Tablet in the Bronchus - An Unusual Cause for Persistent Cough in a 64 Year Old Gentleman

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Abstract

Foreign body aspiration in adults without any background risk factors is uncommon. We report a 64 year gentleman evaluated for persistent cough incidentally detected to have a foreign body (FB) in the left main bronchus (LMB), which after removal by rigid bronchoscopy turned out to be a tablet. This demonstrates the possible risk of silent aspiration of solid foreign bodies and in our case presenting as a persistent cough after months of aspiration. Bronchoscopic evaluation should be carried out in the differential diagnosis of persistent or recurrent pulmonary symptoms.

Introduction

Although foreign body (FB) aspiration is frequently suspected in children with acute or recurrent respiratory symptoms, it is rarely considered in adults with sub-acute or chronic respiratory symptoms, unless a clear history of an aspiration event is obtained. Aspiration of large foreign bodies or food particles can obstruct the trachea to cause immediate asphyxiation and death. However smaller foreign bodies pass distally after aspiration and cause bronchial obstruction. Here we report a case of incidentally detected FB, a tablet in a patient presenting with history of persistent cough. In 1897, Killian¹ reported the first case of bronchoscopic removal of a bony FB in the bronchus.

Case History

A 64 year old non-smoker, retired school teacher from Barpeta Dist in Assam presented to the out-patient department with history of persistent dry cough for the past two months. He denied any history of breathlessness, wheeze, haemoptysis, chest pain. He chewed tobacco for the past 50 years and had no significant past medical history, except for a history suggestive of gastro-oesophageal reflux disease (GORD).

On examination he was comfortable at rest without any evidence of respiratory distress. His temperature, pulse and respiratory rate were within normal limits. The only significant clinical finding was presence of scattered wheeze on auscultation.

Chest radiograph (Figure 1) was unremarkable, except for hyperinflated lung fields and a small nodule in the left upper zone. His blood investigations revealed Hemoglobin – 8.1 gm%, packed cell volume – 25%, total WBC count – 4.5 10³ / mm³ and an ESR – 89 mm/hr. Computed tomography (CT) thorax done revealed the presence of a radiodense round lesion at the division of LMB, partially occluding it (Figures 2, 3). Also there was a left upper lobe nodule and hyperinflated lung fields. Hence flexible bronchoscopic examination was done, which showed a white hard mass lodged at the level of bifurcation of LMB partially occluding it, surrounded by erythematous mucosa (Figure 4). Gram’s stain of the bronchial wall did not show any bacteria or fungi, AFB smear was negative and cytology was negative for malignant cells. Retrospectively when the patient was asked about any history of aspiration, the patient volunteered a history of being prescribed a tablet for pain abdomen about two months back, had a short duration of cough while swallowing the tablet and had a foreign body sensation in the throat. This sensation settled in a few days.

As the tablet was embedded at the division of left upper lobe and lingular take off, there was a possibility of tablet disintegration with dormia basket or FB forceps.
Hence the following day after adequate preparation under general anaesthesia, endotracheal intubation was done. Flexible bronchoscope was passed through endotracheal tube to confirm the position of the FB. Then rigid bronchoscope was introduced with single lung jet ventilation, the FB was visualised (Figure 4) and held using foreign body forceps. As the FB was too large to be extracted through the scope and to avoid fragmentation while manoeuvring, the scope with the foreign body forceps and the FB was extracted as a whole carefully. The FB removed was a tablet which was round, white, hard, intact and there was no disintegration of the tablet (Figure 5).

Laboratory analysis of the tablet was not done. With the history it could be an analgesic or an antacid. Post procedure the patient was stable. The cough reduced to a certain extent after removal of the tablet.

**Discussion**

Foreign body aspiration in adults is more common in the setting of advanced age, underlying neurological disorder, poor dentition, alcohol consumption and sedative use where the normal laryngeal reflex which prevents aspiration is impaired. In absence of any of these, children are more prone for aspiration than adults. But our patient did not have any such predisposing factors and it was not an acute presentation. The clinical and radiological manifestation of FB aspiration depends on the size of the aspirated material. In our case the chest radiograph did not show any evidence of FB aspiration. Chest radiography of FB aspirations manifests with air trapping, atelectasis, bronchiectasis or pneumonia distal to the obstruction in case of smaller foreign bodies. Chest radiographs show a radio opaque FB only in 5 – 15% of the cases. Location of aspirated FB is most common in right lower lobe.
(RLL) (28%), about 17% are found in LMB. In our case CT chest incidentally detected the presence of a round radiodense opacity lodged in the LMB which turned out to be a tablet on bronchoscopic evaluation. Bronchoscopy is the gold standard for identification and localisation of FB in the airways. Rigid bronchoscopy is usually performed for foreign body removal, but flexible bronchoscopy is also used in adults. The advantages of rigid bronchoscopy are a wide area of operation, efficient airway control during the process, and optimal ventilation for the patient, which lead to quick and reliable foreign body removal. Examples of tablet aspiration are found as case reports most common being ferrous sulphate, others include calcium, tetracycline, ciprofloxacin and diclofenac. In our case we could not get pharmacological analysis done on the tablet isolated from LMB. Depending on the content these toxic foreign bodies manifest with a variety of effects ranging from bronchial necrosis, haemoptysis, bronchiectasis to fatal pneumonia and death. The aspiration of plastic or enteric coated capsules seems to cause fewer complications, which may be due to the lack of proteolytic enzymes in the bronchus to dissolve the capsule.

This case demonstrates the possible risk of silent aspiration of solid foreign bodies and in our case presenting as a persistent cough after months of aspiration. Bronchosscopic evaluation should be carried out in the differential diagnosis of persistent or recurrent pulmonary symptoms. Time to diagnose foreign bodies in adults has been longer when compared to children. Occult foreign body in adults may remain undetected for years, leading to erroneous diagnosis of asthma, bronchitis or pneumonia.

References