


Extraction of Airway Foreign Body in Adults: Two-Case Report

Extracción de cuerpo extraño en vía aérea en adultos: reporte de dos casos

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CASE 1

Male patient, 54 years old, with no personal medical record, presenting with a 15-day history of cough accompanied by hemoptysis and dyspnea with a score of 2 according to the mMRC (Modified Medical Research Council) scale, with no apparent cause. The patient was referred to our Unit for suspected right pleural effusion. Chest tomography was requested, revealing a hyperdense image at the level of the intermediate bronchus and obstructive atelectasis of the middle lobe and the right lower lobe. Foreign body extraction (stone) was performed using rigid bronchoscopy (Figure 1).

CASE 2

Female patient, 52 years old, with a history of depressive syndrome, presenting with a one and a half-year history of cough without expectoration. Occasionally she presented isolated episodes of hemoptysis. She received treatment with short-acting beta-adrenergic agonists (SABAs) suspected to have asthma, without relief of the cough. Due to clinical disagreement, chest tomography was requested, revealing a hyperdense image in the right main bronchus. Foreign body extraction (fish bone) was performed using rigid bronchoscopy.

Aspiration of foreign bodies is a common accident in pediatrics. 75 % of the cases occur between the ages of two and three, and 15 % in children over 6 years old.

It is an uncommon clinical entity in adults and requires a high index of suspicion. It usually presents as acute respiratory failure with nonspecific symptoms, such as chronic pneumonia, atelectasis, chronic cough, or bronchospasm crises, without a history of bronchoaspiration.

In adults, it occurs after the sixth decade of life, with risk factors such as neurodegenerative or neuromuscular diseases that trigger abnormal airway protection mechanisms, altered cough reflex, and dysphagia.

The foreign body appears in the trachea in 4 % to 13 % of the cases, while bronchial localization ranges from 67 % to 80 %, with the right bronchus being more common, accounting for 52 % to 56 % of the cases.

Physical examination was normal in 8 % to 10.4 % of the cases. Signs and symptoms depend on the nature, size, location, and duration of the foreign body's presence in the bronchial tree.



Figure 1. A. Chest computed tomography (coronal section). Hyperdense image located in the intermediate bronchus associated with obstructive atelectasis of the right middle and lower lobes. B. Endoscopic view showing total obstruction of the intermediate bronchus. C. Foreign body (stone) extracted with rigid bronchoscopy.

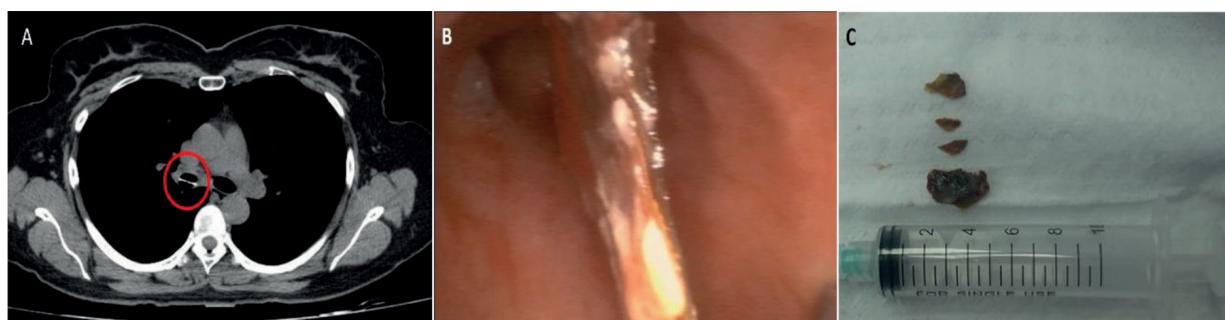


Figure 2. A. Chest computed tomography (axial section). Hyperdense image located in the right main bronchus. B. Endoscopic view showing a foreign body in the main bronchus causing partial obstruction of its lumen. C. Foreign body (fish bone) extracted with rigid bronchoscopy.

Radiological imaging is usually normal in 9 % to 34 % of the cases. CT scans can help demonstrate the foreign body, which may not always be visible on chest X-rays.

Rigid bronchoscopy is the preferred therapeutic method for extracting a foreign body; however, it does not constitute the gold standard. It allows for adequate airway protection and ventilation, as well as better visualization of the object. It has a wider working channel, allowing the passage of various types of forceps and grasping instruments. It is performed under general anesthesia and can be used as a backup method if flexible bronchoscopy fails. It is quicker and safer in patients with respiratory failure, during episodes of asphyxia, in cases where the foreign body is radiopaque, in unilateral hypoventilation, or obstructive emphysema.¹

Flexible bronchoscopy has proven to be the best diagnostic method as it is easier, less expensive, and does not require general anesthesia. The extraction of foreign bodies using a fiberoptic bronchoscopy is especially useful for those lodged in smaller bronchi. Although it is not the ideal

technique, it can sometimes be used prior to rigid bronchoscopy to locate unclear foreign bodies. It can also be introduced through the rigid bronchoscope as a combined technique. Case series showing high efficacy of flexible bronchoscopy in removing foreign bodies have been reported. The largest was the one reported by Singh et al in a systematic review over a 35-year period with a success rate of 89.6 %, and by Ma et al, with a success rate of 73.7 % in 43 patients over a thirteen-year period.²

Conflict of interest

Authors have no conflicts of interest to declare.

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