Bilateral magnetic nasal foreign bodies causing septal perforation

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ABSTRACT

Nasal foreign bodies are common in Otorhinolaryngology especially in children. The common types of foreign bodies encountered include seeds or nuts, plastic toys, beads, papers, cotton, stones and metal pieces. Most nasal foreign bodies can be easily removed in the clinic settings. Some cases may require sedation or anaesthesia to facilitate foreign body removal. Complication is rare. Here, we report a case of nasal septal perforation caused by bilateral magnetic foreign bodies which adhered across the nasal septum.

Keywords: Foreign bodies, otorhinolaryngeal foreign bodies, nasal foreign bodies, nasal septal perforation

INTRODUCTION

Foreign bodies in nose are commonly seen in Otorhinolaryngology, usually in children between two and four years old. [1] Such objects may be classified as organic and inorganic. Inorganic foreign bodies include metal objects, buttons, beads and plastic objects. These may lie undetected for long duration, giving rise to no symptoms and occasionally are found accidentally during routine examination. Organic foreign bodies such as wood, paper, cotton wool or foam rubber produce a local inflammatory reaction which may lead to the formation of granulation tissue. A unilateral nasal discharge is always due to a foreign body unless proven otherwise. Most nasal foreign bodies can be removed in the clinic settings without any complication. Septal perforation is a rare complication of nasal foreign bodies usually caused by button battery in the nose. For this reason, nasal foreign bodies other than batteries are often benign. However, as observed in this case, bilateral magnetic nasal foreign bodies can be considered an exception. The attractive force exert by the opposites magnets on the nasal septum caused pressure necrosis and complete septal perforation. When bilateral magnetic nasal foreign bodies is encountered, we recommend urgent removal of this objects to prevent permanent sequelae. Various methods of nasal foreign bodies removal are discussed in this case report.

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CASE REPORT

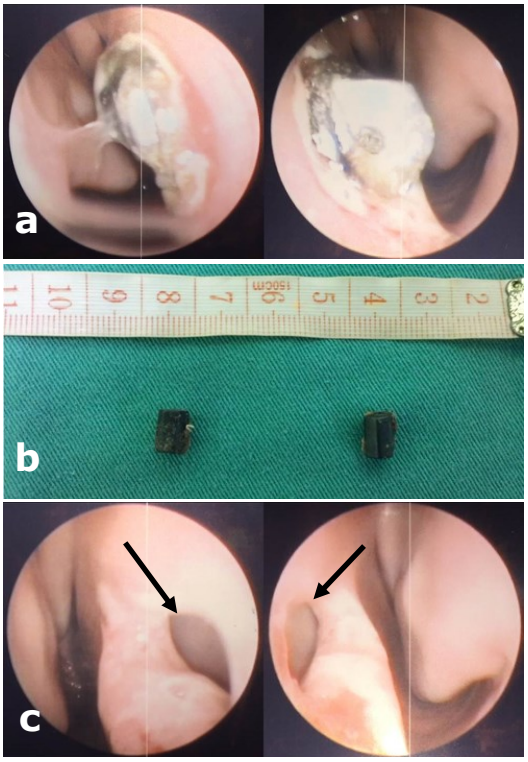
A 10-year-old boy presented to our clinic with history of bilateral foul smelling nasal discharge of two years duration. He also had blood stained nasal discharge intermittently. Otherwise, he has no nasal blockage and other symptoms of allergic rhinitis or rhinosinusitis. He was unable to recall any event of foreign body insertion in the nose.

Few months prior to his visit to our

clinic, the child was previously brought to a primary care doctor, where he was only prescribed a course of oral antibiotic for his rhinitis symptoms.

Anterior rhinoscopy noted blackish foreign bodies covered by crust adherence to the nasal septum on both sides (Figure 1a). Removal of foreign bodies was carried out using a nasal foreign body hook with nasoendosope guidance. Two magnetic foreign bodies which adhered across the nasal septum were removed (Figure 1b) and a small septal perforation was noted (Figure 1c). The child was prescribed with oral amoxicillin-clavulanic acid and advised on nasal hygiene.

On subsequent follow-up, the child was asymptomatic. Repeated nasoendoscope showed a well healed anterior septal perforation with clean edge.



Figs. 1: a) Endoscopic images showing black coloured foreign bodies (FB) crusted with dry secretion and adherent to both side of nasal septum, b) two magnetic foreign bodies removed from both nasal cavities, and c) small anterior septal perforation (arrow) seen after removal of the magnetic foreign bodies.

DISCUSSION

Foreign bodies can be classified as either inorganic or organic. Peas, beans, and nuts are among the more common organic foreign bodies found in nasal passages. Inorganic foreign bodies are typically plastic or metallic objects. Common examples include beads and small parts from toys.

Organic foreign bodies tend to cause more irritation to the nasal mucosa and thus present earlier with symptoms whereas inorganic foreign bodies may lie undetected for long duration, giving rise to no or non-specific symptoms as observed in this case. Unilateral nasal discharge, foul odour, sneezing, epistaxis and pain are all possible presentation of nasal foreign bodies.

Nasal foreign bodies commonly lodged around the floor of the nose just below the inferior turbinate or immediately anterior to the middle turbinate. [2] Nasoendoscope may be required in deep seated foreign body. This is usually performed under sedation or anaesthesia in children. Routine radiograph can be helpful in localising radio-opaque foreign bodies. Although most cases of nasal foreign bodies are benign condition, it can lead to significant morbidity due to mucosal damage or even mortality if the object is dislodged into the airway. Thus, once identified, all nasal foreign bodies should be removed promptly. Other than button battery, magnetic foreign bodies in the nose is also considered an emergency as the outcome is time sensitive, particularly as in this case with two magnets lodged on either side of the septum in both nasal cavity resulting in septal perforation. It has been previously reported that the area of pressure necrosis became apparent around the magnet if the removal of the magnets were delayed by only a few hours. [3]

In case of unilateral nasal magnetic

foreign body, pressure necrosis and perforation of the nasal septum is unlikely to occur because the absence of the attractive force that is required for the adherent of the magnet to the nasal septum. In this case, the magnet, likes any other nasal foreign body tends to lodge on the nasal floor or just anterior to the middle turbinate.

Many techniques can be used to remove nasal foreign bodies. It may be removed with direct visualisation using nasal foreign body hook, forceps or suction catheter. Alternatively, removal of nasal foreign body can be done by passing a Foley catheter or Fogarty biliary catheter past the foreign body, inflating the balloon with 0.5 mL of water and pulling the inflated balloon forwards together with the foreign body thus removing the foreign body. [4, 5] Botma *et al.* suggested the use of a technique called parent kiss as the first line management for removing nasal foreign bodies in young children. [6] In this technique, the parent blows a rapid, soft puff of air into the child's mouth while occluding the contralateral nostril. This technique causes less trauma physically and psychologically to the patient. In case of nasal magnetic foreign bodies, an attractive approach of removal using the metal handle of bayonet forceps has been described. [7]

The first attempt is critical in foreign body removal in children. A child may sit through one attempt at removal but if this fails and especially if the attempt produces bleeding, the child is not likely to endure a second.

Brief epistaxis is not uncommon following removal of nasal foreign body. This usually requires no intervention. There is possibility of second foreign body present, either in the same side or in the opposite one and after removal of the first object the nose must be examined for this.

Follow up is needed to assess for long term complications of nasal foreign bodies like mucosal ulceration, synechiae or septal perforation.

In conclusion, although nasal foreign body seems to be a benign condition, it can lead to significant morbidity due to mucosal damage or even mortality if the object is dislodged into the airway. However, most cases of nasal foreign bodies present with non-specific nasal symptoms. In children particularly if there is a lack of history of foreign bodies' insertion, this may be easily missed. Hence children with persistent recurring rhinitis symptoms despite adequate treatment should be referred to an Otorhinolarygologist for nasoendoscopy.

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