Case Report

A Giant Rhinolith: An Unusual Cause of Pediatric Halitosis, Case Report

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Abstract

Objective: Rhinolith in children is very rare cause of halitosis.

Case Report: We are presenting a case report of rhinolith with a complaint of halitosis. Patient had a history of long standing halitosis that accompanied by social problems. Nasal endoscopic examination was revealed with a posterior rhinolith that was removed with an endoscopic approach. Halitosis and social regression were improved after the operation.

Conclusion: Clinical value and diagnostic techniques of rhinolith were discussed.

INTRODUCTION

Halitosis is characterized with malodor from mouth that could be several mechanisms [1]. Quirynen et al. analyzed 2000 patients with objective halitosis and reported oral cavity sources at 90 % of all patients [2]. The general consensus is basically depending on volatile sulfure compounds (VSCs) from anaerobic bacterial flora in the mouth according to experimental evidences cases [1]. The anaerobic bacterial flora placed on the dorsal site of oral tongue that may cause of oral infections such as gingivitis or stomatitis. Tongue coating was detected as causative for 51 %, gingivitis/periodontitis for 13 % and both of them for 22 % of objective halitosis [2]. Some rare causes of halitosis also were reported as systemic diseases (diabetes mellitus etc), metabolic or hormonal changes, hepatic of renal insufficiency, bronchial and pulmonary diseases, gastroenterological pathologies [2].

There is no enough data to show real prevalence of objective halitosis. Bernstein et al. reported that subjects sometimes or often experienced halitosis in lifetime [3]. Pediatric halitosis is also similar to adults and reported prevalence rate is 37 % [4]. Oral cavity problems are the most common causes of halitosis in pediatric cases beside chronic rhino sinusitis, systemic diseases and medication side effects [5]. Chronic caseous tonsillitis and tonsillolithiasis (tonsil stones) are important causes of intra-oral halitosis [6]. Patients could experience the intermittent halitosis at post-tonsillectomy [7].

We are hereby presenting a huge rhinolith that cause of pediatric halitosis that is an unusual cause of halitosis. Rhinolith is calcified foreign bodies in nasal passage that could origin from endogenous or exogenous sources. Rhinolith are called as endogenous rhinolith if it originates around body tissues as tooth. Exogenous rhinolith originate from foreign subjects such as stones, cotton or beads. Rhinolith usually detected at anterior nasal cavity that is associated with nasal septal deviation, turbinate hypertrophy and obstructed nasal passages [8,9].

CASE REPORT

A 10-year-old male patient presented with a history of persistent halitosis for 5 years. He had a complaint of social discomfort because of malodor from the mouth. He had a history of physician visit several times. He was receiving psychiatric support and anti-depressive treatment for this social regression of halitosis. He also had a history of mount breathing at night and snoring for a long time.

Oral cavity and oropharynx were normal at physical examination. Right nasal passage was open and clear but left side was obstructed by inferior turbinate hypertrophy. We re-evaluated the patient after decongestant medication and observed dense mucopurulent secretion from left nasal passage. We detected a huge rhinolith when we aspirate the muco-purulent secretion (Figure 1). There was an obstructive adenoid tissue at nasopharynx and posterior site of the rhinolith. Computerized tomography of the paranasal sinuses were reported as a huge rhinolith that placed between adenoid tissue and left inferior turbinate (Figure 2).

We explained the situation to patient and family members and decided to remove foreign body with adenoidectomy. Patient underwent general orotracheal intubation and the rhinolith (Figure 3) was removed with trans-nasal endoscopic approach...
surgery. His social relations and mood were far better at post-operative follow up.

DISCUSSION

Halitosis is a world-wide health problem with multifactorial ethyopathogenesis. The most common cause of halitosis is decomposition of organic matter caused by proteolytic anaerobic bacteria in the oral cavity. Halitosis may cause to severe social problems and psychological discomfort [10]. It is very important to assess halitosis in children because of its potential risks of social restriction and reduced quality of life and it could indicate the presence of serious medical conditions.

Chronic tonsillitis and tonsillolithiasis are the most common causes of intra-oral halitosis in children whilst chronic rhino sinusitis and adenoid are the other extra-oral causes of halitosis [11,12]. We are presenting a very rare cause of extra-oral halitosis for rhinolith.

The term of rhinolith is originating from Greek word which rhino=nose and lith=stone. Rhinolith is determined with mineralized foreign bodies. It often detected at mentally retarded children who “for a lark” as it were inserted such small objects as small stones, coins into nostril. The other risk factors for rhinolithis are trauma, surgical operations, dental work, nasal packing materials [13]. In our patient there are no predisposed factors for rhinolith in his history. Rhinolith could easily develop when muco-siliary Clarence impaired. It has a simple physiopathology that start with accumulation of secretions followed by mineral deposition [14,15]. Rhinolith is usually asymptomatic at early stages. It could cause of nasal obstruction, recurrent sino-nasal infections or purulent discharge from the nostrils, headache, epistaxis and nasal septal perforation [13].

If rhinolith is located at inferior mea, it could be easily detected at simple anterior rhinoscopy. Unfortunately, it is not always being diagnosed as rhinolith by an anterior rhinoscopic examination. Turbinate hypertrophy or nasal secretions make hard to visualize posterior rhinoliths. An endoscopic nasal examination with decongestant medication is very crucial in suspicion of rhinolith. The diagnosis of rhinolith is clinical but radiologic imaging such as computerized tomography may help us to distinguish this entity and provide us some information about the size, localization, complications and accompanied diseases.

CONCLUSION

Halitosis is a common health problem with potential complications. It is very rare cause of long time halitosis for rhinolith. It is very crucial to perform nasopharyngoscopy beside anterior rhinoscopy in diagnosis of this relatively rare disease.

REFERENCES


Figure 1 Endoscopic view of rhinolith.

Figure 2 Coronal CT image.

Figure 3 Intraoperative appearance of rhinolith.

(0 degree, 4 mm Storz). Then adenoid tissue was removed with trans-nasal endoscopic curettage technique.

The complaint of malodor was improved at post operative period immediately and disappeared at post-operative 7th day. Snoring and mouth breathing at night were improved after the


