



A DECEPTIVE RHINOLITH : MIMICKING MUCOR/MALIGNANCY IN THE RECENT MUCORMYCOSIS STORM

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ABSTRACT Rhinoliths are mineralised foreign entities found in the nasal cavity by accident during anterior rhinoscopy. They can Manifest as foul-smelling nasal discharge and respiratory issues if left undiscovered. Large nasal stones are currently extremely rare, thanks to better diagnostic procedures like as Nasal endoscopy, X-ray, and CT scans that may detect foreign bodies at an early stage of development. We present the case of a 55-year-old female patient who presented to our ENT OPD with left sided Nasal pain and left sided face pain for three years, And Nasal obstruction for three years. The greyish white mass is large enough that it cannot be removed under general anaesthetic, thus lithotripsy was performed and the tumour was removed piece by bit from the left nasal cavity. Differential diagnosis and follow Up of the patient was discussed in the study.

KEYWORDS :

BACKGROUND

Rhinolith is an uncommon condition they can be seen on a dental radiographs as a radiopaque object in the nasal fossa or an incidental finding in a xray. Rhinoliths are usually asymptomatic; as they progress they can develop into a symptomatic destructive entity. Hence early diagnosis is mandatory to avoid possible sequela.

CASE PRESENTATION

A 55-year-old diabetic female patient reported to our ENT OPD with left sided nose pain and left sided facial pain since 3 years associated with nasal obstruction on and off. with nasal discharge since 3 years, the patient also had hyperemic gingival swelling over the left side since 4 weeks,

Initially the case is Suspected as fungal sinusitis shows thick creamy white (purulent) discharge is seen in left nasal cavity, on cleaning a greyish white mass is seen Insensitive to touch, hard in consistency, blending on touch, no yielding, probe cant be passed at any directing beyond the Greyish White mass Gross appearance looks pinkish growth over gingiva of upper alveolus above left 2nd incisors and canine, Soft in consistency

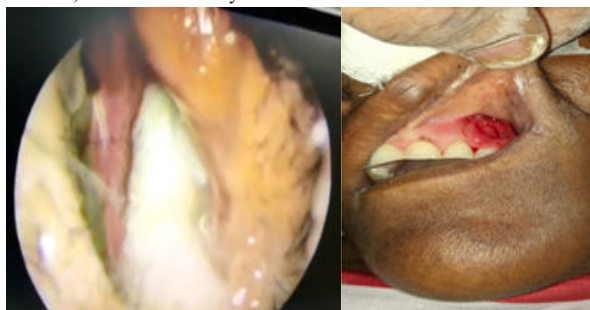


Figure 1 a): Anterior rhinoscopy showing: mucoid discharge and greyish white mass, b) showing gingival Hyperplasia

INVESTIGATIONS

On Xray: A radiopaque Foreign body was seen in the left nasal cavity and Left maxillary sinus

On CT-PNS : soft tissue mucosal opacification of left maxillary, Left ethmoidal, left frontal and sphenoidal sinus noted 5cm * 7cm well defined calcification lesion noted in Left nasal cavity

On Diagnostic : Creamywhite thick purulent discharge present in the Left nasal cavity And greyish white mass seen inside the left nasal cavity beyond which and probe cant be passed beyond discharge

DIFFERENTIAL DIAGNOSIS

a) **Mucormycosis:** the case presented to our opd during the high peak

of covid 2nd wave and rising cases of post covid Mucormycosis. Initially the case was suspected to be mucormycosis and the patient has a past history of covid-19 and diabetes mellitus, which are two risk factors for Mucormycosis, and the patient presented with severe left sided facial pain which made us even more suspicious. but the KOH and culture were found to be negative.

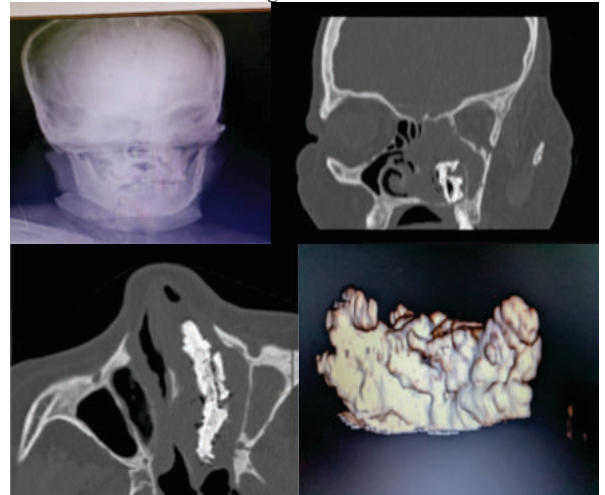


Figure 2: a) xray showing radio-opacity in left nasal cavity, b) coronal section of CT-PNS showing calcified mass in left nasal cavity, c) axial section showing a rhinolith all along the cavity d) 3D-reconstruction of the rhinolith measuring 5*7cms.

b) Malignancy:

the age group of the patient is 55 yr and patient presented with reddish painful growth on Gingiva which was bleeding on touch, considering the age with new growth, suspicion of the malignancy cant be rule out. but CT-PNS shows to be uniformly opaque structure seen in left nasal cavity suggestive of complete calcification. this reduced the suspicion of malignancy others D/D includes osteoma, calcified polyps, hemangioma, fungus ball calcification, ossifying fibroma, odontoma, chondroma, antro-tooth, calcifying angiofibroma, syphilis and tuberculosis.

TREATMENT:

The case is posted for endoscopic sinus surgery. Endoscope cant be passed beyond the Greyish white Mass, lithotripsy was done, Broken bit by bit using Luc's Forceps And sent for biopsy. Another biopsy was taken from gingival swelling.

Nasal biopsy:-

Section shows inflammatory polyp with calcified material S/o Rhinolith

Ginival biopsy:-

Sections shows fibrous connective tissue infiltrated with acute and chronic inflammatory cell collection, granulation tissue covered by hyperplastic stratified squamous epithelium –S/oGingival hyperplasia With no evidence of malignancy in both biopsy

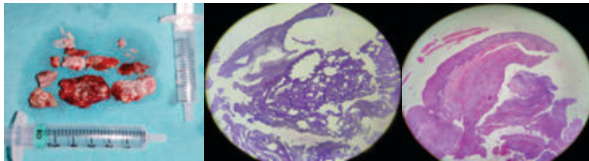


Figure 3: a) rhinolith removed from left nasal cavity, b) HPE image of the rhinolith showing calcification, c) HPE image of the gingival growth suggestive of hyperplasia with no evidence of malignancy

OUTCOME AND FOLLOW-UP

The patient was advised to come for regular follow up every week for onemonth Later once every month for 3 months. All the symptoms are resolved followed by removal of the rhinolith. gingival hyperplasia has completely resolved.

But the nasal cavity anatomy has be altered:

- **Roomy left nasal cavity**
- **lateral wall of the nasal cavity in pushed laterally**
- **Atrophied inferior & middle Turbinates**



Figure 4: Preoperative And Postoperative Image Of Gingival Hyperplasia

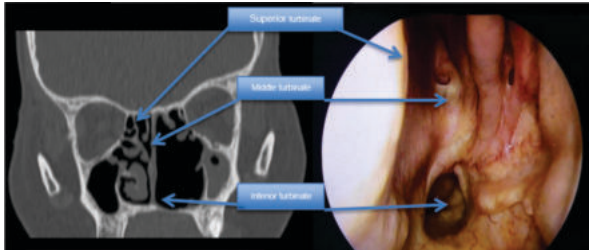


Figure 5: post operative CT scan and nasal endoscopy showing altered nasal cavity anatomy

DISCUSSION Include a very brief review of similar published cases

Rhinoliths are calcareous concretions, formed by the deposition of salts on an intranasal foreign body. They usually have a laminated structure, suggestive of a pathophysiological mechanism that involves layers of mucin aggregating around the foreign body or nidus. Each mucin layer subsequently become calcified, perhaps aided by the presence of turbulent air currents.

Types:

Endogenous: when formed around normal body material such as blood clot, misplaced tooth, bony sequestrum or even inspissated secretions

Exogenous:

when formed by neglected foreign body like paper, small stone, grains etc

Incidence:

Even though incidence of keeping foreign bodies in nose is high in children, most of the cases of rhinolith are seen in young adults. They are most commonly seen on the inferior meatus or between the inferior

turbinate and the nasal septum.

Clinical Features:

Rhinoliths are usually asymptomatic & may be detected during an ear, nose and throat (ENT) examination due to the nasal symptoms, or incidentally during radiological examination of the face but as they can advance into a symptomatic destructive entity with symptoms such as nasal obstruction, purulent nasal discharge, rhinosinusitis, dacryocystitis, and septal perforation, hence early detection is critical to minimise consequences.

Axmann performed the first chemical investigation of rhinolith in 1829. They are discovered to be mostly composed of inorganic minerals such as calcium phosphate, magnesium, carbonate, oxalate, and urates. Other minerals with a high iron concentration, such as siderite (FeCO₃) and ferrihydrite, have also been reported. Several techniques for mineralogical investigation of rhinolith have been used throughout the years, including electron ray microprobe, X-ray diffractometry, and infrared-spectroscopy. The rhinolith is removed as part of the procedure. Most rhinoliths are removed through the nostrils under local anaesthetic, either crushed or as a whole piece. Endoscopically controlled surgery can aid in the full and painless removal of the rhinolith. A rhinolith that cannot be surgically removed might be destroyed by lithotripsy. Alar release, Caldwell-Luc, or lateral rhinotomy are surgical options for septal or antral perforation. In extremely damaging situations, reconstruction of sinonasal anatomy may be necessary.

LEARNING POINTS/TAKE HOME MESSAGES

A typical history, clinical symptoms, endoscopy, and radiographs demonstrating the presence of a calcified mass all indicate to the existence of a rhinolith.

Any conceivable lesions capable of obstructing the nasal cavity and presenting as a calcifying mass on X-ray must be considered for the differential diagnosis, including calcifying angiofibroma, chondrosarcoma, chondroma, osteosarcoma, and calcifying polyps.

While rhinoliths are uncommon, the ENT physician should be aware of their presence.

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