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Indian Journal of Clinical Anaesthesia

Journal homepage: [www.ijca.in](http://www.ijca.in)

## Letter to Editor

**Silent intruder: A case of foreign body aspiration in a child complicating previous airway pathology****Avnika Laller<sup>1</sup>, Lalit Gupta<sup>1\*</sup>, Kirti N Saxena<sup>1</sup>, Himanshu Garg<sup>1</sup>**<sup>1</sup>Dept. of Anaesthesia and Critical Care, Maulana Azad Medical College and Lok Nayak Hospital, New Delhi, India

## ARTICLE INFO

## Article history:

Received 04-10-2024

Accepted 11-11-2024

Available online 20-01-2025

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Dear Editor,

Foreign body aspiration is a common pediatric problem and requires prompt diagnosis and management.<sup>1</sup> Manifestations range from acute, life-threatening airway obstruction to persistent pneumonia or recurrent wheezing, sometimes remaining asymptomatic for extended periods.<sup>2,3</sup> We share a case of 3-year-old boy with a history of laryngeal infection who presented with recurrent respiratory distress.

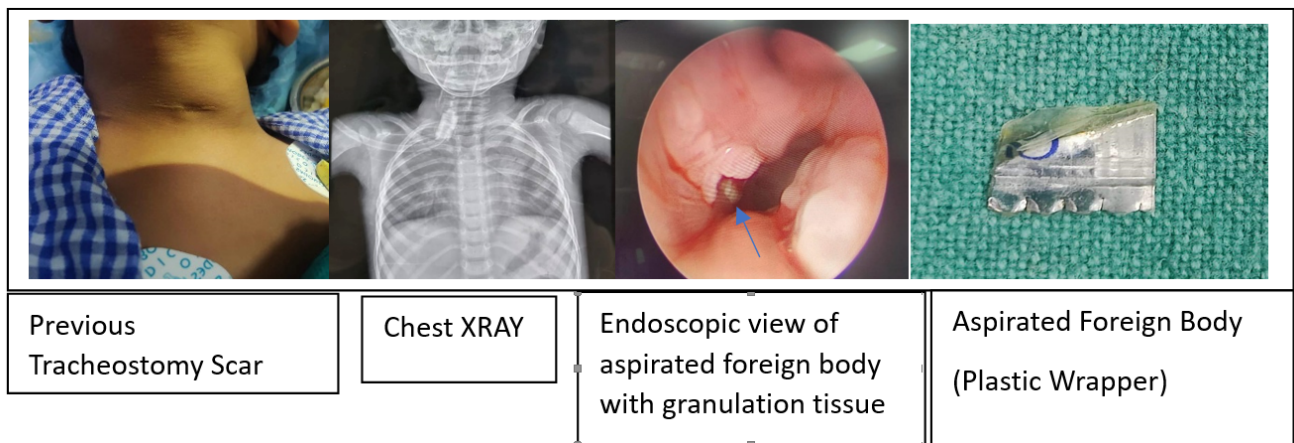
A 3-year-old boy weighing 8 kgs presented with a 20-day history of noisy breathing and 3 days of difficulty in breathing. He had a previous history of laryngeal infection (viral laryngitis) for which he underwent fiberoptic endoscopy and tracheostomy 3 months prior. The tracheostomy was closed after 2 weeks. The child was planned for fiberoptic endoscopic evaluation for cause of recurrent respiratory distress. Pre-operative assessment revealed inspiratory stridor during the current illness. The child was initially sedated with intravenous midazolam at a dose of 0.4 mg (0.05 mg/kg), followed by injection fentanyl 10µg, injection propofol 20mg and maintenance with sevoflurane inhalation at a concentration of 1%, combined with oxygen and nitrous oxide. The patient was preoxygenated with nasal prongs before the procedure and para-oxygenated with nasal prongs throughout the fiberoptic evaluation to ensure continuous oxygenation.

This sedation and ventilation strategy allowed for smooth airway management, maintaining spontaneous respiration while ensuring sufficient depth of anesthesia during the fiberoptic evaluation. This approach allowed for adequate sedation and ventilation while preserving spontaneous breathing, ensuring a safe and controlled airway evaluation. A 0 degree 2.6mm endoscope was introduced in the oral cavity to visualize the endolarynx and a plastic wrapper (0.5cm x1 cm) and overlying granulation tissue were found in the subglottic region and successfully removed (Figure 1). After the removal of foreign body, the patient experienced breath-holding, right-sided chest indrawing, and wheezing at the lung bases. Despite treatment with bronchodilators, his stridor worsened, resulting in progressive desaturation. Due to upper airway obstruction and the inability to breathe spontaneously, a 4 mm cuffed tracheostomy tube was inserted at the previous scar site after administering titrated doses of propofol. Ventilation was then initiated with 100% FiO<sub>2</sub>, restoring spontaneous breathing. The patient was then transferred to the Paediatric Intensive Care Unit (PICU) for postoperative mechanical ventilation and was successfully weaned off later on next day.

This case presents a unique scenario of foreign body aspiration in a child with pre-existing airway pathology. The plastic wrapper found in the subglottic region is an unusual foreign body, differing from more commonly aspirated objects like nuts or toy parts.<sup>4</sup>

\* Corresponding author.

E-mail address: [lalit.doc@gmail.com](mailto:lalit.doc@gmail.com) (L. Gupta).



**Figure 1:** Subglottic area demonstrating the aspirated plastic wrapper and surrounding granulation tissue

Accidental tracheobronchial foreign body aspiration is a condition with one of the highest morbidity and mortality in early childhood. It is most often observed in children between 1 to 3 years old due to incomplete dentition (lack of cusped molars), immature swallowing coordination, tendency to be distracted when eating (e.g., playing or running), and the habit of putting objects into their mouths.<sup>5</sup> Aspirated foreign bodies most commonly lodge in the bronchi. Organic objects, especially nut fragments, account for the majority of aspirated objects. Inorganic objects, such as plastic toy parts and metal pins and coins, account for the rest as compared to the plastic wrapper found in this case which is an unusual foreign body.<sup>6</sup>

Diagnosis of foreign body aspiration (FBA) in children with pre-existing airway conditions poses significant challenges. Clinicians may fail to consider the diagnosis of FBA when a child has no symptoms at presentation and physical examination and chest X-ray findings are normal,<sup>7</sup> because its presentation can be mistaken as asthma or respiratory tract infection, which leads to delayed diagnosis and treatment.<sup>8</sup> In our case the initial presentation of noisy breathing and respiratory difficulty in this patient could have been easily attributed to recurrence of his previous laryngeal infection, potentially leading to a delayed diagnosis. A delayed diagnosis (>24 hours) of FBA is associated with increased incidence of complications, such as dyspnoea, asphyxia and even death, pneumothorax, pulmonary infection, atelectasis, and obstructive emphysema. For this reason, timely diagnosis is critical.<sup>9</sup> Although several anaesthetic techniques are effective for managing children with foreign body aspiration, there is no consensus from the literature as to which technique is optimal. Maintenance of spontaneous ventilation during induction is commonly practiced to minimize the risk of converting a partial proximal obstruction to a complete obstruction.<sup>10</sup> Given the complexity of the airway pathology, fibreoptic evaluation was chosen over rigid bronchoscopy. Rigid bronchoscopy

is traditionally preferred for foreign body removal, though recent literature suggests fibreoptic bronchoscopy as a superior and simpler option, particularly in cases with complex airway anatomy.<sup>11</sup>

The development of respiratory distress and suspected laryngospasm following foreign body removal highlights the potential for complications even after successful intervention. The decision to perform an emergency tracheostomy was life-saving in this scenario, highlighting the importance of having contingency plans and the necessary skills to perform emergent airway procedures in paediatric cases. Prevention remains a crucial aspect in managing FBA. Public health education targeting parents and caregivers should focus on age-appropriate feeding practices, proper supervision during meals and playtime, and creating safe environments for young children.<sup>12</sup>

This case emphasizes the importance of maintaining a high index of suspicion for foreign body aspiration in children with persistent respiratory symptoms, particularly in those with pre-existing airway pathologies. It also highlights the need for a multidisciplinary approach and readiness to manage complications in complex paediatric airway cases.

## 1. Conflict of Interest

None.

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## Author's biography

**Avnika Laller**, PG Student

**Lalit Gupta**, Professor  <https://orcid.org/0000-0001-7291-5961>

**Kirti N Saxena**, Director Professor

**Himanshu Garg**, PG Student  <https://orcid.org/0009-0008-9534-3052>

**Cite this article:** Laller A, Gupta L, Saxena KN, Garg H. Silent intruder: A case of foreign body aspiration in a child complicating previous airway pathology. *Indian J Clin Anaesth* 2025;12(1):166-168.