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Case Report

A Case Report and Literature Review of Achalasia Cardia Presenting as Difficult-to-Treat Asthma

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Abstract

Background: Achalasia cardia is a rare neurodegenerative disorder characterized by impaired esophageal peristalsis and failure of the lower esophageal sphincter to relax. Patients often present with dysphagia, regurgitation, or chest pain. However, atypical presentations can mimic respiratory disorders, particularly asthma, leading to diagnostic delay and inappropriate treatment.

Case Presentation: We report the case of a 67-year-old male, non-smoker, who presented with recurrent exacerbations of bronchial asthma. Despite being on optimal bronchodilator therapy with both inhaled and oral corticosteroids for an adequate duration, he showed no clinical improvement. On further evaluation, barium contrast studies revealed features suggestive of achalasia cardia. Surgical intervention was advised; however, the patient deferred and was kept on follow-up.

Conclusion: This case highlights achalasia cardia as an uncommon but important differential diagnosis in patients with difficult-to-treat or refractory asthma. Early consideration of esophageal motility disorders in such scenarios may prevent misdiagnosis, unnecessary prolonged asthma treatment, and allow timely targeted therapy.

Keywords: Achalasia cardia, Bronchial Asthma, Esophageal motility disorder.

Introduction

Achalasia cardia is an uncommon esophageal motility disorder, with an incidence of approximately 1 per 100,000 population per year and a prevalence of about 10 per 100,000 population worldwide.[1] It is characterized by impaired relaxation of the lower esophageal sphincter and loss of coordinated peristalsis. Although the classic presentation includes dysphagia, regurgitation, and weight loss, respiratory manifestations may also occur due to aspiration or extrinsic airway compression.[1,2] Such atypical features often mimic common respiratory diseases, particularly asthma, leading to diagnostic uncertainty and delays in appropriate management. The diagnostic challenge becomes more pronounced when patients present with persistent or difficult-to-treat asthma-like symptoms that fail to improve despite optimal inhaled and systemic therapy. In these situations, underlying esophageal motility disorders may remain unrecognized for prolonged periods. We reported a case of achalasia cardia in an elderly male who presented with recurrent exacerbations of bronchial asthma that were refractory to standard therapy. This unusual clinical overlap highlights the importance of considering non-respiratory causes in patients with unexplained or refractory asthma, thereby preventing misdiagnosis and avoiding unnecessary prolonged treatment.

Case Report

A 67-year-old lifelong non-smoker with a maternal history of asthma was referred for presumed difficult-to-control bronchial asthma. He reported a seven-month history of progressive exertional dyspnea and wheezing, unresponsive to optimized inhaled bronchodilators and oral corticosteroids

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Figure 1: Chest radiograph (posteroanterior view) showing a widened mediastinum with a markedly dilated esophagus containing an air–fluid level, suggestive of achalasia cardia.



Figure 2: Barium esophagogram demonstrating a markedly dilated esophagus with tapering at the gastroesophageal junction, producing the classical "bird's beak" appearance of achalasia.

as per the guidelines for difficult-to-treat asthma. In addition, he had a five-month history of persistent dry cough. On further detailed questioning, he admitted to progressive dysphagia to both solids and liquids, frequent regurgitation, and worsening reflux symptoms, which were initially misattributed to aggravation of asthma. He was of normal build with a weight of 68 kg, height of 170 cm and body mass index (BMI) of 23.5 kg/m^2. On clinical examination, he was tachypneic with bilateral vesicular breath sounds and no added adventitious sounds. Spirometry was performed and showed the following values: FEV_1: 2.8 L (92% predicted), FVC: 3.8 L (95% predicted), FEV_1/FVC ratio: 78%, all within normal limits. This confirmed the absence of obstructive airway disease despite persistent asthma-like symptoms. Chest radiography demonstrated a dilated esophagus with an air–fluid level (Figure 1). In view of the history of dysphagia, a progressive obstructive pathology of the upper gastrointestinal tract was suspected. Esophagogram revealed a typical "bird's beak" appearance consistent with achalasia cardia (Figure 2). Contrast-enhanced computed tomography

Table 1: Comparative summary of reports: Achalasia presenting as asthma-like illness

First author (year)	*Study type*	*n- cases*	*Asthma-like presentation*	*Key diagnostic test*	*Clinical outcome*
Kwok (2008) [2]	Case series	2	Cough/wheeze, poor response to asthma medication	CXR + PFT; achalasia confirmed	Diagnosis revised to achalasia
Al-Abdoulsalam (2011) [3]	Case report (child)	1	Exercise-induced dyspnea/ wheeze, refractory asthma	Barium swallow/high resolution manometry (HRM)	Managed as achalasia
Aydın (2013) [4]	Case report (adolescent)	1	Cough, dyspnea, wheeze; uncontrolled asthma	GI work-up	Diagnosis revised
Kwon (2014) [5]	Case report (adult)	1	Chronic cough refractory to GERD/ asthma therapy	Achalasia confirmed; pneumatic dilatation	Complete resolution of cough
Lai (2015) [6]	Case report (adolescent)	1	Asthma-like symptoms masking achalasia	Esophagram/HRM	Improved after therapy
Gómez-Larrauri (2017) [7]	Case report (adult)	1	Asthma-like symptoms from tracheal compression	CT + barium swallow	Treated for achalasia
Ahuja (2020) [8]	Case report (adolescent)	1	Uncontrolled asthma; prior intubation	Imaging: megaesophagus compressing trachea	Diagnosis revised
Skulimowska (2023) [9]	Case report (child)	1	Persistent poorly controlled asthma	GI work-up	Improved after achalasia management
Nittner-Marszalska M, (2019) [10]	Case report (adult)	1	Severe asthma-like respiratory symptoms	Achalasia confirmed; surgery	Respiratory symptoms improved

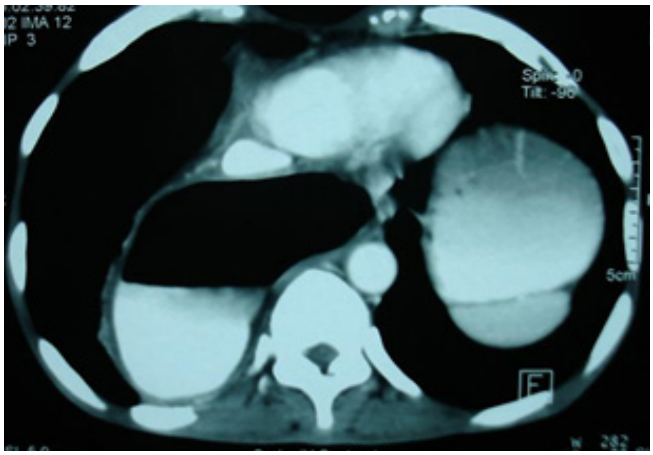


Figure 3: Contrast-enhanced computed tomography (CECT) of the chest revealing a grossly dilated esophagus with retained food particles and air–fluid level, consistent with advanced achalasia cardia

(CECT) of the chest confirmed gross esophageal dilatation with retained fluid and food residue (Figure 3). Upper gastrointestinal endoscopy further demonstrated a massively dilated esophagus containing food particles and secretions. The patient was counseled for gastro-surgical intervention and was referred for a modified Heller's myotomy. However, manometry could not be performed due to non-availability, and he deferred surgery, after which he was subsequently lost to follow-up.

Discussion with systematic review of literature

Achalasia cardia is an uncommon neurodegenerative esophageal motility disorder caused by degeneration of inhibitory ganglion cells in the myenteric plexus, resulting in impaired lower esophageal sphincter relaxation and loss of peristalsis. Its estimated incidence is approximately 1 per 100,000 per year, with a prevalence of 10 per 100,000 population worldwide.[1] While the classic clinical features are dysphagia, regurgitation, and weight loss, atypical extra-esophageal manifestations are increasingly recognized. Respiratory symptoms, in particular, may dominate the presentation due to recurrent aspiration, nocturnal reflux, or tracheobronchial compression by a dilated esophagus. Such features may mimic asthma or chronic obstructive airway disease, often delaying diagnosis.

To better understand the overlap between achalasia and asthma, we conducted a systematic search of PubMed and Google Scholar up to June 2025 using the keywords *achalasia*, *asthma*, *wheeze*, *respiratory symptoms*, and *misdiagnosed*. The search identified 63 records, of which 22 duplicates were removed. Screening of 41 abstracts excluded 25 studies that did not describe asthma-like presentations. Sixteen full-text articles were reviewed, and 7 were excluded as they did not meet the inclusion criteria. Ultimately, 9 case reports and series describing achalasia masquerading as asthma were included in the qualitative synthesis. A comparative summary of these cases is presented in (Table 1). The reports span across children, adolescents, and adults, with the common presentation being persistent wheeze, cough, or dyspnea unresponsive to asthma therapy. The diagnostic clue in most cases was the presence of dysphagia or regurgitation in addition to asthma-like symptoms. The diagnosis was usually confirmed by barium swallow, chest CT, or high-resolution manometry. Several patients demonstrated complete or significant resolution of respiratory symptoms after definitive treatment of achalasia, such as pneumatic dilatation, Heller's myotomy, or peroral endoscopic myotomy.

Several overlapping mechanisms can explain the respiratory manifestations of achalasia cardia. Retained food and secretions in the dilated, aperistaltic esophagus predispose to recurrent microaspiration, which triggers chronic cough, airway inflammation, and wheeze. In addition, esophageal distension and chemical stimulation activate vagal afferents, producing a reflex bronchoconstriction that clinically mimics asthma despite normal pulmonary function tests. A markedly dilated esophagus, particularly in advanced disease, may also cause mechanical compression of the tracheobronchial tree, leading to dyspnea, stridor, or wheeze. Furthermore, nocturnal regurgitation can result in laryngopharyngeal irritation or laryngospasm, presenting as paroxysmal wheezing or "asthma attacks." Repeated aspiration and vagally mediated reflexes may ultimately enhance airway hyperresponsiveness, perpetuating symptoms.[11] This case, along with the reviewed literature, emphasizes that achalasia cardia should be considered in the differential diagnosis of difficult-to-treat asthma, particularly when associated with dysphagia, regurgitation, or unexplained cough. For pulmonologists, a high index of suspicion and early use of simple investigations such as chest radiographs or barium swallows can prevent prolonged misdiagnosis, reduce morbidity from aspiration, and avoid unnecessary escalation of asthma therapy. Definitive diagnosis with manometry and timely referral for surgical or endoscopic intervention are essential to achieve symptomatic relief and prevent long-term complications.

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