

Broncholithiasis Unveiled: Imaging and Clinical Presentation

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Abstract

Broncholithiasis, an uncommon condition, involves the presence of broncholith in the tracheobronchial tree. Our case involves a 40-year-old female patient presented with a persistent dry cough and low-volume hemoptysis. A CT scan was performed, revealing the presence of endobronchial calcification in the apicodorsal segmental bronchus.

Keywords: Broncholithiasis; CT Scan; Tracheobronchial Tree; Endobronchial Calcification; Apicodorsal Segmental Bronchus

Introduction

Broncholithiasis, an uncommon condition, involves the presence of calcified or ossified material (broncholith) in the tracheobronchial tree [1].

Causes include dystrophic calcification from various processes, with necrotizing granulomatous mediastinal lymphadenitis, resulting from TB or histoplasmosis, calcified foreign bodies, and calcific erosion/migration being primary culprits [2].

Case Report and Discussion

Our case involves a 40-year-old female patient with no specific medical history who presented with a persistent dry cough and low-volume hemoptysis persisting for one month. A CT scan was performed, revealing the presence of endobronchial calcification in the apicodorsal segmental bronchus (Figure 1 and 2) without associated atelectasis or pneumopathy.

Commonly affected bronchi are the proximal right middle lobe bronchus, bronchus intermedius, and the anterior segment right upper lobe bronchus due to normal airway anatomy and lymph node distribution [3].

Predominant symptoms comprise a persistent cough, hemoptysis, and occasionally lithoptysis [2] and Diagnosis relies on imaging and bronchoscopy [2].

Routine chest radiographs may show hilar calcifications or parenchymal infiltrates [3]. However, CT scanning is more sensitive for detailed assessment. Diagnostic features include a calcified focus with endobronchial or peribronchial components, and the absence of a

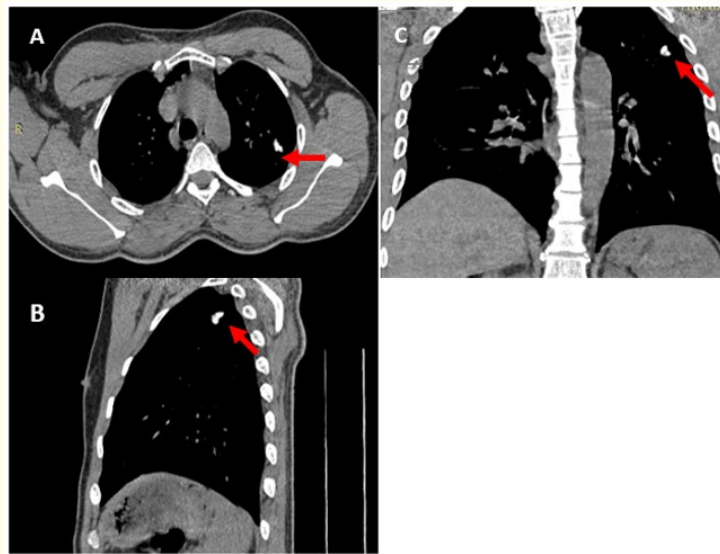


Figure 1: Chest CT images in mediastinal window in axial (A), sagittal (B), and coronal (C) planes showing endobronchial calcification at the level of the apicodorsal segmental bronchus consistent with broncholithiasis (indicated by the arrow).

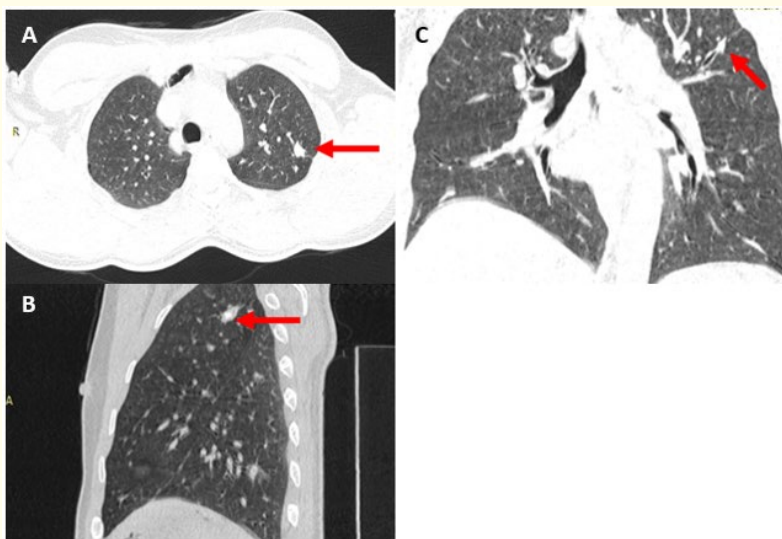


Figure 2: Chest CT images in lung window in axial (A), sagittal (B), and coronal (C) planes demonstrating endobronchial calcification at the level of the apicodorsal segmental bronchus consistent with broncholithiasis (indicated by the arrow).

soft tissue mass distinguishes it from fibrosing mediastinitis [2].

CT scanning aids in evaluating the extent of obstruction and associated findings such as atelectasis, consolidation, bronchiectasis, air trapping, and mucoid impaction [3]. An intriguing aspect is the potential disappearance or change in position of a calcified focus within the airway [2].

Flexible bronchoscopy is employed for diagnosing broncholithiasis when clinical and radiographic findings raise suspicion [3]. And management options include observation, endoscopic removal, and surgery [1].

Conclusion

Broncholithiasis, linked mainly to chronic respiratory inflammation, is a benign bronchial disease where imaging, especially CT scans, is pivotal for accurate diagnosis [1].

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