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Antibiotic Therapy in Preventing Exacerbations of Severe Chronic Obstructive Pulmonary Disease

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Abstract

1. Chronic obstructive pulmonary disease (COPD) is a progressive disease that has no cure but is treatable. The treatment goal is to have adequate symptom control, decreased exacerbations, prevent hospitalizations and maintain an independent quality of life.

2. The review of literature is to determine if the benefits of long-term antibiotic therapy outweigh the risks in the treatment of severe COPD.

3. The gold standard for pharmacotherapy consists of inhaled corticosteroids and bronchodilators (long-acting beta agonist (LABA)).

4. Adding azithromycin to standard therapy for patients with frequent exacerbations showed a 27% reduction in exacerbation frequency.

5. With prolonged use of antimicrobials there is an increased risk of bacterial resistance. However, in doing this research, it was found that bacterial resistance was not noticed between azithromycin (52%) versus placebo (57%), p = 0.64.

6. Although long-term antimicrobial therapy is becoming a hot topic, it is imperative that we continue to study the detrimental development of bacterial resistance.

Introduction

1. COPD is a chronic, slowly developing progressive disease. Symptoms include shortness of breath, wheezing, coughing and frequent respiratory infections.

2. Standard pharmacological treatment includes inhaled bronchodilators and corticosteroids (National Heart, Lung, and Blood Institute [NHBII], 2017).

3. In severe cases, adding a macrolide antibiotic to their standard treatment decrease exacerbations and improve overall health and quality of life? Do the benefits of antibiotic therapy outweigh the risks?

4. In an effort to answer the above questions, the chosen studies and reviews articles included adults (18 years and older), having a history of moderate to very severe COPD, having one to three acute exacerbations of COPD (AECOPD) in the last year and continuing on standard therapy for COPD.

Statement of the Problem

1. Patients with severe COPD that have exhausted all modalities of standard treatment, may still suffer from “flare ups” or exacerbations of symptoms which can alter their quality of life and lead to frequent hospitalizations (NHBII, 2017).

2. COPD exacerbations cause increased hospitalization, patient discomfort, increased healthcare costs, and decreased quality of life.

3. Current research indicates there is significant improvement in symptom exacerbation for the patients using long-term antibiotic therapy.

4. Current research indicates there is significant improvement in symptom exacerbation for the patients using long-term antibiotic therapy.

5. The majority of COPD patients (up to two thirds) are non-smokers, and are more likely to have asthma (NHBII, 2017).

Discussion

1. Current research indicates there is significant improvement in symptom exacerbation for the patients using long-term antibiotic therapy.

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Applicability to Clinical Practice

1. Long-term antibiotic use for the prevention and treatment of AECOPD is being minimally used at this point.

2. In discussing this topic with Val Tomhaye, RRT, and supervisor of the Sanford Pulmonary Rehab, she stated that three of her patients with severe to very severe COPD are currently using long-term azithromycin therapy with great success.

3. The majority of COPD patients (up to two thirds) are non-smokers, therefore, not candidates for long-term antibiotics.

4. Patients suffering from frequent or severe infective exacerbations despite optimal pharmacological and non-pharmacological treatments would be candidates for long-term antibiotic treatment.

5. Primary care providers will inevitably play a pivotal role in the use of this therapy.

6. Due to the large push for preventative medicine, primary care will be a major factor by helping patients with smoking cessation, eating a healthy diet, getting regular cardiovascular exercise and overcoming psychosocial barriers to accomplish a healthy lifestyle.

References


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