

An Exploration of Bronchiectasis and Airway Clearance Therapy (ACT)

NTM Info & Research survey results reveal patient and physician behaviors related to ACT

Submitted by NTM Info & Research

Airway clearance therapy (ACT) for bronchiectasis patients is considered a cornerstone of therapy; however, there are challenges that make adoption difficult. These include knowledge of ACT options for physicians and patients, as well as patients' behavioral characteristics. This paper explores bronchiectasis, its prevalence and relationship to COPD, along with the results of a survey, uncovering patient and physician practices. Its purpose is to gain an understanding of the underlying factors affecting patients with bronchiectasis and to determine the present nature of and future recommendations for care plans.

Understanding Bronchiectasis

Bronchiectasis is an irreversible lung condition characterized by permanently dilated, enlarged bronchial airways with thick walls and scarring that cause mucus-clearing impairment. The disease can manifest early or late in life, sometimes in the wake of a significant respiratory infection, or inhalation of a foreign object or food particles.¹ It can also be present in patients with other chronic conditions, including autoimmune disorders, cystic fibrosis and inflammatory diseases. Most often, patients have other respiratory conditions, such as asthma and chronic obstruction pulmonary disorder (COPD). Patients with bronchiectasis experience symptoms ranging from a daily cough, fatigue and weight loss to coughing up thick mucus and blood.² The illness is progressive and, over time, generally impairs abilities and worsens quality of life.

Determining Prevalence

One of the most common respiratory diseases, bronchiectasis affects an estimated 340,000 to 522,000 US adults with 70,000 new patients diagnosed annually.³ While diagnostic solutions exist for determining the presence of bronchiectasis—including blood tests, CT scan or chest X-ray, and/or a sputum test⁴—medical experts believe it often remains underdiagnosed.^{5,6} One reason for this is

NTM Info & Research (NTMir) is a 501(c)(3) non-profit patient advocacy organization formed on behalf of patients with pulmonary nontuberculous mycobacterial (NTM) disease, a chronic lung infection, and related comorbid conditions including bronchiectasis. NTM Info & Research is focused on patient support, medical education and accelerating research. International Biophysics Corporation is a medical device manufacturer developing innovative and disruptive technologies for over 25 years. The company is focused on offering patients better outcomes through educational programs and improved treatment therapies. International Biophysics manufactures AffloVest®, the first mobile mechanical oscillation therapy.

that bronchiectasis is often mistaken for other respiratory ailments, including asthma, bronchitis, recurring pneumonia and COPD.^{6,7} Awareness of the clinical presentation of bronchiectasis and its causes are a vital part of timely diagnosis and treatment.⁷

Managing Bronchiectasis

Treatment of bronchiectasis focuses on managing symptoms, improving respiratory function, avoiding exacerbations and elevating quality of life.⁸ Oral antibiotics are most often administered to help manage this incurable illness, but intravenous antibiotics are sometimes prescribed for infections that are particularly difficult to treat.⁹ Other treatments may include prescriptions for expectorants and corticosteroids, oxygen therapy and airway clearance therapy (ACT)⁹; the latter includes chest physical therapy and high frequency chest wall oscillation (HFCWO).

Exploring the Bronchiectasis-COPD Connection

Bronchiectasis and COPD are two very different conditions, although they are sometimes confused. Bronchiectasis does not cause COPD; however, patients with COPD can develop bronchiectasis. Studies indicate that the prevalence of bronchiectasis in COPD patients is as high as 42%.¹⁰ Further, while researchers saw bronchiectasis present at all stages of COPD, its presence grew in frequency in more severe cases of COPD.

Gaining Insight into Patient Diagnosis and Treatment Practices: NTM Info & Research (NTMir) Survey

To obtain a more detailed understanding of airway clearance therapy as a part of a care plan, NTMir surveyed 691 patients through the Individual Management of Patient Airway Clearance Therapy (IMPACT) assessment. The IMPACT assessment was formatted into an online survey using a HIPAA- and GDPR-compliant tool. The survey rollout, using multiple online media channels, garnered responses from two online patient communities for nontuberculous mycobacteria (NTM) and bronchiectasis over an 11-week period.

Bronchiectasis and COPD Diagnosis

With regard to diagnosis, 64% of patients reported a diagnosis of bronchiectasis, while 30% stated they have COPD. Given that 42% of COPD patients could have undetected bronchiectasis, it is possible that 64% is a low figure, with the actual number of patients with bronchiectasis potentially as high as 80%.

ACT Treatment

ACT was recommended for 62% of the patients by their physicians. For 31% of the patients, their physicians recommended ACT within the first month of their diagnosis. Of the 62% of patients engaged in some form of ACT, 21% were using HFCWO.

ACT Compliance

Compliance with ACT was limited among respondents. ACT was believed to be an important part of their care routine for 74% of patients, who added that they believe it makes them healthier. Sixty percent of patients reported engaging in ACT daily, but 26% said they do not. Twenty-nine percent answered that they do not do the recommended treatment twice a day, and half admitted they do not actively perform ACT when traveling. Overall, 27% cited being dissatisfied with their current ACT routine.

ACT Barriers

For many, there were barriers to ACT engagement. For 36%, ACT disrupts daily life. Noise, portability for work and/or travel and feeling ill with treatment were given as other reasons for noncompliance. Forty-one percent said ACT is too time-consuming.

Discussion

Based on the survey results, it is evident that bronchiectasis is a prevalent condition among this representative patient population, and, considering data from other clinical studies, may be underrepresented. While many physicians are recommending ACT, 38% still are not engaging their patients in a therapy deemed valuable based on evidence.¹¹ Studies show that early ACT can help,¹¹ yet only 31% of physicians are recommending it within the first month of diagnosis.

In an environment of proactive, preventative healthcare, there is an opportunity to engage bronchiectasis patients in a care plan that may help manage symptoms and improve their overall quality of life. Although there are barriers to compliance, all patients engaged in some form of ACT when it was recommended by their physicians. In addition, patients believed ACT was an important component in helping them to feel better.

It is true, however, that patients might be short-changing themselves in the benefits they could receive by not fully complying with their physician's instructions or finding an ACT option that helps them overcome their barriers.

Recommendations

There is opportunity to educate patients and convey to physicians the information needed to support more active engagement in ACT. Some ACT options involve less noise and less cleaning and allow for portability, while offering gentle treatment that won't exacerbate symptoms. Further investigation is needed to understand patient and physician practices and learn how best to inform both populations of the benefits of ACT and the options available. By this, the healthcare community can support both patient and physician needs and drive greater compliance for improved health benefits.

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