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Case Report

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Rhinolithiasis: Case Report and Review of the Literature

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ABSTRACT

Introduction: Rhinolithiasis is a hard mass in the nasal cavity, made of deposits of mineral salts around a central endogenous or exogenous focus. It is a very rare pathology tending to disappear in developed countries and whose etiopathogenesis remains unknown. Its development can be fraught with complications. The diagnosis is simple and is based on endonasal examination. Atypical circumstances can lead to the recognition of rhinolithiasis: presentation of a sinonasal tumor or an infectious complication.

Case: This is a 50-year-old patient, with no particular history, who consulted for a right unilateral nasal obstruction, which had been present for 1 year, associated with purulent rhinorrhea and cacosmia. Nasal endoscopy revealed an irregular whitish formation, of hard consistency covered with purulent secretions. The CT scan of the facial area revealed dense material embedded in the middle part of the right nasal cavity measuring 23.5mm in width and 13mm in length.

Rhinolithiasis extraction was carried out under general anesthesia, guided by a rigid endoscope, using forceps, after fragmentation of the mass. The pathological examination confirmed the diagnosis of rhinolithiasis. Endoscopic surveillance did not reveal any recurrence.

Conclusion: Rhinolithiasis is an endangered pathology. You have to know how to think about it when faced with lingering and non-specific unilateral rhinological symptoms. Nasal endoscopy and imaging make a considerable contribution to the diagnosis and pre-therapeutic assessment. Early surgical extraction helps prevent complications. Recurrences are unusual.

Keywords: Nasal Cavity, Rhinolithiasis, Magnet, Endoscopy, Rhinorrhea

Introuction

Rhinolithiasis is a hard mass in the nasal cavity, made of deposits of mineral salts around a central endogenous or exogenous focus [1-3]. It is a very rare pathology tending to disappear in developed countries and whose etiopathogenesis remains unknown [1,2,4]. Its evolution can be fraught with complications [2]. The diagnosis is simple and is based on endonasal examination. Atypical circumstances can lead to the recognition of rhinolithiasis: presentation of a sinonasal tumor or an infectious complication.

Case Presentation

This is a 50-year-old female patient, with no particular history, who consulted for a right unilateral nasal obstruction, which had been present for a year, associated with purulent rhinorrhea and cacosmia. Nasal endoscopy revealed an irregular whitish formation, of hard consistency covered with purulent secretions. The CT scan of the facial area revealed dense material embedded in the middle part of the right nasal cavity measuring 23.5mm in width and 13mm in length.

Rhinolithiasis extraction was carried out under general anesthesia, guided by a rigid endoscope, using forceps, after fragmentation of the mass. The pathological examination confirmed the diagnosis of rhinolithiasis. Endoscopic surveillance did not reveal any recurrence.

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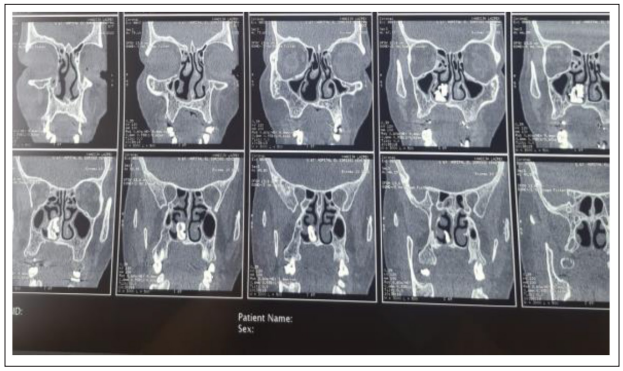

Figure: Facial CT in coronal sections showing rhinolithiasis of the right nasal cavity.

Discussion

Rhinolithiasis is a hard mass made of mineralized deposits, located in the nasal cavity [1,3,5]. It is a rare condition, of slow progression, most often affecting young women [1,3,4]. It is more common in underdeveloped countries and in rural areas, suggesting a relationship with low socio-economic level [2,4]. Its etiopathogenesis remains unknown [2,4]. However, two hypotheses are mentioned. An endogenous origin, at the expense of an organic tissue which could be a blood clot, an ectopic tooth, scales or even bone sequestra. The second hypothesis suggests an exogenous attack from an external element (plastic material, fruit seeds, stone, button battery, etc.) [2,4].

Clinically, rhinolithiasis manifests as a non-specific unilateral chronic rhinological syndrome with nasal obstruction, purulent rhinorrhea, cacosmia, facial pain and rarely epistaxis [1,2,4]. Endonasal examination by anterior rhinoscopy or using a rigid endoscope allows the discovery of the rhinolith in the anterior part of the nasal cavity, presenting itself in the form of a grayish-white, sometimes blackish, mass. irregular surface, most often embedded in the interturbino-septal space. Gentle and careful palpation using a stylus reveals the hard nature of the mass [1,2,5].

Rhinolithiasis can, however, be asymptomatic and discovered incidentally [5]. However, certain complications can be revealing (orbital phlegmon, acute ethmoiditis).

Endonasal endoscopic examination also allows for a locoregional assessment of associated anomalies and pathologies (septal deviation, endonasal polyp, turbinate hypertrophy, pus from the middle meatus, etc.) [1,2]. Computed tomography of the facial area reveals the rhinolith in the form of an opacity with a calcium tone. It makes it possible to specify the location, shape, dimensions of the rhinolith as well as the associated lesions. It also allows differential diagnosis with other tumor lesions (enchondroma, osteoma, chondrosarcoma, osteosarcoma) or other pathologies (mycotic infections, chronic granulomatous infections, tuberculosis, calcified polyp) [1,3,4].

The most common location of rhinolitis is between the inferior turbinate and the nasal septum. In rare cases, it can be found in the cavum [2]. The structure of rhinolithiasis made of inorganic salts can be the cause of erosions of the pituitary mucosa, septal and/or palatal perforation, superinfection, maxillary or ethmoidal sinusitis [1,2]. The ideal therapeutic management is based on the extraction of the rhinolith by natural means under local anesthesia with 5% naphazoline xylocaine. The use of general anesthesia with orotracheal intubation is necessary in children, pusillanimous subjects, in cases of giant rhinolith or embedded in the posterior part of the nasal cavity and if there are associated lesions (sinusitis, polyp, hypertrophic rhinitis major, mycosis). Extraction under endoscopic guidance with rigid optics ensures good working conditions. A suitable hook, foreign body forceps and suction are generally used. Removal of the rhinolith by external surgical approach is exceptionally indicated, particularly in cases of giant rhinolith associated with a giant turbino-septal malformation and in cases of massive granulomatous reaction encompassing the rhinolith. Lithotripsy is not a reliable therapeutic method for rhinolithiasis. It is little practiced and remains in the field of clinical research [1,3,4].

Conclusion

Rhinolithiasis is an endangered pathology. You have to know how to think about it when faced with lingering and non-specific unilateral rhinological symptoms. Nasal endoscopy and imaging make a considerable contribution to the diagnosis and pre-therapeutic assessment. Early surgical extraction helps prevent complications. Recurrences are unusual.

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