Escondido à Vista de Todos: Uma Causa Incomum de Tosse Crónica

Hidden in Plain Sight: An Unusual Cause of Chronic Cough

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RESUMO

Homem de 71 anos, ex-fumador, com antecedentes de tosse crónica produtiva, sem diagnóstico estabelecido. Recorreu ao médico assistente por agravamento da intensidade do padrão habitual de tosse. Apesar de vários estudos e tratamentos instituídos, incluindo broncodilatadores inalados e antibióticos, o seu estado agravava progressivamente. Realizou tomografia computorizada torácica que revelou uma pequena atelectasia na língula, mas a função pulmonar estava normal. O pneumologista que o acompanhava sugeriu que deveria aceitar a sua condição, uma vez que seria pouco provável que melhorasse. No entanto, devido à persistência do utente, realizou uma broncofibroscopia, que identificou o culpado: um osso de galinha estava aprisionado no brônquio intermédio do pulmão direito. Após a sua remoção, a tosse regressou ao padrão basal. Este caso destaca a importância de considerar etiologias menos comuns na abordagem da tosse crónica. Ignorar estas etiologias pode levar a um diagnóstico incorreto, ao sofrimento prolongado do doente e a tratamentos desnecessários.

PALAVRAS-CHAVE: Aspiração Respiratória; Broncoscopia; Corpos Estranhos; Tosse/etiologia

ABSTRACT

A 71-year-old man, a former smoker, with a history of chronic productive cough, without an established diagnosis, consulted his primary care physician due to worsening of his usual cough pattern. Despite various studies and treatments, including inhaled bronchodilators and antibiotics, his condition progressively worsened. A chest computed tomography scan revealed a small atelectasis in the lingula, but lung function was normal. The pulmonologist advised him to accept his condition, as improvement seemed unlikely. However, due to the patient's persistence, a bronchoscopy was performed, identifying the culprit: a chicken bone lodged in the intermediate

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bronchus of the right lung. After its removal, the cough returned to its baseline pattern. This case underscores the importance of considering less common etiologies when addressing chronic cough. Ignoring these can lead to misdiagnosis, prolonged patient suffering, and unnecessary treatments.

KEYWORDS: Bronchoscopy; Cough/etiology; Foreign Bodies; Respiratory Aspiration

INTRODUCTION

Cough is one of the most common symptoms that takes patients to seek medical evaluation.[1,2] Cough can be classified according to its duration. It Is considered chronic cough when it lasts for more than eight weeks. Chronic cough affects about 10% to 12% of the population[3,4] with approximately two-thirds of affected individuals being female and the peak prevalence occurring in the fifth and sixth decades of life.[4–7]

Although some people may present with chronic cough of undetermined etiology for years, a cause is identified in about 75% to 90% of patients.[8,9] The most common etiologies are asthma, non-asthmatic eosinophilic bronchitis, chronic obstructive pulmonary disease (COPD), gastroesophageal reflux disease, and upper airway cough syndrome (due to postnasal drip).[9–12] Other etiologies should also be considered, such as conditions affecting the airways (bronchiectasis, neoplasms, foreign body) or the lung parenchyma (interstitial lung disease, lung abscess).

The presence of foreign bodies in the lower airways can present dramatically, especially in pediatric age, being a potentially fatal event.

Risk factors in adults include loss of consciousness from trauma, drug or alcohol intoxication, or anesthesia. Additional risk factors in elderly adults include swallowing difficulties related to aging, the use of medication that interferes with cough reflex and swallowing, dysphagia related to cerebrovascular accidents (strokes), and numerous degenerative neurological diseases, such as Alzheimer's or Parkinson's disease.[13]

In adults, the nature of inhaled objects is highly variable, ranging from organic to inorganic material. Compared to children, foreign body aspiration in adults usually has a subtle presentation, such as a chronic cough, with limited imaging findings. For this reason, a high clinical suspicion index is necessary for the diagnosis, which is often delayed. Definitive diagnosis is facilitated by direct visualization of the foreign body, typically achieved via bronchoscopy.[14]

A foreign body can also be incidentally discovered during this procedure performed for symptoms such as chronic cough, hemoptysis, treatment-resistant asthma, or recurrent/unresolved pneumonia.

Symptoms and signs such as localized wheezing, hemoptysis, and foul-smelling sputum are the most common clinical signs, with atelectasis or lower lobe consolidation being the most frequent imaging abnormalities. Chronic or acute cough is observed in up to 80% of cases, while the presence of dyspnea is uncommon.[15,16]

Bronchial obstruction by a foreign body can result in potentially serious long-term complications, including recurrent pneumonia, atelectasis, bronchial stenosis, bronchiectasis, hemoptysis, post-obstructive infection, lung abscess, empyema, pneumothorax, and pneumomediastinum.

This case report aims to highlight this potential cause of chronic cough in clinical practice, which can present a significant diagnostic challenge.

CASE REPORT

A 71-year-old male patient was observed during a scheduled consultation at a Family Health Unit. He had 4 years of education, was married, lived with his wife, and was fully independent in daily life activities.

His medical history included hypertension, psoriasis, dyslipidemia, benign prostatic hyperplasia, chronic gastritis, cataracts and a history of smoking. He also had a chronic cough with occasional sputum, and was being followed up in a private pulmonology consultation. He was on medication with finasteride 5 mg/day, alprazolam 0.5 mg/day, atenolol 50 mg/day, rosuvastatin 20 mg/day, esomeprazole 20 mg/day, betamethasone + calcipotriol 0.5 mg/g + 0.05 mg/g, used during periods of psoriasis exacerbation.

In consultation, the patient reported a change in his usual cough pattern, which was more intense and irritating than usual, and an increase in sputum volume, without changes in color or odor. He had no risk factors for aspiration, such as alcoholism or neurologi-

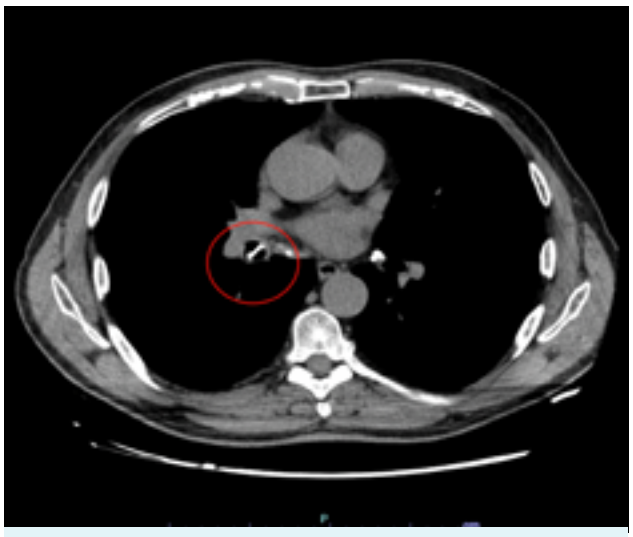

FIGURE 1. Thoracic computerized tomography - the foreign body trapped on the intermediate bronchus of the right bronchial tree.

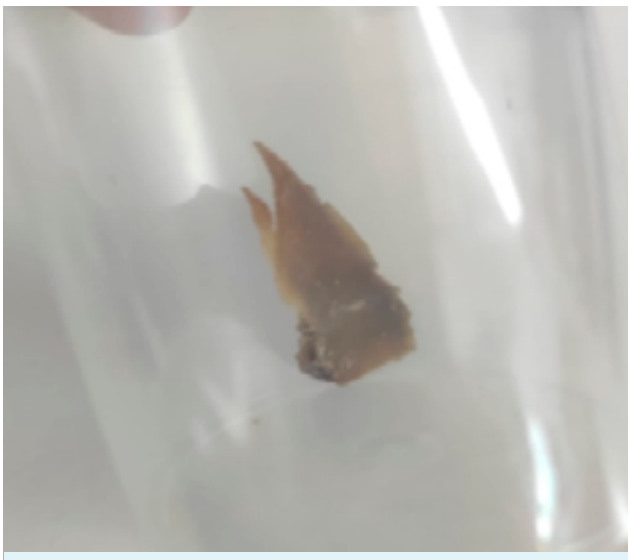

FIGURE 2. The chicken bone removed

cal deficits. Pulmonary auscultation identified diffuse scant wheezing, and a chest X-ray revealed areas of parenchymal densification in the right side and thickening of the bronchial walls. The patient was medicated with amoxicillin and clavulanic acid, presenting initially with symptom improvement, but with worsening after the treatment ended. He was re-evaluated in a private pulmonology consultation and medicated with indacaterol 150 µg/day. Due to persistent symptoms, the inhalation therapy was adjusted two months later to indacaterol 300 µg/day, and acetylcysteine 600 mg/day and polybacterial lysates, 7 mg/day, were also added. Pulmonary function tests were requested, which did not reveal any abnormalities. Despite the instituted therapy, symptoms continued to worsen, with the development of a choking sensation and phlegm with persistent irritating cough. In this context, the patient underwent a chest computed tomography (CT) scan, which report revealed a small laminar atelectasis in the lingula, without other significant changes. The same study was repeated 5 months later, revealing similar changes to those initially identified, but also a linear image with calcific density in the partition wall, between the intermediate bronchus and the bronchus of the right lower lobe. Over these months, the patient had multiple respiratory infections, requiring different cycles of antibiotic therapy, including amoxicillin and clavulanic acid, levofloxacin, and ciprofloxacin, with increased doses of the instituted inhalation therapy and oral corticosteroid therapy. During the cycles of antibiotic therapy, the patient showed symptom improvement, but after the therapy was interrupted, the symptoms recurred, maintaining irritative cough and increased sputum volume. Sputum was collected for mycological and bacteriological examination, which identified the presence of methicillin-sensitive Staphylococcus aureus, for which he underwent a new cycle of antibiotic therapy, without symptomatic improvement.

He underwent another pulmonary function test, which once again did not reveal any abnormalities, and a chest CT scan, which report showed slight residual fibrosis in the posterior aspect of both pulmonary apices and laminar atelectasis in the middle lobe and lingula.

Due to the persistence of symptoms and some insistence from the patient, a bronchoscopy was performed a year and a half after the onset of the clinical picture, revealing the presence of a foreign body in the intermediate bronchus of the right bronchial tree: a chicken bone (Figs. 1 and 2). The bone was removed and the patient's cough pattern returned to its baseline state. After this discovery, the patient reported to his family doctor that he had previously had a choking episode while eating chicken, for which he had been observed in the emergency department and evaluated by general surgery, but no evidence of the bone had been identified at that time.

DISCUSSION

This case report illustrates a scenario initially suggestive of exacerbation of chronic lung disease, which turned out to be foreign body aspiration.

Although foreign body aspiration is more prevalent in children, accounting for about 75% to 85% of reported cases,[16] it also occurs in the adult population, which contributes to it being underestimated as a potential

cause of persistent respiratory symptoms in older patients.

The chronic and irritating cough, associated with sputum production and diffuse wheezing, was initially interpreted as an exacerbation of chronic lung disease, leading to treatment with progressively higher doses of inhalation therapy and multiple cycles of antibiotic therapy.

This case also helps to understand the importance of conducting a more comprehensive medical history, especially in patients with atypical clinical presentations or when there is a lack of response to conventional treatments. The discovery of the chicken bone was crucial to clarify the etiology of the persistent symptoms in this patient. The previous history of choking while eating chicken would have been an important clue that could have enabled early diagnosis and treatment. Additionally, only one of the reports of the CT scans performed revealed an image with calcific density in the right lung, which corresponded to the chicken bone, but was not considered relevant. The chicken bone was lodged in the right bronchus, the most frequent site for aspirated foreign bodies. It is thought that this is due to its more vertical orientation and because of its larger diameter compared to the left bronchus.

The difficulty in diagnosing foreign body aspiration in adults can be attributed to lower clinical suspicion, especially in elderly patients, in whom other chronic diseases and comorbidities are more prevalent. Furthermore, the symptoms of aspiration can be variable and nonspecific, potentially mimicking other more prevalent pulmonary diseases in older patients. Therefore, it is important to consider foreign body aspiration in the differential diagnosis of patients with apparently inexplicable or persistent respiratory symptoms, even in patients with no risk factors but especially in the presence of risk factors, such as a history of previous choking or predisposing neurological conditions.

Late diagnosis of foreign body aspiration can result in ineffective and prolonged treatments, increasing morbidity, compromising patients' quality of life, and potentially causing death.

We would like to emphasize the benefit of persisting in the diagnostic process and adopting a multidisciplinary approach in the investigation of chronic cough. Evidence shows that we should routinely assess for environmental and occupational factors, assess cough severity & quality of life with validated tools and follow up with patient in 4-6 weeks.[17] This approach allows for holistic patient management and a multidimensional evaluation. As a result, it increases the likelihood of achieving an etiological diagnosis.

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HO - Revisão do manuscrito

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HO - Manuscript review

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