## **Neglected Bronchial Foreign Body in an Adult**

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### Abstract

Foreign body inhalation is a clinical emergency requiring prompt action to ensure speedy recovery and minimize the complications. This is common in children rather than in adults. We hereby report a case of a neglected foreign body which remained in the bronchus of an adult for more than 10 months before the diagnosis was made and appropriate treatment was given.

### Key words

Bronchial, Foreign Body, Bronchoscopy

### Introduction

Aspirated foreign bodies in the airway continue to present challenges to the otorhinolaryngologists. Inhalation of foreign bodies is seen more commonly in paediatric age group and nearly 94% of them occur in infant and children. The highest incidence occurs between the age of 1-3 years that is 77%(1) and it is rare in adults. The major issues involve the timely and accurate diagnosis for speedy and safe removal of foreign bodies. The accurate diagnosis may be missed even by experienced clinician because often the initial choking episode is not witnessed and also the delayed symptoms may mimic other common conditions like asthma, recurrent pneumonia, upper respiratory infection and persistent cough. Foreign body aspiration is a condition with a wide spectrum of clinical presentation, patients often present in the emergency with acute onset respiratory distress and occasionally in a cyanosed state. At the other end of the spectrum is the patient who walks in with nothing more than a history of aspiration and on investigation is found to have a foreign body in his bronchus. The symptoms and signs produced depend upon the nature, size, location and time since lodgment of the foreign body in the tracheobronchial tree. A large foreign body occluding the upper airway may lead to sudden death whereas a small foreign body lodged in the bronchial tree may present with less severe symptoms. Early diagnosis and treatment are imperative to prevent mortality as well as complications.

### **Case Report**

A 48 year's old male, bus driver by occupation reported in the ENT OPD of Himalayan Institute of Medical Sciences with a history of inhalation of foreign body 10 months back. According to the patient he was repairing his ceiling fan while standing on a table and keeping the washer in his mouth and suddenly aspirated it. After that he suddenly developed bouts of coughing, chocking sensation and breathlessness for few hours. Patient consulted local practitioner thrice in 10 months. Who advised him medical treatment and reassurance with minimal relief. Patient persisted with low grade fever and productive cough. Patient reconsulted practitioner who advised him antitubercular treatment which he took for three months without relief, before the patient reported to us. On basis of the history an x-ray of chest

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was done and a radio-paque foreign body in right bronchus was detected with lung parenchyma as normal. (Figure-1).



# Fig. 1. X-ray chest (P.A view) Showing foreign body in right bronchus.

Haemotological investigations showed increase total leucocyte count with raised neutrophil count. On examination of the patient he had increased body temperature no respiratory distress. Auscultation of chest showed decreased breath sounds and air entry on the right side with occasional coarse ronchi in the right lower region of the chest. Patient was taken up for rigid bronchoscopy and foreign body was removed under general anaesthesia. A metallic circular foreign body with central hole was removed from right main bronchus. (Figure-2) The hole allowed adequate air entry into the lung tissue. There were minimal swelling and secretions at the site adjacent to the foreign body. Post operatively patient was kept on antibiotics and steroids for five days. Recovery was speedy and uneventful. Repeat x-ray chest was normal.



Fig. 2. Removed foreign body (A metallic washer).



## Discussion

Foreign body aspiration is an accident with the highest incidence, morbidity and mortality in childhood. Children especially between one and three years of age appear to be more vulnerable to accidental aspiration (2,3). This age group is particularly vulnerable because it lacks adequate dentition and has immature swallowing coordination (4). Additionally these children explore their world by introducing objects into their mouth. It is rare to have an adult with neglected foreign body in bronchus as in our case. An infinite variety of foreign bodies may be inhaled and may present a different diagnostic problem. The severity of the signs and symptoms depend on the site, size, composition and the period for which the foreign body has been lodged. Diagnosis and removal of an inhaled foreign body are required as quickly as possible in order to prevent respiratory sequelae (5). The rapid fatigue of the cough reflex after the acute chocking episode due to adaptation of the surface sensory receptors is followed by an asymptomatic phase that tends to create a false sense of security, parental negligence, misdiagnosis, lack of suspicions or even undue procrastination on the part of fellow professionals contributes significantly to the delay in reaching the hospital. Inhaled foreign bodies are mostly bronchial and right site is more commonly involved as compared to the left in adult. The foreign bodies encountered in the airway are commonly organic (67%) compared to inorganic (33%) (6). Organic foreign bodies in the airway are much more serious as compared to metallic foreign bodies due to the severe lipoid reaction caused by them which can result in chemical bronchitis, with fever and chest infections. Amongst inorganic foreign bodies those with sharp edges cause more symptoms as compared to those with smooth surface. Diagnostic imaging plays a variable role in identifying airways foreign bodies. Most of the foreign bodies are not radiopaque and small foreign bodies may cause symptoms but no radiographic signs. Plain films may be inadequate to document a non radioopaque foreign body unless they are obtained in the expiratory phase. On expiration, air trapping, obstructive emphysema and



mediastinal shift may be demonstrated as evidence of foreign body.

The ventilating rigid bronchoscope remains the gold standard for the safe removal of tracheo-bronchial foreign bodies under general anaesthesia. Proper communication between the surgeon and anaesthesiologist is a must; the credit of first bronchoscopic removal of a foreign body from the bronchial tree goes to Gustav Killian (Father of Bronchoscopy) in 1897. The familiarity and experienced of the surgeon with wide variety of available foreign body extraction forceps and selection of age appropriate equipment facilitates safe removal with decreases post-instrumentation edema. In the case of retained foreign bodies, the possibilities of granulation tissue and post-obstruction infection exist. Removal ®may be hampered by poor visualization associated with swelling, secretions, granulations and bleeding. These added challenges further reinforce the need for earlier interventions.

### Conclusion

Tracheo-bronchial foreign bodies constitute a serious and potentially fatal situation. The diagnostic triad of a bronchial foreign body is cough, wheezing and decreased breath sounds on the affected side. Cohen has strongly advocated that all patients presenting with positive history of foreign body inhalation, even when the physical finding and radiological examinations is negative must be subjected to endoscopic evaluation (7). this unusual case suggests a need to create an awareness regarding this potentially avoidable situation at the level of the family physicians and general practitioners. They need to do their part by referring all patients with positive history of foreign bodies inhalation to higher centers for the required endoscopic examinations.

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