laterally to the inferior meatus

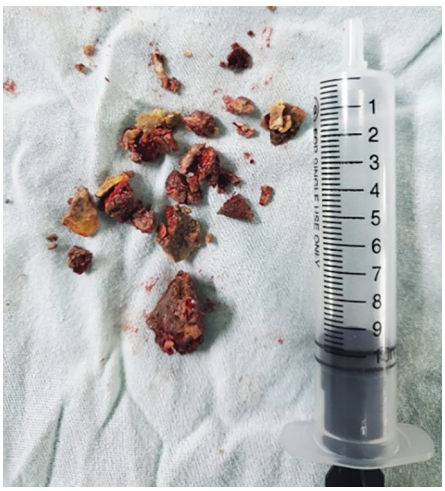

Fig. 4: Rhinolith removed completely in piecemeal

Less common symptom is halitosis.[8] In Girgis et al. report the only symptom presented by patient was toothache[9] rarely they may cause complication like palatal perforation.[10]

The diagnosis of rhinolith can be made on clinical grounds but in case of inflammation around the rhinolith differential diagnosis like fungal sinusitis, neoplastic conditions like ossifying fibroma, osteoma needs to be considered. However, this can be ruled out by imaging. Like in our case we did a computed tomography of paranasal sinus and to our surprise it was a huge irregular rhinolith. Similar reports are seen where computed tomography helped in planning surgery for huge rhinolith which had staghorn appearance.[11,12]

The next step is endoscopic removal of rhinolith, in case of huge rhinolith with surrounding inflammation where possibility of bleeding is high, general anesthesia should be considered to secure airway, also consideration needs to be given to prevent adhesions and synechiae, in our case we smeared steroid ointment all along the nasal mucosa which had granulations, also placed steroid smeared PVC pack in both nasal cavity for 48 hours. Earlier days bigger stones were removed by extensive procedure like lateral rhinotomy which could leave patient with cosmetic defect but endoscopic approach can remove stones irrespective of size but in piecemeal, the only exception is rhinolith in maxillary sinus where Caldwell Luc procedure may be required.[13]

Conclusion

A relatively rare condition is rhinolith, suspicion needs to be given in cases who present with unilateral foul-smelling rhinorrhea with bony hard mass seen in nasal cavity during examination. Computed tomography will help in planning the procedure. In cases with huge irregular rhinolith bleeding needs to be anticipated hence general anesthesia should be considered.

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