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## Endobronchial Foreign Body : A Case Report

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### ABSTRACT

Foreign body inhalation is commonly seen in children who need to be treated Promptly and immediately otherwise it leads to complications. We here report a Rare case of foreign body, a bean, in right main bronchus.

**KEYWORDS:** rigid bronchoscopy, foreign body, stridor

### INTRODUCTION

Foreign body aspiration is a common problem in children and accounts for an important cause of morbidity and mortality. It's a potentially life threatening event and may also cause chronic lung injury, if not properly managed.

The diagnosis and the treatment of the problem requires awareness and highest degree of suspicion of signs and symptoms of foreign body aspiration.

### CASE REPORT

- A 1 yr old child was brought from a village to our institution, after being referred from multiple hospitals, due to lack of facility and equipment. Patient presented with history of alleged accidental ingestion of a bean followed by sudden onset dry cough and hoarseness of voice, difficulty breathing and stridor.
- Clinical examination revealed signs of respiratory obstruction. Patient was drowsy at the time of admission with HR 150beats/min, Saturation of 94% with 6L/min O<sub>2</sub> delivered via face mask.
- Patient was planned for Rigid Bronchoscopy under general anaesthesia. The Child was monitored continuously by pulse oxymetry and ECG.
- After securing good IV access, patient was preoxygenated for 3 minutes, inj. Atropine sulphate 0.02 mg/kg was administered IV to decrease secretions and to obtund autonomic reflexes during airway instrumentation. Patient was induced with Propofol 2 mg/kg intravenously. For muscle relaxation Succinyl choline 1.5 mg/kg was administered.
- Once the child was apneic surgeon introduced an appropriate size bronchoscope and intermittent positive pressure ventilation was continued through the side port of the bronchoscope. Anaesthesia was maintained with Oxygen and sevoflurane. Succinyl chloride 0.25-0.5 mg/kg was repeated whenever necessary with atropine sulphate 0.02 mg/kg
- The foreign body was lodged in the right bronchus. Retrieval of the foreign body posed difficulties as the bean became soggy and fragmented with the instrumentation. All the fragments were carefully extracted and a bronchoscopy check was done to ensure full clearance of foreign body and impact site for trauma, bleeding and granulation.
- Dexamethasone (0.4 mgkg<sup>-1</sup>) IV, humidified oxygen and bronchodilators were given prophylactically to prevent post operative stridor and distress.
- A chest X-ray was taken at 6 hours post-bronchoscopy to assess lung expansion and exclude a pneumothorax.



## DISCUSSION

- Anaesthesia for rigid bronchoscopy in infants and children is a challenging, since it is often difficult to maintain the airway for adequate ventilation and oxygenation in patients whose pulmonary gas exchange is already reduced.

Tracheobronchial foreign bodies especially in children and infants are fraught with respiratory obstruction and can even lead to death.

. Majority of foreign bodies come to rest in right main bronchus because of being wider than the left but in young children there is a more equal distribution between the bronchi of two sides. The prognosis and outcome depends on multiple factors like age of the patient, presentation, surgical and anaesthetic skills. X-rays are usually not of much help in case of radio translucent foreign body

- Nitrous oxide should be avoided, because of the potential danger of further increasing gas volume and possible rupture of the affected lung. Anaesthesia is deepened promptly and the ventilation is assisted with bag and mask. . In a child with a most stable condition, an intravenous induction with an IV induction agent is used. Patient's consciousness should return quickly with the airway reflexes intact to protect the recently instrumented airway at the end of bronchoscopy.

- Muscle relaxation, can be attained by using succinylcholine by bolus or intermittent doses or non-depolarising relaxants, preferably short acting ones.

- Oxygen and anaesthetic gases can be administered through the side port of the bronchoscope by intermittent ventilation. Ventilation is possible as long as eyepiece is in place, and must be interrupted whenever removal of foreign body or suctioning is performed. Intermittent hyperventilation lowers PaCO<sub>2</sub> and deepens the anaesthesia. High flows of fresh gases are needed to compensate for the leak around the bronchoscope

- On retrieval of foreign body, the bronchoscope is removed from the trachea and bag and mask ventilation with 100 percent oxygen is performed.

- A chest radiograph should be obtained following bronchoscopy to assess lung expansion and to exclude the presence of pneumothorax or mediastinal emphysema from barotraumas.

- Preoperative radiological assessment followed by rapid intervention by skilled bronchoscopy usually results in favourable outcome.

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