

# Research Journal of Pharmaceutical, Biological and Chemical Sciences

## Intrabronchial Foreign Body: An Unusual Cause of Chronic Cough.

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### ABSTRACT

Tracheobronchial foreign body is a potentially life threatening emergency which usually presents with sudden onset of cough, dyspnoea, wheeze and cyanosis. Timely recognition and retrieval is important to save life. Aspiration of foreign body is rare in adults with sound mentation. Foreign body aspiration very rarely presents with chronic cough mimicking other chronic diseases. Here we report the case of a 58 year old male with chronic cough and occasional haemoptysis who was initially diagnosed to have bronchogenic carcinoma on computed tomography which later turned out to be a very benign condition i.e. impacted arecanut on rigid bronchoscopy highlighting the importance of performing an endoscopy in a suspected case of foreign body aspiration.

**Keywords:** Tracheobronchial foreign body, Adults, Chronic cough, Haemoptysis, Arecanut, Rigid bronchoscopy.

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## INTRODUCTION

Aspiration of foreign body is a medical emergency which causes threat to life if not retrieved immediately. It is very common in children in the age group of 1-3 years and in adults with mental retardation or decreased consciousness [1]. Adults with clear mentation rarely aspirate and if they do so, will immediately present with acute onset of dyspnoea, cough, wheeze and cyanosis. Presentation with chronic cough and haemoptysis is a very rare entity which misleads one to the differential diagnosis of more common conditions like tuberculosis, malignancy etc. We report one such interesting case where a patient presented with atypical symptoms which was misdiagnosed as bronchogenic carcinoma on high resolution computed tomography (HRCT) of thorax which later turned out to be an impacted arecanut on rigid bronchoscopy.

### Case Report

A 58 year old male, anon-smoker with nil co-morbidities presented to the Medicine out-patient department(OPD) with cough and occasional haemoptysis for the past 2 months. Cough was insidious in onset and gradually progressive associated with dyspnoea which had progressed to Modified Medical Research Council (MMRC) grade 3 on presentation. He had no history of fever, exposure to an open case of pulmonary tuberculosis, occupational exposure to dust/allergens, loss of weight or loss of appetite.

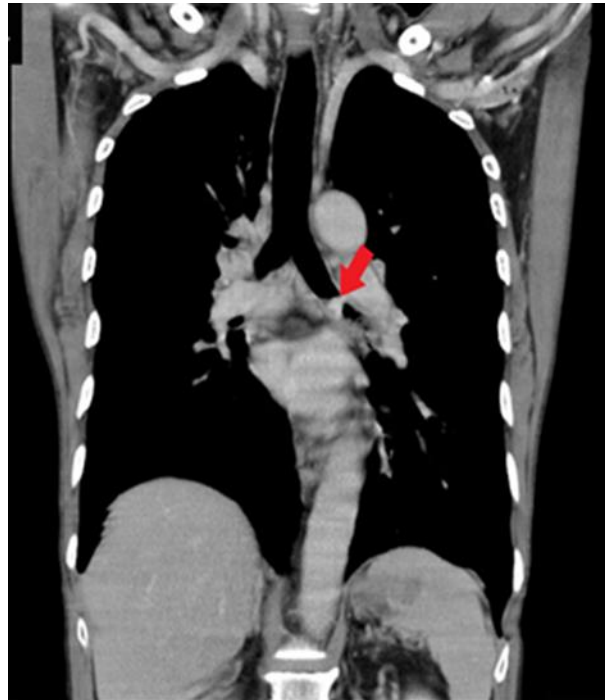
He was evaluated at a local hospital and was diagnosed to have pulmonary tuberculosis and was started on anti-tubercular treatment(ATT). Patient was on ATT for 1 month and as his condition started worsening, he presented to our OPD with the above mentioned symptoms. General examination revealed absence of clubbing and any lymphadenopathy. His vitals were stable and respiratory system examination revealed reduced breath sounds in left hemi thorax with no adventitious sounds. Laboratory investigations were normal except for leucocytosis with normal ESR. Chest X-Ray was grossly normal[fig.1] and cardiac evaluation (ECG and ECHO) showed no abnormality.



**Figure 1: Chest x-ray of the patient which grossly looks normal**

ATT was stopped as there was no evidence suggestive of pulmonary TB. He was started on prophylactic IV antibiotics. Sputum culture and staining for AFB (2 samples) were negative. His symptoms persisted despite the treatment and therefore a High-Resolution Computed Tomography (HRCT) thorax was

done which revealed intrabronchial growth in the left mainstem bronchus which led to the suspicion of bronchogenic carcinoma in view of chronic history and old age [fig.2, 3].



**Figure 2: HRCT of thorax (with contrast) showing intrabronchial mass in the left mainstem bronchus (arrow)**



**Figure 3: HRCT thorax (plain) showing intrabronchial mass in the left mainstem bronchus (arrow)**

A flexible fibre-optic bronchoscopy was done to take biopsy to confirm the diagnosis but as the mass was very hard we decided to go ahead with the rigid bronchoscopy under general anaesthesia. To everyone's surprise it turned out to be an impacted arecanut which was retrieved completely [fig.4]. Patient's symptoms subsided dramatically after the procedure. Thus rigid bronchoscopy was very useful both as a diagnostic and therapeutic modality. His total leukocyte count showed a falling trend and was discharged on day 5 of admission. His hospital stay was uneventful.



**Figure 4: Retrieved arecanut from the left mainstem bronchus**

### DISCUSSION

Aspiration of foreign body into the tracheobronchial tree is a known medical emergency especially in children between 1 and 3 years with the incidence being as high as 77% [1]. Aspiration is rare in adults with clear mentation and consciousness. Whether the foreign body is an organic or a non-organic material, the presentation and the sequelae will remain the same. The symptoms range from sudden onset of cough, dyspnoea, stridor or wheeze progressing to cyanosis and loss of consciousness [2,3].

Foreign body aspiration presenting as chronic cough and dyspnoea is rare but not uncommon. Such an unusual presentation is seen in adults when compared to children as they may tolerate it for a very long time without any obvious clinical abnormality[4]. The diagnosis is usually made by the typical history of sudden onset of cough and dyspnoea following aspiration of the foreign body and presence of wheeze and decreased or absence of breath sounds in the affected part of chest. It can be confirmed by the chest X-ray, computed tomography or by bronchoscopy. Treatment includes immediate retrieval mostly by rigid bronchoscopy as flexible fibre-optic bronchoscopy may fail to retrieve it if the substance is hard [4]. The role of latter is mainly for diagnosis whereas rigid bronchoscopy has an obvious advantage as a therapeutic modality in addition to being diagnostic, the only disadvantage being the need of general anaesthesia for the procedure. In rare cases parenchyma sparing surgery may be required to remove the impacted foreign body especially if the duration is long.

This case is different and very unique in various aspects. Our patient presented with chronic symptoms which is quite unlikely in foreign body aspiration. This emphasizes the fact that adults may tolerate it for many days without any clinical features. Aspiration is most common on the right side in erect position, as the right mainstem bronchus is in line with the trachea. In our patient the arecanut was lodged in the left mainstem bronchus. He did not give any history of going to sleep chewing arecanut. One more confusing fact in this case is the HRCT thorax which was reported as intrabronchial growth suspicious of carcinoma. This is not uncommon as the inflammatory reaction surrounding the foreign body makes it look irregular mimicking a tumour. Biopsy was not possible with flexible fibre-optic bronchoscopy as the mass was unusually hard which led us to reconsider the diagnosis of bronchogenic carcinoma. Thus we decided to go ahead with the rigid bronchoscopy which was very helpful in diagnosing and treating the condition by completely retrieving the foreign body.

### CONCLUSION

Tracheobronchial foreign body is a medical emergency as it is a life threatening condition. Rarely, it can present as an innocuous condition. History and radiological imaging may be misleading leading to unnecessary delay in treatment. All patients with suspicion of aspiration of foreign body should be subjected

to endoscopic evaluation as suggested by Cohen[5]. This case report should create awareness among treating physicians about the importance of endoscopy in the diagnosis of intrabronchial mass which avoids undue delay in diagnosing and instituting appropriate treatment.

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