Airway infection/acute exacerbation of chronic bronchitis.

Jianxun Ding*

Department of Cardiology, University of Pennsylvania, Philadelphia, Pennsylvania

Introduction

When other respiratory or cardiac causes for the chronic productive cough are ruled out, chronic bronchitis is a bronchial condition that manifests as a persistent cough and sputum expectoration that occurs most days for at least three months out of the year and for at least two years in a row. Smoke, industrial pollutants, and other environmental pollutants, together with host variables including genetics and respiratory infections, interact to induce chronic inflammation in the airway walls and lumen, which in turn leads to the disease. Progressive airway restriction happens as the disease worsens, typically in conjunction with emphysema's pathologic alterations. The name of this illness is COPD. As long as illnesses other than acute tracheobronchitis are ruled out, a sudden clinical deterioration in a stable patient accompanied by increasing sputum volume, sputum purulence, and/or worsening shortness of breath is referred to as an acute exacerbation of chronic bronchitis [1].

Avoidance is the most efficient strategy for treating patients with chronic bronchitis and ongoing exposure to respiratory irritants, such as smoking directly, inhaling secondhand smoke, and job risks. Patients with chronic bronchitis may benefit from treatment with a short-acting inhaled -agonist, inhaled ipratropium bromide, oral theophylline, or a combination of an inhaled long-acting -agonist and an inhaled corticosteroid. However, there is no evidence to support the use of prophylactic antibiotics, oral corticosteroids, expectorants, postural drainage, or chest physical therapy. There is evidence that oral antibiotics, inhaled bronchodilators, and oral corticosteroids (or IV corticosteroids in severe cases) are effective for treating an acute exacerbation of chronic bronchitis, although their effects on cough have not been thoroughly studied. Expectorant therapy, postural drainage, chest physiotherapy, and theophylline therapy are not advised. Dextromethorphan and codeine are two central cough suppressants that are suggested for momentary symptomatic alleviation of coughing [2,3].

Acute exacerbation of chronic bronchitis

Patients with chronic bronchitis are more prone to get acute respiratory infections than people without the condition, and when they experience acute upper respiratory infection symptoms, they are more likely than healthy control subjects to show evidence of infection in the lower airways. Sputum output increases during these bouts or exacerbations, and it may even become purulent. Clinicians should be aware that other illnesses including heart failure and pulmonary embolism could resemble an acute exacerbation of chronic bronchitis because the exacerbations may similarly lead to worsening shortness of breath. While the term "acute exacerbation of chronic bronchitis" is not universally recognised, most agree that it refers to a sudden decline in a patient's health that is accompanied by symptoms of increased sputum volume, sputum purulence, and/or worsening shortness of breath from acute tracheobronchitis [4].

Upper respiratory tract infection symptoms frequently come before an episode. An essential part of these criteria is the exclusion of conditions including pneumonia, pulmonary embolism, worsening of bronchiectasis, pneumothorax, and congestive heart failure as causes of respiratory deterioration other than acute tracheobronchitis. In almost one-third of cases, signs of a viral infection are discovered. The rhinovirus, coronavirus, influenza B, and parainfluenza are the most typical viral illnesses seen in outpatient settings. Because they interfere with mucociliary clearance, hinder bacterial killing by pulmonary macrophages, and raise the risk of aspirating secretions containing bacteria from the upper airways, viral respiratory infections predispose the airways to bacterial superinfection. There has been debate over whether bacterial overgrowth or infection alone, absent an acute viral infection, is the cause of an acute exacerbation of chronic bronchitis. The same bacteria, such as Streptococcus pneumoniae, Moraxella catarrhalis, and Haemophilus influenzae, have been detected in patients after an acute exacerbation in many chronic bronchitis patients, especially those who are still smoking. The molecular characterization of sputum isolates, however, has demonstrated that acute exacerbations of COPD are commonly linked to a novel strain of an already present microorganism. This supports the idea that bacteria are to blame for COPD's acute exacerbations. Even while most of these bouts of acute bronchitis exacerbations are self-limited, they are nonetheless linked to significant declines in quality of life and place a significant financial burden on the healthcare system [5].

References

1. Fletcher CM, Elmes PC, Fairbairn AS, et al. Significance of respiratory symptoms and the diagnosis of chronic bronchitis in a working population. Br Med J. 1959;2(5147):257.
2. Palmer KN. The role of smoking in bronchitis. Br Med J. 1954;1(4877):1473.

***Correspondence to:** Jianxun Ding, Jianxun Ding, Department of Cardiology, University of Pennsylvania, Philadelphia, Pennsylvania, E-mail: jxding@upenn.edu

***Received:** 28-Dec-2022, Manuscript No. AAJPCR-23-89072; **Editor assigned**: 31-Dec-2022, PreQC No. AAJPCR-23-89072(PQ); **Reviewed**: 13-Jan-2023, QC No. AAJPCR-23-89072; **Revised:** 19-Jan-2023, Manuscript No. AAJPCR-23-89072(R); **Published:** 27-Jan-2023, DOI: 10.35841/aajpcr-6.1.133*

***Citation:** Ding J. Airway infection/acute exacerbation of chronic bronchitis. J Pulmonol Clin Res. 2023;6(1):133*

3. Doherty MJ, Mister R, Pearson MG, et al. Capsaicin responsiveness and cough in asthma and chronic obstructive pulmonary disease. Thorax. 2000;55(8):643-9.

4. Charles Stuart-Harris CB. Infection, the environment and chronic bronchitis. J R Coll Physicians Edinb. 1971;5(4):351.

5. Lange P, Nyboe J, Appleyard M, et al. Relation of ventilatory impairment and of chronic mucus hypersecretion to mortality from obstructive lung disease and from all causes. Thorax. 1990;45(8):579-85.

Citation: *Ding J. Airway infection/acute exacerbation of chronic bronchitis. J Pulmonol Clin Res. 2023;6(1):133*