

Endobronchial Foreign Body: A Case Report

Dr. Maninder Singh Raizada¹, Dr. Latesh Saphiya²

¹Junior Resident, Department of Anesthesia, DR RPGMC Kangra at Tanda

²Junior Resident, Department of Anesthesia, DR RPGMC Kangra at Tanda (Corresponding author)

Abstract: Foreign body aspiration is a common surgical problem in children two to three years of age. Foreign body aspiration most commonly affects young children, with respiratory symptoms such as wheeze and cough after a choking episode. A careful history and clinical examination can identify those children that need additional investigation including bronchoscopy. Its sequelae range from choking and fatal asphyxiation to a chronic forgotten episode that may mimic chronic and recurrent chest infections, with a spectrum of severity in between.

Keywords: Foreign body aspiration, X - ray chest, rigid bronchoscope, Shared airway

1. Introduction

Tracheobronchial foreign body aspirations (FBAs) are a frequent cause of respiratory problems in children and results in acute respiratory distress, chronic lung disease and even death.³ FBA is a life - threatening event associated with a prohibitive morbidity in children below 3 years of age. It is also the commonest cause of accidental death in infancy.⁴ Most frequently, aspirated objects are food, which is involved in 75% of the cases; other organic materials, such as bones, teeth, and plants 7%, nonorganic materials such as metals and plastics 13%, rocks 1%, and toys or parts of toys 1%.⁵ Foreign body can settle in bronchus (83%), trachea (12%), larynx (2 - 9%) or hypopharynx (5%). The airway obstruction may be partial or complete. Although in most cases aspiration of a foreign body is diagnosed in 2 - 3 days of the event, in a few cases the diagnosis may not be made for several weeks or months. Negative imaging studies however do not exclude the presence of foreign body in the airway.

2. Case Report

A 2 year old boy presented at the emergency department of ENT Dr Rajendra Prasad Government Medical College, Kangra (H. P) with complaint of cough and whistling sound on expiration for past one day. According to the statement of the patient's mother, the baby was reasonably well about 1 day back. Then he developed cough which was associated with whistling sound on expiration but not associated with fever or runny nose. For these complaints, she visited to local doctor and diagnosed as a case of bronchopneumonia and referred to our hospital for further management. On examination, his respiratory rate was 44/min, Heart Rate 140/min, oxygen saturation was 90 - 95% on room air, Temp - Normal. On auscultation, breath sound was vesicular and rhonchi were heard over right lung. Other systemic examination reveals no abnormality. Chest X - ray PA view was done which showed a radio opaque foreign body at the level of right main bronchus (Figure 1). The visualized lung

fields were normal. Patient was planned for Emergency Bronchoscopy under general anaesthesia.



Figure 1: Chest X - ray showing foreign body

The rigid ventilating type of bronchoscope with a venturi connection was used (Figure 2). Patient was preoxygenated with 100% oxygen for 5 minutes, and then he received inj glycopyrrolate 10mcg/kg and inj fentanyl 1mcg/kg. Patient induced with inj propofol 3 mg/kg and depth of anesthesia was maintained by propofol infusion 0.25mg/kg/min and intermittent fentanyl boluses of 0.5 - 1mcg/kg. When an adequate oxygen reserve and proper anesthesia depth had been attained a rigid bronchoscope was delivered through the glottis opening. To allow the ventilation the anaesthesia circuit was connected to side arm of bronchoscope. Foreign body screw with bolt was visualized in the right main bronchus and was grasped with the telescopic optical bronchial foreign body forceps and was taken out into the lumen of the bronchoscope; then bronchoscope was taken out along with foreign body (Figure 3). The post - operative period was uneventful and check radiograph was normal and the patient was discharged from the hospital after 1 day of observation.



Figure 2: Intraoperative image



Figure 3: Removed foreign body

3. Discussion

As a general rule, the surgeon must proceed for bronchoscopy as soon as there is a suspicion of FB. Although the procedure should be done as early as possible, the surgeon and anesthetist must not rush into it without careful proper preparation. Aspirated tracheobronchial foreign bodies are more commonly seen in children (91% in children and 59% in the adult group). Metallic foreign bodies as compared to vegetative foreign body are inert and minimally reacting. As a result, these do not produce any immediate signs and symptoms of foreign body unless obstructing the airway significantly. In contrast vegetative foreign bodies are fast reacting, after lodging in tracheo - bronchial tree, these swell up blocking the passage and producing chemical reaction leading to pneumonitis.⁶ No consensus has been reached regarding the superiority of inhaled versus intravenous anaesthesia or spontaneous versus controlled ventilation. The choice is made by dealing anaesthetist according to case presentation to reduce the risk of complication, morbidity and mortality.

Conflict of Interest: None

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