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*Case Report*

# Removal of a Sapodilla Seed From the Bronchus in an Elderly Patient by Rigid Bronchoscopy at Calmette Hospital, Cambodia

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## Abstract

**Introduction:** Foreign body aspiration (FBA) in elderly patients is an uncommon but potentially life-threatening event. Diagnosis is often delayed due to atypical presentations and the absence of radiographic evidence, particularly for radiolucent organic material.
**Case Presentation:** A 71-year-old woman presented with a 3-month history of productive cough, wheezing, and exertional dyspnea following accidental aspiration of a sapodilla seed. Initial evaluations, including a chest X-ray, were unremarkable. She received multiple antibiotic courses without improvement. Physical examination revealed decreased breath sounds over the right hemithorax. Given the strong suspicion of bronchial foreign body, the patient underwent emergency rigid bronchoscopy under general anesthesia. A large sapodilla seed was identified in the right lower bronchus and removed using rigid forceps. Minor bronchial wall trauma was controlled with topical adrenaline, cool physiological saline, and lidocaine. Postoperatively, her symptoms resolved completely, and oxygen saturation improved to 96% on room air. She was discharged the following day and remained asymptomatic at 1-week follow-up.
**Conclusion:** FBA should be considered in elderly patients with unexplained, persistent respiratory symptoms, even in the absence of radiographic evidence. Rigid bronchoscopy remains a safe and effective intervention for removing large or impacted bronchial foreign bodies. Early intervention can prevent complications and avoid the need for surgical removal.

**Keywords** : Rigid bronchoscopy, Foreign body aspiration, Sapodilla seed, Elderly; Bronchial obstruction.

## INTRODUCTION

Foreign body aspiration (FBA) is most frequently seen in pediatric populations; however, it can also occur in adults, particularly in elderly individuals [1,2]. Age-related physiological changes, impaired cough reflex, neurological disorders, and dental issues contribute to increased susceptibility [3]. In older adults, the presentation is often subacute or chronic, with symptoms such as persistent cough, wheezing, or recurrent pneumonia [4].

Diagnosis can be challenging. Radiographs may be normal, especially if the aspirated object is radiolucent [2,5]. In such cases, a high index of suspicion is required, particularly when symptoms are refractory to standard medical therapy.

Rigid bronchoscopy, first popularized by Killian in 1897, remains the gold standard for the removal of tracheobronchial foreign bodies [6]. While flexible bronchoscopy offers better maneuverability and is increasingly used, rigid bronchoscopy allows for superior airway control, larger working channels, and the ability to remove bigger or more firmly impacted objects [4,7].

Sapodilla (*Manilkara zapota*) is a tropical fruit whose seeds are smooth, elongated, and hard, making them difficult to grasp and retrieve bronchoscopically. To our knowledge, there have been no prior reports from Cambodia describing the removal of a sapodilla seed from an elderly patient's bronchus. We

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present a case illustrating the clinical presentation, diagnostic challenges, and successful bronchoscopic management of this rare occurrence.

## CASE PRESENTATION

### Patient Information

A 71-year-old Cambodian woman presented to the Calmette Hospital outpatient clinic with a 3-month history of productive cough, wheezing, and shortness of breath. She recalled an episode of choking while eating sapodilla fruit but had no acute distress at that time. Over the following weeks, she developed worsening respiratory symptoms unresponsive to multiple antibiotic courses prescribed at local clinics. She had no history of chronic lung disease, tuberculosis, or smoking. She was independent in daily activities and had no neurological disorders.

### Clinical Examination

On presentation, vital signs were stable (temperature 36.8°C, respiratory rate 20 breaths/min, oxygen saturation 94% on room air). Chest auscultation revealed diminished breath sounds over the right lower lung fields. No wheezes or crackles were detected over the left lung. Cardiovascular and abdominal examinations were unremarkable.

### Investigations

A chest X-ray showed no obvious consolidation, atelectasis, or hyperinflation (**Figure 1**). Given the persistence of symptoms and the aspiration history, a flexible bronchoscopy was performed first (**Figure 2, 3**); however, it was unsuccessful, so the decision was made to proceed with rigid bronchoscopy (**Figure 4**).

**Figure 1.** Preoperative chest X-ray showing no obvious abnormality.

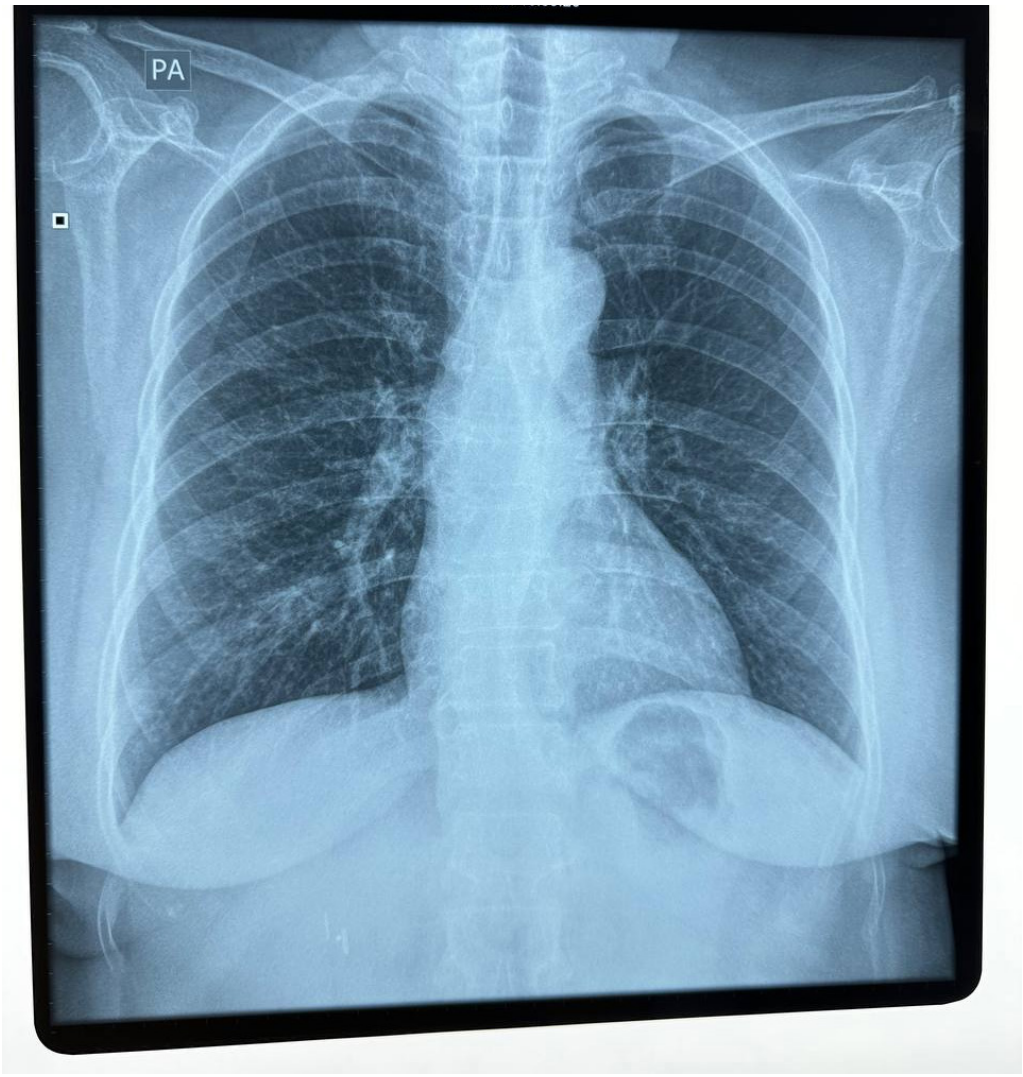


**Figure 2.** Normal vocal cord view on flexible bronchoscopy.

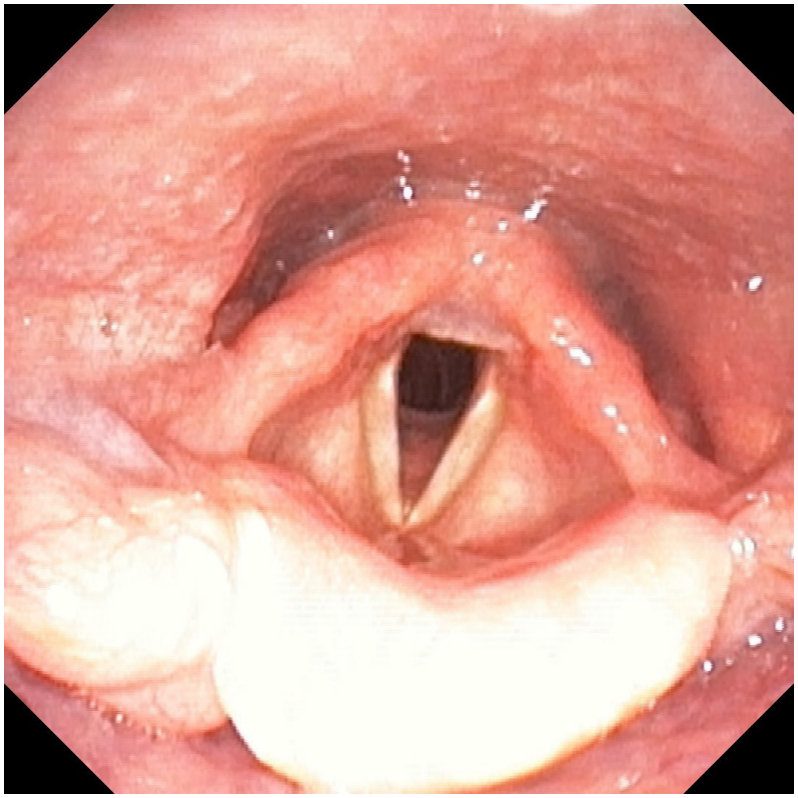


**Figure 3.** A sapodilla seed was visualized in the right main bronchus during flexible bronchoscopy



**Figure 4.** Rigid bronchoscopy revealed a sapodilla seed lodged in the right main bronchus, which was subsequently removed



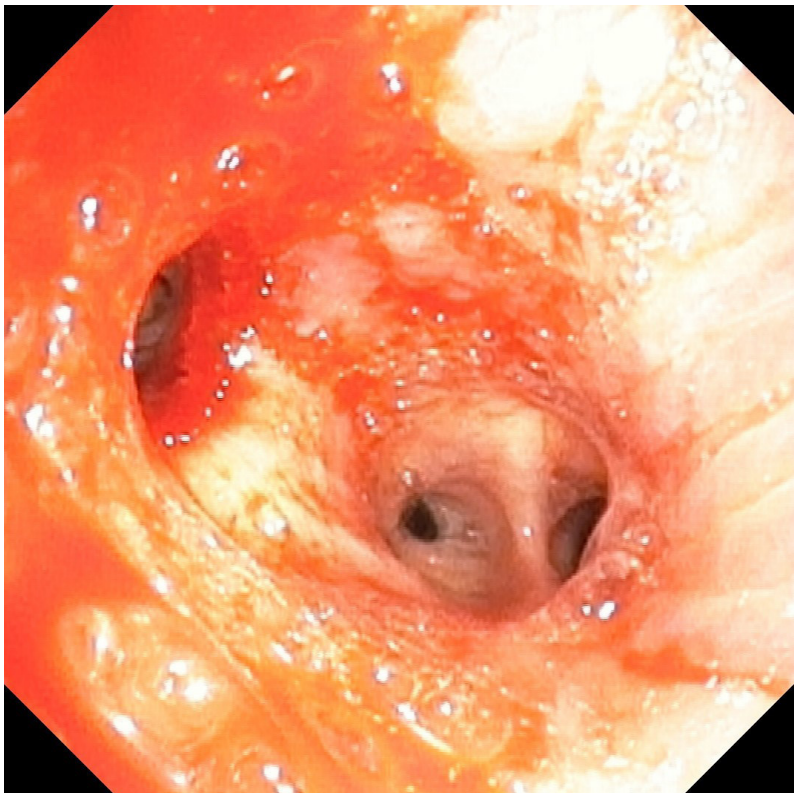
**Intervention**

The patient was brought to the operating theatre and placed under general anesthesia with full anesthetic monitoring. Using a rigid bronchoscope, a large, smooth sapodilla seed was visualized lodged in the right lower bronchus. Retrieval was challenging due to the seed's smooth surface and snug fit. Rigid forceps were employed to grasp and extract the seed, which resulted in minor mucosal trauma with slight oozing (**Figure 5**). Hemostasis was achieved through topical application of four vials of adrenaline, cool physiological saline, and 20 mL of 2% lidocaine. The extracted seed measured approximately 2.5 cm in length (**Figure 6**).

**Figure 5.** Extracted sapodilla seed measuring approximately 2.5 cm.



**Figure 6.** Inflammation of the right main bronchus after removal of the sapodilla seed was visualized by flexible bronchoscopy.



### Postoperative course

The patient was monitored in recovery room. Within hours, she reported significant relief of dyspnea and cough. Oxygen saturation improved to 96% on room air. She was discharged the next day with a short course of oral antibiotics.

### Follow-up

At 1-week follow-up, she was asymptomatic, with normal lung auscultation findings and no recurrence of symptoms.

## DISCUSSION

Foreign body aspiration in elderly patients is less common than in children but carries a higher risk of diagnostic delay and complications [3,8]. This delay can lead to secondary infections, atelectasis, bronchiectasis, and in rare cases, death [9].

### Diagnostic challenges

In this case, diagnosis was delayed for 3 months due to a combination of nonspecific symptoms, normal chest radiography, and partial improvement with antibiotics. Radiolucent organic material, such as fruit seeds, is not visible on plain films [5]. Computed tomography (CT) may increase detection but was not performed here due to the high clinical suspicion and direct move to intervention.

### Choice of procedure

While flexible bronchoscopy can be effective in removing smaller and less impacted foreign bodies, rigid bronchoscopy offers several important advantages, including better airway control in compromised patients, the ability to use larger forceps for grasping smooth or bulky objects, and easier control of intra-procedural bleeding. These considerations were particularly relevant in this case, as the sapodilla seed's size and smooth surface made successful removal with flexible bronchoscopy unlikely.

### Regional context

Sapodilla seed is widely consumed in Southeast Asia, yet aspiration reports are rare, likely due to underdiagnosis or misattribution of symptoms to chronic bronchitis or pneumonia. This case adds to the regional literature and underlines the need for awareness among primary care providers.

### Comparison to literature

Previous studies [1,4,7] have emphasized that rigid bronchoscopy achieves success rates exceeding 95% in both pediatric and adult populations. Complications are rare but can include mucosal injury, bleeding, and hypoxia. In this case, minor bleeding was promptly managed bronchoscopically.

## CONCLUSION

Foreign body aspiration should remain a differential diagnosis in elderly patients with unexplained chronic respiratory symptoms, particularly with a suggestive history. Normal imaging does not exclude the diagnosis, especially for radiolucent objects. Rigid bronchoscopy remains a safe and highly effective method for removing large, impacted airway foreign bodies in experienced hands. Early recognition and intervention can lead to rapid recovery and avoid more invasive surgical options.

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### Author contributions

Thank you for considering our submission. This manuscript is an original case report that has not been published previously and is not under consideration elsewhere. All authors have approved the final version and consent to submission.

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### Declarations

Consent was obtained directly from the patient and her family for publication.

### Competing interests

The authors declare that they have no competing interests.

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