

All that Wheezes is not Asthma—Broncholithiasis, a Forgotten Disease

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Abstract

Introduction: Asthma is a common condition seen by medical practitioners. However, ‘all that wheezes is not asthma’, is an important adage not to be forgotten. We report a case of broncholithiasis which was initially misdiagnosed as asthma. **Clinical Picture:** An 81-year-old female presented with cough and intermittent wheezing associated with one episode of haemoptysis. Chest radiograph and CT thorax were suggestive of broncholithiasis. This was confirmed by flexible bronchoscopy. **Treatment:** The broncholith was successfully extracted using flexible bronchoscopy. **Outcome:** The patient had complete resolution of symptoms post procedure. **Conclusions:** Physicians should always entertain other differential diagnoses which may mimic asthma.

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Key words: Broncholith, Calcification, Cough, Flexible bronchoscopy, Tuberculosis

Introduction

Asthma is a very common condition which presents clinically with cough, shortness of breath and wheezing. However, ‘all that wheezes is not asthma’, is an important adage not to be forgotten. The differential diagnoses include chronic obstructive pulmonary disease, acute pulmonary embolism, cardiac disease, organic or functional laryngeal narrowing, and narrowing of the trachea or major bronchus. The causes of the latter include tumours, post-traumatic strictures, tuberculous endobronchitis, amyloidosis, sarcoidosis, tracheobronchial papillomatosis, extrinsic compression by enlarged thyroid and tumours like lymphoma, tracheomalacia and relapsing polychondritis.

Broncholithiasis, the ‘spitting of stones’, is an uncommon condition which was first described by Aristotle in 300BC.¹ It is defined as the presence of calcified material within or eroding into the bronchial lumen.²⁻⁶ Presenting symptoms include cough, haemoptysis, purulent sputum, fever, chest pain, dyspnoea, and wheezing. Often, physicians mistake the wheezing for asthma and miss the diagnosis. Lithoptysis is pathognomonic but rarely occurs. Life threatening complications, such as massive haemoptysis, bronchoesophageal fistula or bronchoarterial fistula, can develop. The most frequent cause of broncholithiasis is calcification of lymph nodes secondary to tuberculosis or histo-

plasmosis.⁷ Silicosis has also been described as a rare cause of broncholithiasis.⁸ Recognised modalities for treatment of symptomatic broncholithiasis are broncholithectomy via surgery or bronchoscopy. We report a case of successful management of broncholithiasis using therapeutic flexible bronchoscopy.

Case Report

An 81-year-old female presented with 6 month’s history of productive cough with white sputum and intermittent wheezing. There was no associated fever, but had one episode of haemoptysis 2 weeks prior to presentation. She was a lifetime non-smoker, and had a past history of pulmonary tuberculosis in 1953 which had been treated with anti-tuberculous chemotherapy for 6 months. She was seen by her primary care physician, who made a diagnosis of asthma. However, she did not improve despite treatment with inhaled corticosteroids and beta2-agonists.

Physical examination revealed a thin, frail woman who was afebrile, tachypnoeic with a respiratory rate of 24, and bilateral crackles and wheezes on auscultation of her chest. Chest radiograph showed calcification in the left upper lobe and right hilum associated with bibasal pleural thickening (Fig. 1). Computed tomography (CT) of the thorax showed collapse of the left upper lobe with marked

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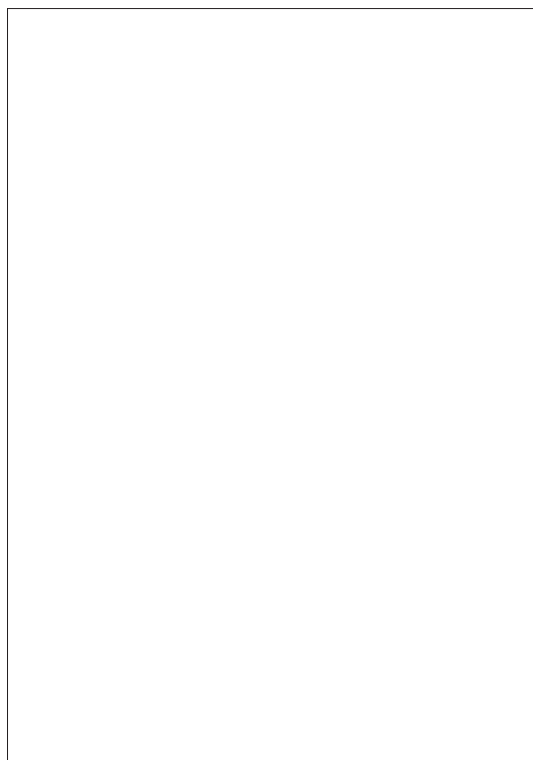


Fig. 1. Chest radiograph showing calcification in the left upper lobe and right hilum associated with bibasal pleural thickening.

volume loss of the left hemithorax, calcified mediastinal lymph nodes and a broncholith in the right bronchus intermedius (Fig. 2).

She was treated with supplemental oxygen, nebulised beta2-agonists and intravenous antibiotics. She improved clinically and subsequently underwent flexible bronchoscopy. This was performed under local anaesthesia and sedation. She was given topical lignocaine and intravenous midazolam 2.5 mg. Flexible video-bronchoscope (Olympus IT160) was used and a free broncholith 2 x 0.5 cm was seen in the right bronchus intermedius (Fig. 3). This was successfully extracted in two pieces using a three-prong snare with no complications. The entire procedure took 45 minutes. She was discharged well 2 days post-procedure. On review in clinic 3 weeks later, she was asymptomatic. Spirometry was normal with no bronchodilator response.

Discussion

Broncholithiasis is a rare condition with a wide spectrum of clinical manifestations.^{6,9} Symptoms develop when calcified lymph nodes impinge on or erode into the tracheobronchial tree. Its prevalence is equal in men and women, occurring predominantly in the fifth or sixth decade. As in our patient, broncholiths are found more commonly in the right bronchial tree. Treatment options

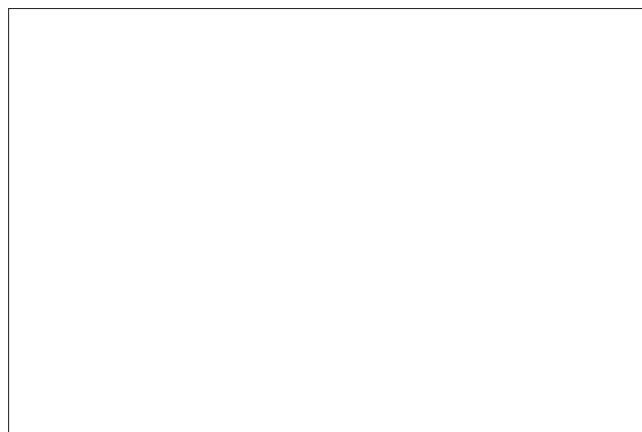


Fig. 2. Computed tomography of the thorax showing a broncholith in the right bronchus intermedius as indicated by the arrow.

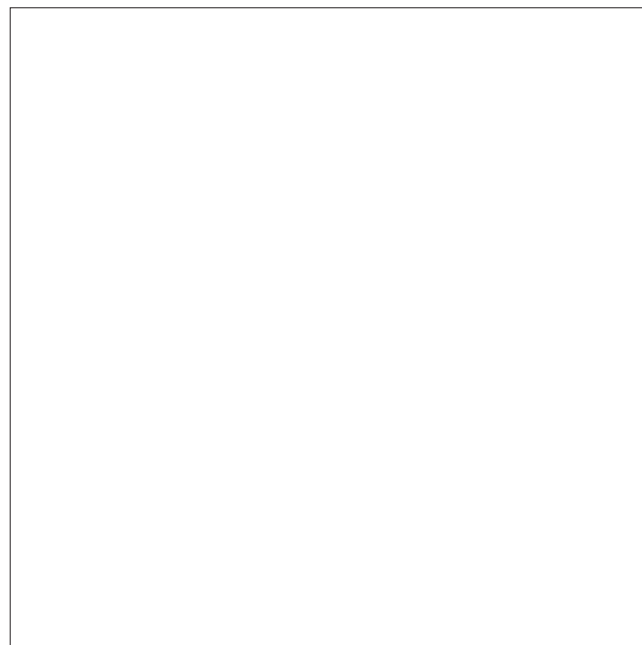


Fig. 3. Picture of the broncholith after extraction via the flexible bronchoscope.

include observation, bronchoscopic broncholithectomy or surgery.

The indications for surgery have been well established. These include intractable cough, persistent or massive haemoptysis, suppurative lung disease, bronchiectasis or bronchial stenosis, bronchoesophageal or aortotracheal fistula and diagnostic uncertainty.¹⁰ Conversely, the use of therapeutic bronchoscopy has been controversial because of concerns about massive haemorrhage, bronchial tearing, or fistula formation during endoscopic extractions of the broncholith. A retrospective review by Olson et al¹¹ concluded that flexible and/or rigid bronchoscopic extraction of partly eroded or free broncholiths in the tracheobronchial tree can be considered safe and effective

in a carefully selected group of patients. Ideally, this should be carried out in a specialised centre with capabilities for both rigid and flexible bronchoscopy and immediate thoracic surgical support.

Whilst asthma is a common condition, other differentials should always be considered especially if no improvement is observed with inhaled beta-2-agonists and corticosteroids. In our country where tuberculosis is a common problem, the possibility of tracheobronchial strictures presenting with a clinical picture mimicking asthma should be kept in mind.

We report a case of successful extraction of a free broncholith from the right bronchus intermedius via flexible bronchoscopy with complete resolution of symptoms.

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