

# INCIDENTAL FINDING OF FOREIGN BODIES DURING NASAL INTUBATION IN A MENTALLY CHALLENGED PATIENT

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## Abstract

Nasal foreign bodies are frequently encountered among children and mentally challenged patients. They are often asymptomatic and may remain undetected for years. We are presenting a case of an incidental finding of foreign bodies during nasal intubation in a mentally challenged patient.

**Key words:** Intubation, nasal, foreign body.

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## Introduction

Nasal foreign bodies are frequently reported among children and mentally challenged patients. This could be explained by accidents, trauma or curiosity of children and mentally retarded patients which leads them to explore their body orifices<sup>1,2</sup>. The foreign bodies may be inert and can remain in the nose for years without mucosal damage<sup>3</sup>. We are presenting a case of an incidental finding of foreign bodies during nasal intubation of a mentally challenged patient posted for dental restoration and extractions under general anesthesia. Written consent from relatives was obtained for publication of this report.

## Case report

A 21 year old female was posted for dental restoration and extractions under general anesthesia. Since the patient was mentally challenged and violent, the dentist was unable to do this procedure at the dental clinic. The patient had a history of epilepsy but was not on any medication. The clinical examination was unremarkable, except that the patient was highly uncooperative. Routine laboratory investigations were within normal limits but dental ortho-pan-tomogram showed badly decayed teeth. The patient's body weight was 45 Kg, heart rate 82/min and noninvasive arterial blood pressure (NIBP) was 108/74 mmHg. She was kept fasting overnight at the hospital. The patient was premedicated with midazolam 7.5 mg tablet orally given half an hour before the expected time of surgery.

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On arrival at the operating theatre the patient was sedated and she was talking to the medical staff in a friendly but incoherent manner. She did not allow the insertion of an intravenous cannula or attachment of routine monitoring. Therefore inhalational induction was started with 8% sevoflurane in a mixture of oxygen and N<sub>2</sub>O in a ratio of 1:1. After loss of consciousness, routine monitoring of ECG, NIBP and pulse oximetry was started. An IV cannula was inserted, fentanyl 50 µg and atracurium 25 mg were given and sevoflurane was reduced to 1%. A nasal vasoconstrictor (Xylometazoline hydrochloride 0.1%) was instilled in both nostrils. After adequate lubrication, the anesthesiologist tried to insert a preformed north-pole, 6.5 endotracheal tube nasally into the left nostril but failed to do so. With gentle manipulation, he was able to pass it through the right nostril with the sensation of a sudden give. Once the anesthesiologist felt that the tip of the tube was in the oro-pharynx, a Macintosh laryngoscope was inserted orally to direct the tip of the tube to the larynx. He noticed some blood in the oro-pharynx, and after aspirating it, he was able to see two shining metallic objects on the posterior pharyngeal wall. After the two objects were removed using Magill forceps, the tip of the endotracheal tube was directed into the larynx. When the correct position of the tube was confirmed with equal bilateral air entry on auscultation, mechanical ventilation was started. The metallic objects were found to be “pop can openers”.

At that time it was decided to start the dental surgery and to call an ENT surgeon for nasal endoscopy to check the nasal cavities for any unrecognized foreign bodies.

At the end of the dental procedure, the ENT surgeon examined the nasal cavities with an endoscope. He was able to remove six more pop can openers from the left nostril and wanted to examine the right nostril where the endotracheal tube was inserted. After adequate oral suction the nasal tube was removed and replaced with same size oral tube. Three more pop can openers were extracted from the right nostril. The nasopharynx and oro-pharynx were thoroughly checked for any possible missed foreign bodies, but nothing more could be detected. Esophagoscopy and examination of both ears were carried out and the findings were negative. The total number of pop can openers

removed from the patient was 11 (Fig. 1). Reversal of muscle relaxant was done by neostigmine 2.5 mg and atropine 0.9 mg, and extubation was carried out in the recovery position after return of reflexes. Paracetamol 0.75 gm IV was given for postoperative analgesia. The relatives were informed about the foreign bodies and were counseled to take a better care of the patient. They denied any history of epistaxis, nasal discharge or foul odour coming from the patient's nose. Patient was kept under observation for 2 hours at the recovery area, and then discharged to the ward.

*Fig. 1*

*All foreign bodies removed from the patient's nose after endoscopic examination.*



## Discussion

Nasal Foreign bodies are uncommon in adults<sup>1</sup>. Some foreign bodies are inert and may remain for years without clinical manifestations<sup>3</sup>. Patients may present to outpatient clinics or accident and emergency department complaining of nasal occlusion, headache, unilateral mucopurulent nasal discharge with foul odour, or epistaxis<sup>4</sup>. If a nasal foreign body is suspected, removal can be attempted in the clinic in cooperative patients. General anesthesia will be an alternative in the case of children, mentally challenged patients or failure of attempted removal in the clinic<sup>4</sup>.

In the present case, the patient was mentally challenged, violent and difficult to approach. There was no previous complaint of any nasal problem. The physical examination did not reveal any nasal discharge or foul odour which might give rise to suspicion of the presence of a foreign body. The dental ortho-pan-tomogram did not show any clues of the presence of a foreign body. However, the X-ray was

done one week before the scheduled time of surgery which is enough time for the patient to insert these foreign bodies in her nose. The hazards of nasal intubation in a patient having an unrecognized nasal foreign body include the unnoticed displacement of the foreign body to the posterior part of the naso-pharynx with the risk of inhalation and choking at the time of recovery. The foreign body might be pushed down the airway with the tube with the risk of partial or total airway obstruction<sup>5,6</sup>. This would greatly endanger the patient's life especially if bronchoscopic facilities are not available in the place. If the foreign body is small, it might be impacted in one of the small bronchioles. This would carry the risk of distal emphysema and super-added infection which would need time postoperatively to manifest and diagnose<sup>7</sup>.

The incidental finding of foreign bodies in this case on the posterior pharyngeal wall raised the doubt

about other unrecognized foreign bodies. An ENT surgeon was consulted to check the nasal cavities and was able to remove more foreign bodies from both nostrils. Examinations of both ears and esophagoscopy were done and were negative.

This case suggests that special attention should be paid during nasal intubation of children or mentally challenged patients for the possibility of foreign bodies even if the patient is free of symptoms. Another alternative would be to request an X-ray of the paranasal sinuses in children and mentally challenged patients-in whom nasal intubation is planned-to exclude the presence of foreign bodies. However, not all patients have foreign bodies and it would be unjustified to expose patients to the X-ray hazards. In addition, not all foreign bodies are radio-opaque<sup>8</sup>. Anesthesiologists' vigilance should remain the cornerstone during management of these cases.

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