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Otolaryngology

GIANT RHINOLITH- AN UNUSUAL ENTITY: A CASE REPORT

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ABSTRACT Rhinolith is defined as a mineralized mass resulting from calcification of an endogenous or exogenous nidus within the nasal cavity. A case of a 25 year old female with a history of unilateral nasal stuffiness and nasal bleed, which was clinically and radiologically diagnosed as rhinolith, is being reported here.

KEYWORDS : Rhinolith, Endoscopic Removal, Unilateral Nasal Obstruction

INTRODUCTION

Rhinolithiasis is reported in clinical practice as an unusual cause of unilateral nasal obstruction and foul smelling nasal discharge. It usually results from a neglected foreign body with subsequent deposition of calcium, magnesium, phosphorus and iron around a central core or nidus.[1] A rhinolith is often asymptomatic in initial stages, can remain undetected for many years, due to its gradual increase in size until it grows large enough to cause symptoms of nasal obstruction, discharge, epistaxis , erosion of the nasal septum and the medial wall of the maxillary sinus, leading the unwary physician to wrongly diagnose it as rhinitis or unresolved sinus infection.[2]

CASE REPORT

A 25 year old female presented to the ENT outpatient department of Hindu Rao Hospital with the complaint of nasal stuffiness since 15 yrs. It was intermittent at first but then gradually progressed to cause persistent nasal obstruction and intermittent foul smelling discharge. Patient also complained of unilateral nasal bleed from left nostril since last 2 years which was intermittent in nature and was controlled by nasal pinching. Detailed evaluation of the patient did not reveal any history of symptoms such as nasal pain, foul breath and headache, paraesthesia and anosmia. On further probing patient recalled history of some forein body insertion in nose at 5 years of age. There was no relevant medical or surgical history. On Anterior Rhinoscopy, the right nasal cavity appeared completely obstructed because of the presence of a hard, blackish, irregular mass with granulation tissue & foul-smelling discharge around it. The mass felt stony hard on probing. It was adherent to the septum and the turbinates. The nasal septum seemed to be eroded and mass was extending to the opposite side. On posterior rhinoscopy, a blackish irregular large mass was seen reaching upto the posterior choana. CECT of the paranasal sinuses revealed soft tissue density lesion with evidence of hyperdense calcification in right nasal cavity which was extending to left nasal cavity and nasopharynx measuring about 37×62mm in size. It also showed soft tissue opacification of right maxillary antrum and perforation of the septum by mass lesion extending into the left nasal cavity.

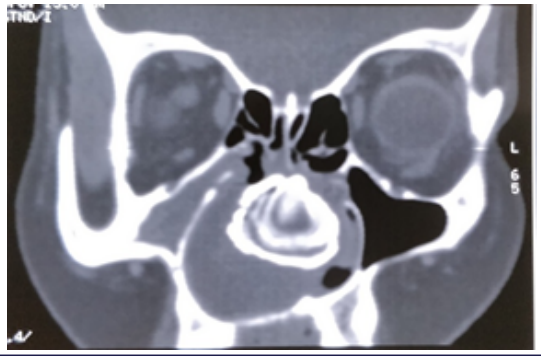

Figure 1. Coronal cut showing radiodense mass in the right nasal cavity perforating the nasal septum and extending to the left side.

Based on the history, clinical and radiographic findings a provisional diagnosis of rhinolith was rendered. The mass was surgically approached intranasally and endoscopic removal of the mass was done piecemeal. Haemostasis was achieved by bilateral antibiotic ointment soaked nasal packing. The patient did not give her consent for the laboratory analysis of the rhinolith. Postoperatively, the patient was given intravenous broad spectrum antibiotics (augmentin, 1.2gm twice a day) and a systemic decongestant was given twice daily for five days. The nasal packing was removed after 48 hours and bilateral gel foam was placed to prevent synechiae formation. She had an uneventful recovery after the operation.

Figure 2. Giant rhinolith. Crushed and removed piecemeal due to its large size.

DISCUSSION

Rhinoliths, or nasal calculi, are calcareous concretions that arise secondarily to the complete or partial encrustation of intranasal foreign bodies.[3] The first well documented case of rhinolithiasis was reported by Bartholin in 1654. Dessicated blood clots, ectopic teeth and bone fragments are examples of endogenous matter. The exogenous materials include fruit seeds, plant material, beads, cotton wool and dental impression material. [4]The foreign body incites a chronic inflammatory reaction with deposition of mineral salts, mainly calcium and magnesium. They are usually suspected by history and diagnosed radiologically. They are generally found in the anterior part of the nasal cavity. Rhinolith may develop due to trauma, nasal packing and surgical procedures. The patient may present with symptoms of

nasal discharge, facial pain, unilateral rhinitis, sinusitis, epistaxis, dacryocystitis, headache, and anosmia as the rhinolith increases in size[5]. Rhinoliths mostly present in the third decade of life with females more commonly affected than males[6]. Complications consist of ipsilateral otitis media, bacterial or fungal sinusitis, septal perforation, palatal perforation, fistulous tract formation and recurrent dacryocystitis [5]. Diagnosis of rhinolith is usually made by inspection with the aid of a rhinoscopy followed by nasal endoscopy. Rhinoscopy may reveal an irregular hard mass with foul smelling secretions. Endoscopy plays an important role in evaluation of the extent of the rhinolith without providing any risk of radiation exposure. Radiologic examinations include orthopantomograph (OPG), maxillary occlusal view, water's view, lateral skull views and CT scan[1]. CT scan is highly useful in determining the size and extent of the rhinolith along with any associated complications. The differential diagnosis should include the following conditions- haemangioma, enchondroma, ossifying fibromas, calcifying angiofibroma, nasal gliomas, calcified nasal polyps, malignant tumours, syphilis and calcified tuberculomas[7]. Exact diagnosis can be made after histopathological examination.

The treatment is removal of the rhinolith. In most cases, rhinoliths are removed endonasally using local anesthesia either by crushing or as a complete fragment[1]. Endoscopic guided removal is helpful in complete and uneventful removal of the rhinolith. If they are bulky, it may be crushed and removed piecemeal like in our case or it may be displaced posteriorly into the nasopharynx and removed trans-orally. Extremely large and impacted calculi that cannot be removed intranasally may require a Caldwell –Luc approach or on rare occasions, a lateral rhinotomy incision[8]. A rhinolith that cannot be removed surgically could be disintegrated using a lithotripsy[1]. In very few extensively destructive cases, reconstruction of sinonasal anatomy may be required.

Since clinical and radiological findings may be similar to other benign or malignant nasal lesions, knowledge of this clinical entity and a high degree of suspicion are necessary in order to accurately diagnosis and treat this condition.

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