

## IATROGENIC FOREIGN BODY FROM LEFT TO RIGHT BRONCHUS: THE LESSONS LEARNT

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### ABSTRACT

Iatrogenic foreign body in the airway is a known complication of medical treatment that may occur in various clinical settings. The foreign material can be from extraluminal or intraluminal source. The symptoms may manifest acutely or months and years after treatment. Our case highlighted the possibility of the dislodgement of the foreign body during retrieval from the initial site, and the importance of prompt identification and management.

**KEYWORDS:** Foreign body, Iatrogenic, Bronchus.

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### CASE SUMMARY

A 22 year old Malay female was referred from a hospital with history of chronic cough for one year duration. The patient was investigated thoroughly in the centre and the diagnosis of

left lung lobe fibrosis was made. Appropriate treatment was commenced until few months later she developed worsening of shortness of breath. Examination was consistent with left lung collapse. Flexible bronchoscopy was done and a granulation tissue was found obstructing the left main bronchus. Biopsy of the mass was performed. Histopathological examination revealed a non-specific non-neoplastic lesion. Bronchial lavage obtained showed no malignant cells seen.

Upon arrival to our hospital, history of loss of appetite and loss of weight of 7kg were documented. The shortness of breath was associated with chest pain. She had decreased effort tolerance. Apart from that, there was no contact with tuberculosis patient or similar illness in the past. Chest X-ray showed total collapse of the left lung lobe (Figure-1). Computed tomography scan was performed. The left lung was totally collapsed. Bronchiectatic changes were also seen in the lung parenchyma. A soft-tissue density mass was noted at the left main bronchus. The length was about 2 cm. It totally occluded the lumen.

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She underwent bronchoscopy under general anaesthesia. Rigid ventilating bronchoscope was used. The mass was seen in the left main bronchus. It was a broad-based mass totally blocking the lumen. Attempt to remove with forceps failed as the mass was very friable. A Dormia basket was used and the mass was almost completely grasped. The Dormia basket and the bronchoscope were slowly withdrawn from the airway.

To our surprise, the mass did not come out together with the basket and scope. At the same time, the patient developed cyanosis and monitor showed oxygen desaturation. She was reintubated with endotracheal tube. Manual ambu-bagging was done but failed to ventilate the patient. Saturation only slightly improved. Flexible bronchoscope was reintroduced through the ETT and we found out that the mass was dislodged in the right main bronchus. Removal was done successfully (Figure-2).

The patient was nursed in the Intensive Care Unit (ICU) for one day. Serial chest x-rays were performed showed improvement at left lung lobe expansion. She was returned to the normal ward and continued with chest physiotherapy. After being nursed in the general ward for five days, she was discharged home.

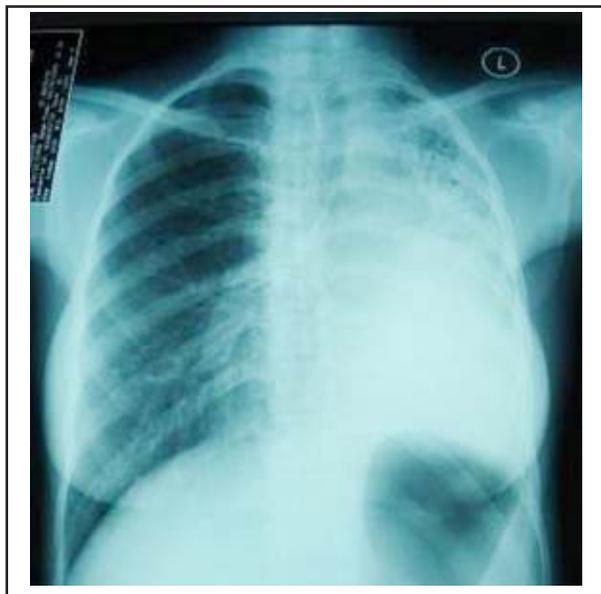


Fig-I: Chest radiograph shows total collapse of the left lung lobe.

## DISCUSSION

Foreign body airway is a life threatening condition. It can lead to asphyxia and death if common pathway ie larynx and trachea is involved. The more distal the foreign body is, the less severe the symptoms are. When this occurs, symptoms of chronic cough and wheezing may mimic an asthma-like condition.<sup>1</sup>

In an aspirated foreign body, the history of choking is usually pathognomonic. The symptoms can also be mild and unnoticed and the diagnosis could be a dilemma especially in adults, as it is an infrequent occurrence in this age group.<sup>2</sup> The history may be gradual in onset if the obstructing lesion is a slow growing mass.

Our case illustrated the chronicity of the symptom that may suggest that the mass was in the left main bronchus for one year duration. The patient had the history of chronic cough which has led to multiple diagnosis made. The chronicity of the symptom may reflect the mass was a slow growing in nature, or the foreign body material which was initially aspirated caused tissue reaction over the period of one year duration. Besides that, few cases of endobronchial migration have been reported mainly the suture material or metallic clips after thoracic surgery.<sup>3-6</sup> In our case, although it was not purely a migrated foreign body, the dislodgement during retrieval has made it to



Fig-II: Granulation tissue removed by using flexible bronchoscope.

cause a more acute and life threatening condition as the new site was the normal functioning lobe before the procedure.

Foreign body airway must be removed as soon as possible in view of airway compromised and ability to initiate endobronchial tissue reaction. A retained or neglected foreign body could induce severe granulation tissue to occur and made later removal more difficult. A case of nail embedded in granulation tissue was reported. In this case, tranilast (n-[3,4-dimethoxycinnamoyl] anthranilic acid) and corticosteroid were administered to diminish the granulation tissue and mucosal edema. Tranilast acts by suppressing collagen synthesis by fibroblasts in keloid and hypertrophic scars.<sup>7</sup>

Airway foreign body usually is safely removed with rigid bronchoscopy, although flexible bronchoscope can also be used. If flexible bronchoscopy is attempted, it is imperative that the bronchoscopist is familiar with rigid bronchoscopy and has the equipment immediately available should danger to the airway occur.<sup>1</sup>

Using alternative tool such as Dormia basket may impose technical difficulty and complications if the surgeon is not familiar with the

instrument. In this case, the dislodgement of the foreign body into another bronchus was most probably due to improper technique used to handle Dormia basket. Having said that, the surgeon should be well versed with other options of securing airway for example reinsertion of rigid bronchoscope to establish the airway in case of any compromise occurs.

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