

CASE REPORT

Bronchial foreign body: A case report

¹Dr.Raju Naik Azmeera, ²Dr. Sunil, ³Dr. Nandini S, ⁴Dr.Lakhpathi, ⁵Dr.Parushuram

^{1,2,3}Assistant Professor, ⁴Associate Professor, ⁵Professor & HOD, Department of ENT, Kakatiya Medical College/MGM Hospital, Warangal, Telangana, India

Correspondence:

Dr. Raju Naik Azmeera

Assistant Professor, Department of ENT, Kakatiya Medical College/MGM Hospital, Warangal, Telangana, India

ABSTRACT

Exogenous foreign bodies in the tracheo bronchial tree are particularly common. Complications are related to site, size, shape, nature and duration of foreign body. Foreign body aspiration is associated with significant morbidity. Awareness of these possible complications and a high index of suspicion is the key to successful management. We report a case of bronchial foreign body in a 32 year old male patient who had accidentally ingested a metallic foreign body. Foreign body was removed successfully without complications.

Keywords: Foreign body, tracheobronchial, bronchoscopy.

INTRODUCTION

Foreign body aspiration is a common surgical problem in children two to three years of age^(1,2).

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⁽³⁾. complications rate has decreased in the last two decades⁽⁴⁾. Complications depend on site, size, shape, nature and duration of the foreign body especially in the early phase⁽⁵⁾. The majority of fatalities due to foreign body aspiration are caused by round, smooth objects that occlude the airway either supra or infraglottic⁽⁵⁾. On the other hand, smaller objects that pass this site tend to lead to the late complications. As the right bronchus is wider, shorter and more straight than the left one, they are more likely lodged on right. About two third lodge in the main stem bronchus and the remainder in lower branches. Eighty five percent are vegetable in origin; peanuts being most common seeds, beads, pins, coins and dentures are other foreign bodies commonly encountered in the air passages⁽⁶⁾.

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. Many advances have been made since Chevalior Jackson described the technique of removal of foreign bodies from the airway. Our case had interesting presentation of whistling sound on expiration and phonation. There was respiratory distress as the foreign body was non fenestrated.

BACKGROUND

Foreign body aspiration is one of the life threatening conditions seen both in the adult and pediatric population with most cases occurring within the first 3 years of life. It can result in serious complications or even lead to the death of the patient. Bronchoscopic removal has

been described as the management of choice. Expectoration could happen, though it is extremely rare.

CASE REPORT

A 32 year old male patient presented with complaint of accidental ingestion of metallic foreign body one day back.

Patient has signs of respiratory distress. On examination air entry was decreased on left side and auscultated on expiration.

Chest X- ray PA view was done which showed a radio opaque foreign body at the level of right main bronchus.

Bronchoscopy was done under general anaesthesia. The rigid ventilating type of bronchoscope with a venturi connection was used. Foreign body using metallic tracheostomy tube (outer tube) 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 and then bronchoscope was taken out along with foreign body. The post-operative period was uneventful and check radiograph was normal and the patient was discharged.



Fig 1: chest x-ray showing metallic foreign body in the right bronchus.



Fig 2: Metallic foreign body

DISCUSSION

As a general rule the surgeon must proceed for bronchoscopy as soon as there is a suspicion of foreign body. Although the procedure should be done as early as possible, the endoscopist must not rush into it without careful preparation. Holinger has rightly said “ if two hours are spent in preparation, the safe endoscopy procedure may take 2 minutes. But if only two

minutes are taken for preparation the endoscopist may find himself attempting make- shift ineffective procedure for the next two hours⁽⁷⁾.

Foreign bodies in tracheobronchial tree can present with varied symptomatology. Not very often the history is contributory and diagnosis depends on high index of clinical suspicion, clinical signs and radiological findings. Aspirated trachea bronchial foreign bodies are 59% in the adult group. In the children group, 74% of the aspirated foreign bodies are found in proximal airways (larynx, trachea, main bronchus), probably due to smaller bronchial tree diameter in this age group. In adult group, only 43% are lodged in the proximal airways⁽⁸⁾.

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 trachea-bronchial tree, these swell up blocking the passage and producing chemical reaction leading to pneumonitis⁽⁹⁾.

Radio opaque foreign body may be seen in plain X- ray of the chest in only 9% cases. Hence, CT scan is a better modality in these cases. Fluoroscopy may be used to demonstrate air trapping in the lung. Alternate to this technique is assisted expiratory film consisting of chest X- ray taken while gentle pressure is applied to the epigastrium⁽¹⁰⁾.

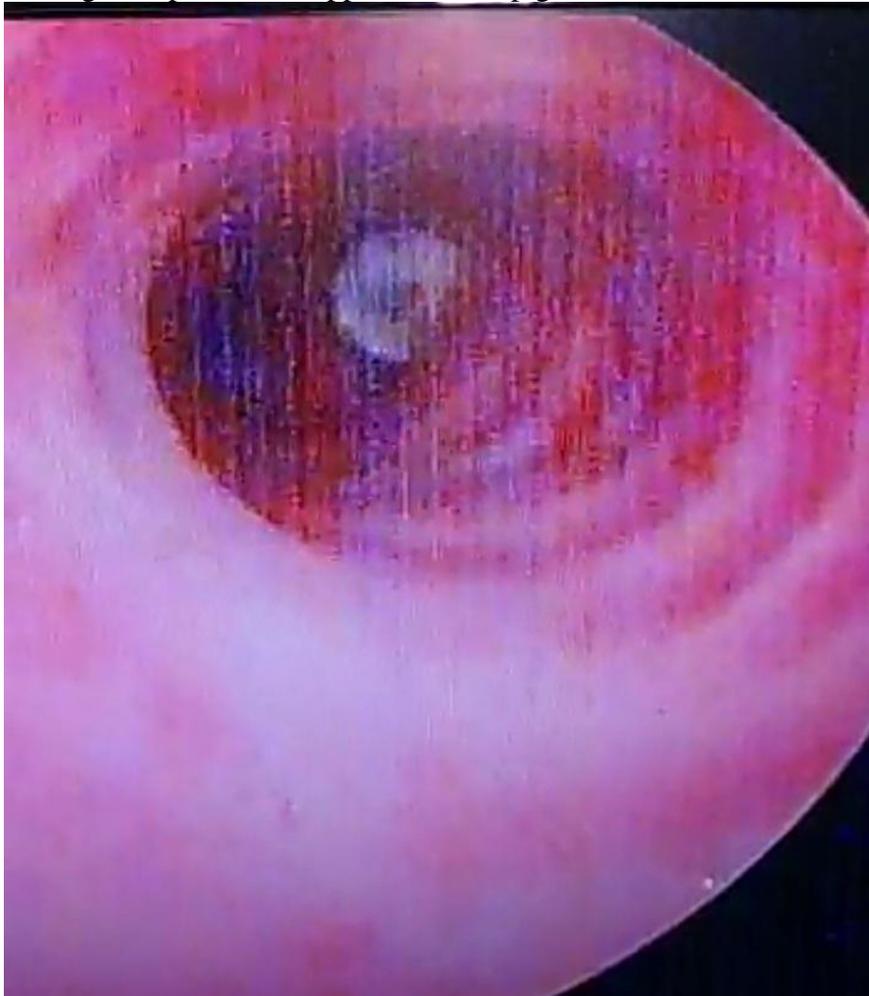


Fig 3: Endoscopic examination showing metallic foreign body in the right bronchus.

In most cases, bronchoscopic removal is the treatment of choice. The commonest complication of foreign body that pass the central air way passages and go into either the right or left main bronchus or their primary subdivisions is usually chronic obstructive

symptoms mimicking bronchial asthma, and persistent bronchitis. They may be retained for a various period of time leading to bronchiectasis and hemoptysis^(12,13).

Difficulties arising in removing these foreign bodies are related to technical factors in grasping, or because of inflammatory changes. Making their visualization difficult. Some of these are coughed up spontaneously before or after bronchoscopy. If the foreign body is retained, it may cause complications like impaction, recurrent pneumonia, lung abscess, bronchiectasis, infiltrations and effusion⁽⁶⁾

Different types of foreign bodies have been reported, with organic material reaching 60% to 81% of cases (i.e., popcorns, vegetables, nuts, and sunflower seeds). Peanut inhalation is the most common reported organic foreign body aspiration in North America. The non-organic foreign bodies include toy particles, pen, tops, and pins are less commonly reported, ranging from 6.5% to 25% of cases.

REFERENCES

1. American academy of pediatrics, committee on accident & poison prevention. *pediatrics* 1988; 81: 740-742.
2. Center for health statistics 1992; Hyattsville, MD: us Dept. of health services, March 1995, Monthly vital statistics report, vol. 8 (suppl).
3. Mu L, He P, Sun D. Inhalation of foreign bodies in Chinese children: A review of 400 cases. *Laryngoscope* 1991;101: 657-660.
4. Andrew F.Inglis JR, David V. Wagner. Lower complication rate associated with bronchial foreign bodies over the last 20 years. *Ann Otol Rhinol Laryngol* 1992; 101: 61-66.
5. The clinical spectrum of foreign body aspiration in children : Mohammad M. Saleem. *International Paediatrics*: Vol-19, No-1,2004.
6. Inhaled foreign body: sujata patnaik, Ramasubba Raidu; *Asian J. of Ear, Nose & Throat*: vol-2,no-3,july-sep2004.
7. Management of tracheobronchial foreign bodies - A retrospective analysis J. Srppnath, vinay mahendrakar : *Ind. J. of Otol and head and neck surgery* Vol.54 ,No. 2, April - June 2002
8. Baharloo F, et al. Tracheobronchial foreign bodies : presentation and management in children and adults. *Chest* 1999 may; 115: 1357- 1362.
9. Narwani S, Bora MK, Samdhani S, Sharma MP, Bapna AS Foreign body in bronchus: An unusual presentation. *Indian J Otolaryngol Head Neck Surg* 2005; 57: 161- 162.
10. Alan S. the older pediatric chest: *Diagnostic Radiology* 4th edition, Grainger RG, Allison DJ, Adam A and Dixon AK, 2001: 651.
11. Mu L, He P, Sun D. Inhalation of foreign bodies in Chinese children : A review of 400 cases. *Laryngoscope* 1991; 101: 657-660.
12. Pymen C. Inhaled foreign bodies in childhood. A review of 230 cases. *Med J of Austria* 1971;9: 62-68.