

Rhinolithiasis about 16 Cases and Review of the Literature

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ABSTRACT

Rhino lithiasis is defined as a solid concretion secondary to the gradual deposition of calcium salt around an exogenous or endogenous central formation in the nasal cavity it is a relatively common condition in developing countries. We report a retrospective study spread over period of 9 years, from January 2012 to December 2020, relating to 16 cases of rhino lithiasis treated in our department. The protocol Included for each patient: an anamnesis, an ENT examination meticulous and systematic exam. Patients consulted for purulent and fetid rhinorrhea associated with nasal obstruction rhino lithiasis affected as many adults as children, the formal sex was affected in 68% of cases un favorable socioeconomic conditions were noted, in 75% of cases diagnostic times ranged from six months to ten years, the examination she the rhinolith as a grayish, hard concretion, unilateral in 15 cases (5 cases on the right an on the left) and bilateral in one case in 2 cases, a foreign body was visualized on endonasal examination, the treatment consisted of an instrumental extraction by natural means (100% of cases) under general Anas the sea in 75% of cases the size of the rhinoliths varied between 5 to 30 mm in diameter. An underlying foreign body was found intraoperatively in 6 cases. Complication was rare (epistaxis: 3 cases), No recurrence was detected. It is always necessary to evoke a rhinolithiasis in front of a chronic unilateral fetid rhinorrhea with or without nasal obstruction on the same side. The nasosinus scanner confirms the diagnosis and helps to prepare the therapeutic strategy alongside the endonasal endoscopic examination with the rigid optic which remains a means used both in diagnosis and in therapy.

Keywords: Rhinolithiasis, nasal rhinorrhea, nasal foreign body.

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I. INTRODUCTION

Rhino lithiasis is defined as a solid concretion secondary to the progressive deposition of calcium salts around a exogenous central formation, resorbable or not, of variable shape and size it is a rare affection especially in developed countries, given the frequency of foreign bodies in the nasal cavities, environment pollution, Low sanitary and socio-economic level as well as certain traditions (endonasal herbal medicine, ethnic customs) [1], [2].

II. MATERIALS AND METHODS

This is a retrospective study spanning 9 years, from January 2012 to December 2020, involving all patients with rhinolithiasis, the protocol included for each patient an anamnesis (reason for consultation, circumstances and history), a rhino logical examination aided by

rhinocavoscopy after local anesthesia with 5% naphazoline xylocaine and aspiration of nasal debris, supplemented by a nasosinus tomodesitometry. Postoperative follow-up was done after 30 days, three months, six months, twelve months, and twenty-four months.

III. RESULT

This is a study of 16 cases of rhino lithiasis the female sex was affected in 68 of cases. the average age 24 years with extremes ranging from 6,5 years to 67 years adverse socio-economic condition were noted in 75% of cases all of which were of rural origin.

The diagnostic time varied between six months and ten years with an average of three and a half years. Its story found two cases of allergic rhinitis, with no notion of nasal trauma, endonasal or dental surgery chronic purulent fetid rhinorrhea and nasal obstruction (unilateral in 15 cases and bilateral in 1 case). Were the major symptoms present in all patients

associated with epistaxis in 4 cases, anosmia in 2 cases and headache in only 1 case.

The anterior rhinoscopy supplemented by rhinocavoscopy at 0 optic after aspiration and local Anesthesia with xylocaine naphazoline 5% allow to highlight the rhinolite in the form of a grayish, hard concretion, unilateral in 15 cases (5 cases the right and 10 cases on the left) and bilateral in one case. In 2 cases a foreign body was visualized on endonasal examination.

The nasosinus computed tomography in axial and coronal section was systematic showing a calcium hyper density in 100% of cases, also specifying the site and the dimensions of the rhino lithiasis without any visualized foreign body (Fig. 1).

The therapeutic management consisted of an instrumental extraction with the straight Blakeslee forceps under endoscopic endonasal guidance by natural routes (100% of cases under general anesthesia in 75% of the cases and under local anesthesia with xylocaine naphazoline 5% in 25% of the cases (Fig. 2).

A detailed examination of the rhinoliths after rhinoliths varied between 05 to 30mm in diameter with an average of 18mm. an underlying foreign body was found Intraoperatively in 6 cases is 37% of cases (plant: 5 cases, chewing gum: 1 case) (Fig. 3).



Fig. 1. Facial in axial section showing rhinolithiasis the left nasal cavity.



Fig. 2. Instrumental extraction with right blackish forceps of rhino lithiasis of left nasal cavity.

Local postoperative disinfection was systematic for 7 days, postoperative outcomes were favorable in 13 patients three patients presented anterior epistaxis immediately after surgery the long-term course did not show any recurrence over an average follow of 20 months.



Fig. 3 Rhinolith 20mm in diameter.

IV. DISCUSSION

Rhino lithiasis is rare in the west, an estimate of 3 new cases /years / 100,000 Ha. Has been reported in the literature in developing countries. The first description dates back to 1654 by Bartholin, we can estimate the number of cases reported in the literature worldwide between 700 to 800 cases [1], [3].

The Pathogenesis of rhino lithiasis is not yet understood, in the literature, there are two different training methods. The first is an exogenous mode due to the precipitation of calcareous salts on a pre - existing foreign body (cereals, small fragment of stone, plastic parts, insect, fragment of food glass, bud, wood, fruits, grain, bud, cotton, remains of igas buffer). The second is an endogenous mode due to the precipitation of calcareous salts on a biological substance (dry secretion, blood clots, cell lysis products, mucosal nenosis, tooth fragment, dried pus, secretions from the sinus or the lacrimal al glands [1]-[3].

Rhino lithiasis is a predominantly female condition, probably because women blow their noses weaker than men, we also note that the right side is the most frequently affected given the high number of right-handed people who put foreign bodies in the right nasal cavity, especially in children [1], [2], [4].

The clinical picture of rhinolithiasis is nonspecific and is mainly characterized by purulent fetid rhinorrhea, associated in most cases with nasal obstruction [5].

Sometimes episodes of epistaxis nasopharyngitis halitosis, headaches, pain in the face are found in connection with secondary sinus infections or facial neuralgia, rare cases are revealed by lacrimation, repeated conjunctivitis or by neuropsychic disorders (isolation, agitation, depression, socio-professional difficulties) [1].

Asymptomatic forms of accidental discovery (ENT) examination, oral care examination forms of the facial mass are frequently cited in the literature.

Exceptionally rhinoliths have been discovered intraoperatively (DCRS septoplasty, maxillary osteotomy) or in the follow-up of a patient victim of a public highway [6].

The positive diagnosis of rhinolithiasis is based mainly on the data of the examination focused on the endonasal examination (after aspiration of nasal secretions and wicking by wicks soaked with xylocaine naphazoline at 5%) which shows a blackish or yellow formation-greyish with an irregular surface hard to the touch, sits mainly at the level of the floor of the nasal cavity (inferior meatus or in turbinate septal space), most often halfway between the anterior and posterior part [7], [8].

The literature reports unusual localizations of rhinolithiasis; pure septal site, sinus of the face (maxilla, frontal) roof of the oral cavity after palatal perforation or unusual localization on concha bullosa [4], [7], [8].

Computed tomography the nasosinus cavities in coronal and axial section makes it possible to objectify the rhinolith in the form of an opacity of calcium density (total or partial) makes it possible to specify the site, shape, size, and presumed origin of the rhinolith (presence or not of a foreign body). Computed tomography is a great contribution to the choice of the therapeutic strategy (extraction method, surgical difficulty, choice of voice first) [1]-[5].

Rhinolithiasis spontaneously progress to worsening symptoms, in rare cases, if the rhinolith is small, spontaneous elimination maybe noted during a blowing or sneezing [1], [2], [6], [8].

Rhinolithiasis pose a problem of differential diagnosis with all nasal sinus pathologies with calcium density: benign tumors (osteoma), malignant tumors (chondrosarcoma, osteosarcoma), bone sequestrs from osteomyelitis or radionecrosis syphilis or tuberculosis with calcification [1], [2], [9], [10].

The therapeutic management of rhinolithiasis consists of nasal extraction under endoscopic control (rigid optics) [9], [12]. the procedure is performed under local anesthesia or general anesthesia depending on the teams [1]-[8]. other authors reserve general anesthesia for special cases (child, non-cooperative patient) with orotracheal intubation to protect the upper airways from the risk of rhinolithiasis falling [1].

The gesture consists of extraction from back to front with a suitable hook, extraction with the straight Blakesley forceps or rarely by suction, the placement of a silastic blade in contact with the nasal septum for 15 days may be necessary in case of traumatic and repetitive maneuvers, to prevent nasal synechiae [11]-[13].

External extraction (sub-labial rhinotomy, degloving, etc.) of rhinolithiasis is exceptional with specific indication (large rhinolith, incarcerated, vestibular or turbinate septal pathologies, massive granulomatous reaction, associated lesions)

A detailed analysis is made after extraction of the rhinolith (size, weight, presence of foreign body) [1].

The postoperative consequences are generally simple, and recurrences are rare.

V. CONCLUSION

Rhinolithiasis is defined as a solid concretion secondary to the gradual deposition of calcium salts around an exogenous or endogenous central formation, rare in the west, and is clinically revealed by purulent fetid rhinorrhea, associated with nasal obstruction. The positive diagnosis of rhinolithiasis is mainly based on clinical examination. The contribution of nasosinus CT is essential for the therapeutic strategy, which consists of endonasal extraction under endoscopic control.

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