

CASE REPORT

Inferior Turbinate's Foreign Body: Rare but Possible

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ABSTRACT

Foreign body in the nasal cavity is common among paediatric groups. However, it is quite a rare incident among adults, as most of the foreign bodies in adults are in the pharynx or oesophagus. Foreign bodies in the nose are commonly found in the anterior nasal cavity, unless it is accidental or traumatic, where the foreign body usually penetrates the nasal structures. A foreign body embedded inside the inferior turbinate is a rare incident. In our case, a metal bearing like bullet accidentally struck into the patient's inferior turbinate. It requires proper assessment and investigations such as nasoendoscopy, X-ray and CT Scan to precisely locate the site of the embedded foreign body. Removal requires exploration of the inferior turbinate and should be performed in a controlled setting.

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INTRODUCTION

Foreign bodies in the nasal cavity are the most commonly encountered cases in the otorhinolaryngology centre. Most of the cases reported are among children, either accidentally or deliberately inserting the foreign body themselves. Rarely in adults, foreign bodies in the nasal cavity can be due to trauma or accident, or it happened in mentally challenged groups (1). Most of the cases, the foreign body is found in the anterior nasal space, trapped between the inferior turbinate and nasal floor. A few rare cases of foreign bodies in the nose were reported before, but none reported foreign bodies embedded in the inferior turbinate. We report a case that happened during the strict 'movement control order' in the COVID-19 pandemic era, where a foreign body accidentally struck into the patient's inferior turbinate.

CASE REPORT

A 39-year-old gentleman who had no known medical illness. He worked as a lorry driver, but since the COVID-19 pandemic hit, he had to stay at home following the 'movement control order' by the government. He presented with a complaint of an alleged foreign body in the nose. The patient was loading his pellet gun with a metal-bearing bullet. It was accidentally dropped and the trigger was pulled automatically causing the

bullet to strike his left nostril. There were mild left-sided nosebleeds which lasted for minutes and stopped spontaneously. He tried to remove the foreign body but was unsuccessful. He decided to visit our casualty on the next day for further investigation. A skull X-ray revealed a round-shaped radiopaque lesion over the left anterior nasal space. A nasal endoscopic examination revealed a normal mucosa of the nasal cavity without any evidence of trauma or entry point of a foreign body. There was no foreign body seen. Computed tomography (CT) scan of paranasal sinuses showed a round-shaped hyperdense mass embedded in the left anterior part of inferior turbinate mucosa, suggestive of a foreign body (Fig. 1). Other structures were normal and no suspicious or abnormal findings were seen elsewhere.

The foreign body was removed under general anaesthesia. Intraoperative findings showed oedematous left inferior turbinate due to high-impact trauma. There was no evidence of entry and exit points around the suspected site of the foreign body. An incision was made on the anterior surface of the left inferior turbinate. The medial flap was raised, and a metal-bearing-like bullet was immediately identified and removed (Fig. 2 and 3). The cavity was irrigated with normal saline and the flap was replaced. Post-operatively recovery was uneventful.

DISCUSSION

Diagnosis of foreign bodies in the nose is straightforward. Mostly rely on the history and clinical examination. Commonly in paediatric age groups, foreign body insertion is witnessed by parents, siblings or caretakers.

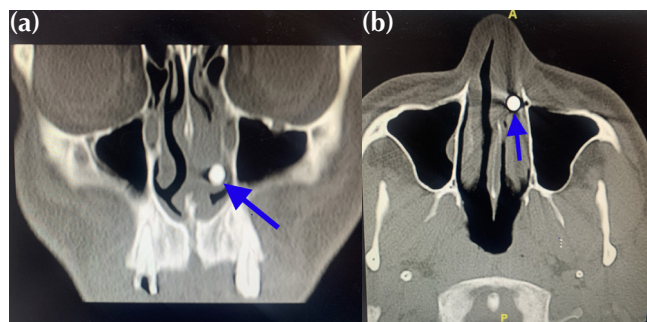


Figure 1: (a) and 1(b) shows round shaped hyperdense foreign body in the inferior turbinate

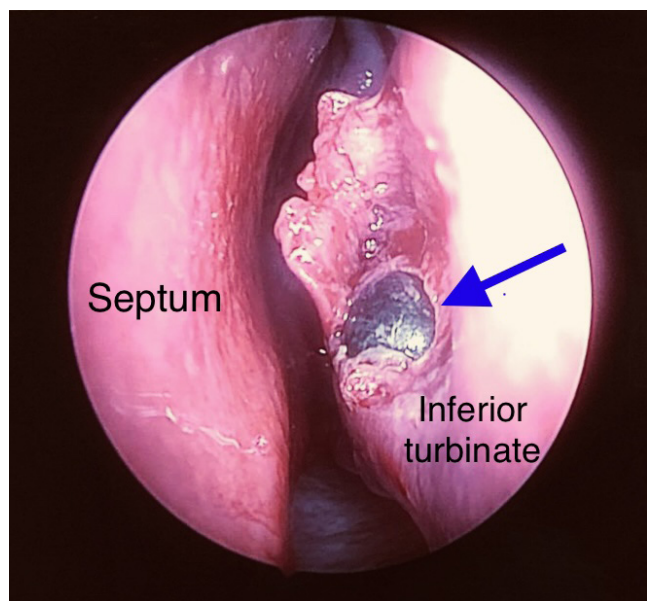


Figure 2: Intraoperative Nasal Endoscopy findings of the left nose. Blue arrow shows foreign body (Pellet gun metallic bullet) embedded in the inferior turbinate during exploration.



Figure 3: : Pellet gun metallic bullet post removal under general anaesthesia. Size around 0.6 cm.

Unilateral nasal blockage, discharge or blood traces are among the common symptoms during presentation (2).

The foreign body in the nose is commonly localised at the anterior nasal space, where it can be visualised by anterior rhinoscopy or nasal endoscopy. In certain cases where the foreign body is not visualised clinically, imaging such as skull X-ray and CT scan should be performed (3). In our case, CT of paranasal sinuses was performed and the location of the foreign body was located accurately; embedded in the inferior turbinate.

Most of the foreign bodies in the nose cases can be dealt with in the outpatient setting. Removal should be performed by trained personnel as the risk of aspiration may happen if the foreign body dislodges posteriorly during manipulation. Various methods and instruments such as forceps, suction or hooks can be used to remove the foreign body, depending on its shape and nature. In certain circumstances such as a foreign body embedded or penetrated in nasal mucosa or structures, or stuck in a certain area unreachable such as an ostiomeatal complex, removal is required to be done under general anaesthesia to prevent complications during the procedure. Kalyanasundram et al. reported in his case where an iron wire was inserted inside the patient’s left nostril and penetrated the septum posteriorly. The child underwent endoscopic removal under general anaesthesia to assess the damage extension and removal of the wire safely (3). In our case, the foreign body was embedded inside the inferior turbinate, and the removal of the foreign body was carried out in the operation theatre. The removal required incision and exploration of the inferior turbinate, where bleeding was expected and such circumstances were best done under a controlled setting. Local anaesthesia infiltration in the inferior turbinate by using 2% lignocaine with 1 in 200,000 adrenaline was helpful to prevent excessive bleeding and aided in visualisation during the procedure (3). Post-operatively, close observation was needed for any potential nosebleeds for at least 24 hours.

Complications of foreign bodies in the nose depend on the type of objects and site of injury. Local complications due to inflammation and pressure necrosis may cause ulceration and erosion of blood vessels where it may cause recurrent epistaxis. In cases where batteries or magnets are stuck in the nasal cavity, removal should be performed immediately as mucosal necrosis and septal perforation may occur within hours. Nasal irrigation and antibiotics should be given post-removal and subsequent follow-ups are mandatory to monitor for any sequelae such as septal perforation, synechiae or stenosis (4). Neglected foreign body in the nose may lead to granulation tissue formation and rhinolith (2). In penetrating traumatic intranasal foreign bodies, complications depend on the site of involvement, such as the orbital cavity, skull base or vertebra. The management will require a multi-disciplinary approach.

Our case highlights the role of CT imaging in localising and evaluating the foreign body. Generally, a simple X-ray is sufficient to detect a radiopaque foreign body. After radiography, CT Scan is usually the next step to evaluate for radiolucent foreign bodies and foreign body-related complications because of its ability to provide volumetric information and detailed spatial resolution of anatomy and pathology (5). In our case, due to its high-impact injury, the foreign body was embedded deep into oedematous mucosa and not able to be visualised endoscopically. X-ray supports the finding but was unable to show the possible location of the foreign body. CT scan helps to localise and evaluate the potential complication. The impact of a CT scan, in this case, is that it helps to guide the surgeon intraoperatively, reduce general anaesthesia time, minimise soft tissue injuries, and reduce hospital staying and acquired infection.

CONCLUSION

Foreign body in the nose is a common encounter and the diagnosis is usually straightforward. In cases where the foreign body is not visualised on clinical examination, imaging such as skull X-ray or CT scan should be performed to properly localise the foreign body. Negligence may lead to complications such as recurrent epistaxis, nasal septal perforation and rhinolith. Removal under general anaesthesia should be considered in cases where complications are expected such as bleeding, or

mucosal tear, and if thorough irrigation or debridement is required.

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