CASE REPORT

# Foreign body aspiration presenting as a chronic lung disease: a unique finding in an elderly patient

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## Abstract

Foreign body aspiration is a serious clinical manifestation in the elderly and has a significant potential to cause life-endangering harm. In this unique report, we highlight the case of a seventy year old conscious male, who reported with complaints of chronic cough initially diagnosed as chronic bronchitis; however, on radiological examination, the infectious nidus was identified as a 5 cm long metallic nail in the right lower lung.

**Keywords:** Chronic Cough; Geriatrics; Foreign Body; Aspiration; Thoracic Surgery.

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## Introduction

Foreign body aspiration (FBA) is a serious clinical pathology in the paediatric population and is one of the leading causes of accidental death in children younger than four years.[1] However, it can occur in adults and cause significant morbidities, and end up as a life threatening incident.[2] In about ten percent of adults with FBA, the incident initially goes unnoticed and is diagnosed at a later stage.[3] This is specially true in the elderly cohort, where the occurrence is mostly attributed to altered mental status.[4] Foreign objects may be extracted through flexible or rigid bronchoscopy; however flexible bronchoscopy possesses the added benefit of broadening intervention into distal and peripheral airways[3]. The presentation and management of our patient highlights an uncommon presentation of a large aspirated foreign body and its advanced surgical intervention.

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## Case Presentation

The case of a 70-year-old male, retired government official with no major comorbidities, history of smoking, and a history of altered mental status presented to the outpatient clinic of the Aga Khan University Hospital, Karachi in August 2020, with primary complaints of persistent chronic cough with greenish sputum for the past two months. During these two months, he had received futile treatment for bronchitis with multiple courses of antibiotics. On examination, his breath sounds were normal bilaterally. Haematological workup demonstrated no signs of an active inflammatory response. Chest radiograph showed a thin, five centimeter long foreign body, lodged in the lower side of right lung (Figure 1 A&B).

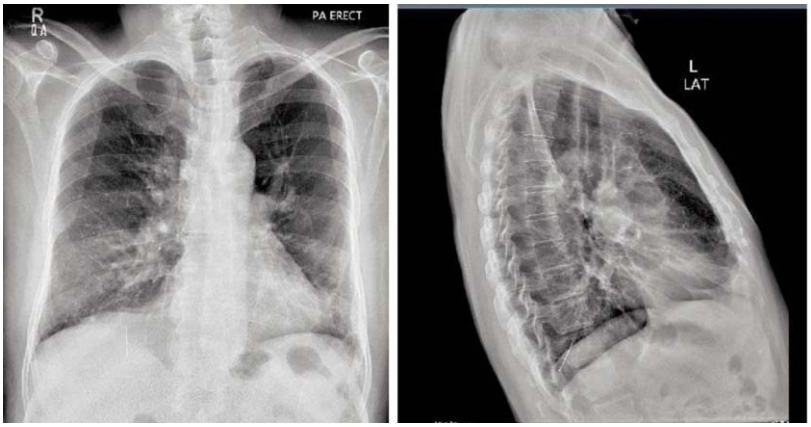


**Figure-1 (A-B):** Chest Radiograph Showing Foreign Body Located In The Right Lower Lung

The computed tomography scan re-demonstrated the presence of this foreign body in the basal segment of the right lower lobe. The patient denied any recollection of a foreign body aspiration and was shocked on the presented diagnosis, but confirmed that symptoms suddenly started two months ago and were persistent. Due to the distal and deep position of the nail, the patient was planned for a flexible bronchoscopy procedure to retract the object. However, the procedure failed due to the object's adherence to the surrounding lung parenchyma. As attempts to extract the nail did not succeed, the patient was advised surgical resection for removal of the foreign body. Due to a high risk of infection, operative bleed, and haemoptysis the surgical

**Figure-2:** The Removed Foreign Object- A Five Centimeter Long Nail

approach was preferred. Right sided thoracotomy was performed in August 2020, 10 days after the initial presentation, The foreign body could be palpated intraoperatively, in the posterior basilar section of the right lower lobe. On identification of the foreign body, an incision was made on the overlying lung tissue, and a five-centimetre nail was retracted. (Figure 2). Postoperatively and on subsequent follow-up visits, the patient developed no surgical complications. The patient's cough subsided in a month with mild and rare coughing on post-operative day 15 and no complaints of coughing on the 1-month follow up. The patient was prescribed tramadol for temporary pain management and his family was encouraged to assist with regular chest physiotherapy. The patient was discharged after six days and all subsequent follow-ups at[1,3], and 6 months were unremarkable for any post-operative complications and subsequent radiological evaluations which showed no additional changes. Outpatient follow up focused on identifying the reasons for aspiration, and counselling the family to provide adequate social and environmental safety for prevention of a future event.

## Discussion

Foreign body aspiration is an uncommon, yet life-threatening event, and accounts for 0.16-0.33% of adult bronchoscopic procedures.[3] In adults, FBA is commonly associated with an impaired consciousness and neural or mechanical swallowing difficulties. Symptoms associated with FBA may range from acute asphyxiation with partial or complete airway obstruction to more indolent symptoms such as dyspnoea, cough, choking, or fever[5]. This explains how a foreign body can, possibly, mimic more chronic diseases such as COPD, asthma, and obstructive pneumonia; particularly, when the initial event goes unnoticed- as in the case of elderly patients with altered mental status.

Radiographs directly identify foreign bodies in only twenty five percent of patients, since only a select few such as coins, nails, teeth, or dental appliances are radiopaque. CT scans are more sensitive for the identification of FBs and are considered a gold standard in imaging studies where a FB aspiration is suspected[3].

Adult FBA patients presenting with acute respiratory distress who recall the episode of aspiration are easy to diagnose and treat in a timely manner. Masked FBA presenting with symptoms of typical chronic lung disease offers challenge to a physician. This is made worse by the fact, that the patient in this report had no recall of the event or cause of aspiration. The obvious lack of patient's self-awareness to a crucial diagnostic lead resulted in a lower ranking of this differential. Consequently, time to proper diagnosis of FBA in such cases has been shown to be longer and more likely to lead to complications[1].

## Conclusion

We have described a case of an aspiration of a large 5 cm nail that was unbeknown to the patient. Rigid bronchoscopy and thoracotomy were necessary to extract the nail and relieve the patient of his symptoms. FBA though not a common differential in the elderly patients, presenting with chronic cough, should remain a high tier differential diagnosis for chronic pulmonary symptoms, refractory to first line treatment.

**Disclaimer:** A written consent was obtained from the patient for publishing his case anonomously.

**Conflict of Interest:** None.

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