

## Halitosis due to a Nasal Foreign Body in an 8-year-old Boy: A Case Report

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**Abstract:** A nasal foreign body was found in a 8-year-old boy with halitosis (fedor oris) and crowding. After removal of the foreign body halitosis disappeared. Insufficient data is available about the epidemiology of halitosis in children. Apart from specific odors associated with certain systemic conditions, local pathologic conditions such as chronic sinusitis, upper and lower respiratory tract infections and, in some cases, gastrointestinal disorders might be the etiologic factors for halitosis. Similar to that in adults, bad breath in children is usually attributed to poor oral hygiene or disease conditions of the oral cavity. The first-line treatment choice is to establish proper oral hygiene and if necessary dental sanitization. In resistant cases, further evaluations should be made to pinpoint the causative agent. In this context the possibility of a nasal foreign body should be considered in children.

**Keywords:** Halitosis, Nasal Foreign Body, 8-year-old Boy.

### INTRODUCTION

Bad breath (also called halitosis, oral malodor, fetor oris, or fetor ex ore) is characterized by an offensive smell of the breath and affects many people [1]. Physicians refer patients suffering from halitosis to dental practitioners [2]. As in adults, the etiologic agent for bad breath in children is believed to be poor oral hygiene or oral cavity diseases [3]. In this context, proper oral hygiene should be observed and if necessary professional interventions should be considered [4]. In resistant cases, evaluations are necessary to find the possible causative pathology. In the case of children the presence of nasal foreign bodies should be taken into account. Ingestion of foreign bodies is a common occurrence all over the world because infants and young children put different items in their mouth to assess them, might result in the ingestion of these items [5].

The nasal cavity is deep and occupies a part of the face, with only a small part of it visible through the nostrils. The posterior portion of the nose is connected to the posterior portion of the oral cavity [6, 7]. A wide variety of objects under various circumstances get stuck within the nasal cavity, including food items, tissue paper, beads, toys and rocks, with most not being serious that occur in toddlers and children 1–8 years of age [5, 8]. Many foreign objects are voluntarily inserted into the nose for various reasons. Children should be questioned about this possibility in a kindly to avoid running the risk of denial by the child to avoid punishment and also in order to facilitate [5, 6]. Its discovery and prevent complications. Trauma is another complication of pushing foreign bodies into the nose.

When a person falls or receives a blow in the face, objects might be pushed into the nose and remain there hidden. Typically, foreign bodies in the nose give rise to pain or make it difficult to breathe through the nose or cause nasal bleeding, etc. [6, 7]. This paper reports a case of nasal foreign body in an 8-year-old boy.

### Clinical and paraclinical manifestations

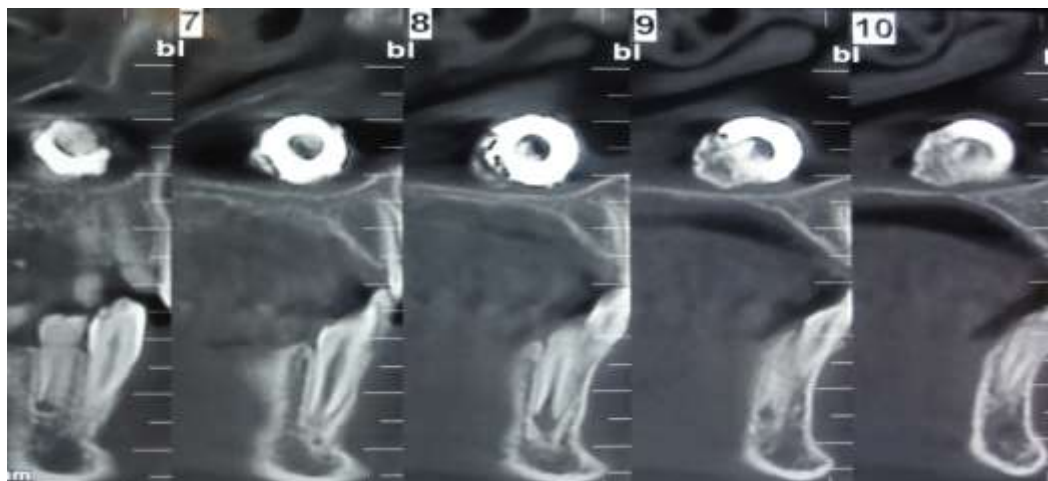
An 8-year-old boy referred to the Department of Orthodontics, Faculty of Dentistry, Tabriz University of Medical Sciences, in April 2014 for the treatment of tooth crowding with a complaint of bad breath. He had been visited by an orthodontist, who had ordered panoramic radiography. Radiography showed an opaque foreign body with metal opacity with normal paranasal sinuses.(figure 2) The orthodontist referred him to an oral and maxillofacial surgeon. He visited the patient and detected the foreign body in the nose. Digital palpation of the anterior palate was negative. Physical examination did not reveal post-nasal drip, tonsillar crypts and coated tongue; however, he had difficulty breathing in his right nostril. Mild gingivitis was noted. The surgeon ordered CBCT, which showed a foreign body resembling a nut on the floor of the nose (figure 3). The parents did not report any history of putting a foreign body in his nose. The patient was prepared for hospitalization for surgery under general anesthesia. The foreign body was accessed via direct rhinoscopy with a nasal speculum and removed after simple dissection of the fibrous tissue around that. Bleeding was minimal and recovery was uneventful. Follow-up examinations showed complete recovery of halitosis within 3 months.



**Fig-1:** An 8-year-old boy with Nasal foreign body



**Fig-2:** In panoramic radiography showed opaque foreign body with metal opacity in the floor of the nose



**Fig-3:** In CBCT foreign body like a screw in the floor of the nose



**Fig-4:** 1×1 cm metal nut was removed from the nose. Note the corrosion of the metal around the foreign body

## DISCUSSION

It is rare for a foreign body to be lodged in the nasal cavity floor. However, foreign bodies in this area are commonly found in patients who have palatal defects or after a penetrating trauma is sustained [8]. In children a nasal foreign body is easily diagnosed in the presence of a unilateral foul-smelling rhinorrhea. However, in case of bilateral rhinorrhea physicians should consider other etiologic factors [9, 10]. Subsequent to a choking incident, the foreign body in this case had been lodged in the nasal cavity of the patient instead of other areas such as the esophagus or laryngopharynx. Foreign bodies are commonly aspirated and ingested by children after they place small items in their mouths. These two different routes give rise to different presentations, including respiratory problems or dysphagia. Nasal impaction of a foreign body might be innocent, with sign and symptoms that prompt the physician to contemplate other more common conditions, including allergic rhinitis or adenoids [11, 12].

The case presented here exhibited unusual aspects, with no symptoms and signs mentioned above; just tooth crowding, bad breath and problem with breathing in the right nostril were manifested. The subject had difficulty breathing and because of that he had mouth breathing. The long duration of presence of the foreign body before diagnosis and removal was surprising: about 6.5 years.

It has been reported that a positive history cannot be obtained in a fourth of child patients aspirating foreign bodies. In approximately 35% of children swallowing foreign bodies, there are no eye-witnesses [13].

In the present case, the parents were not aware of the presence of the foreign and probably the object had accidentally been pushed into the nose by the child when he was a toddler.

The long duration of presence of the foreign body before diagnosis and removal was surprising about 6-7 years! Long standing foreign body had undergone structural changes such as corrosion which is more pronounced on the borders (figure 4).

There were no significant local complications, including epistaxis or otitis media, despite the long-term presence of the foreign body, which might be attributed to the innocent nature of the foreign body involved and its shape that had not interfered with the passage of air through it. A foul odor can be a sign of a foreign body that has been in the nose for a period of time. The object can manifest itself by producing bad breath or a foul odor from the nose, possibly linked to a nasal discharge associated with the foreign object [8].

## DECLARATIONS

Funding: None

Conflict of interest: None

Ethical approval: All the ethical and the humanity considerations were considered and performed according to the Helsinki humanity research declaration. All the humans' experiments were approved by the Ethics Committee of the Tabriz University of Medical Sciences. Informed consent was obtained from prents of child. written consent had been obtained to publish clinical photographs.

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