

Airway and Increasing Airflow to the Lungs to Breathe Easier

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Keywords: CO₂; lung function; resource; Glucocorticoids; patients, and highlights the different pathophysiology in bronchiectasis, Cross-study interpretation; reported outcomes

Introduction

At completion of the study, cough improved as measure by the Leicester Cough Questionnaire, with increases in spontaneous 24-h sputum volume and exercise capacity. The effect on quality of life was excellent and well above the clinically important difference of few points. The poor state of evidence in this area, however, is illustrated by the associated Cochrane review. This review found the body of evidence for physiotherapy in bronchiectasis constituted five trials with few participants. They concluded that airway clearance techniques were safe and that the limited data suggested improvements in sputum expectoration, reduced hyperinflation and improved health-related quality of life in stable patients [1]. One of the most effective forms of chest physiotherapy, in the authors' opinion, is exercise. Pulmonary rehabilitation is recommended for patients with bronchiectasis and although studies to date have been small, they have clearly demonstrated the benefits of rehabilitation are at least as great in bronchiectasis as in CO₂. In a retrospective study, Ong studied patients with bronchiectasis, demonstrating a mean improvement in 6-min walk distance which was sustained. A subsequent pilot randomised controlled trial showed improvements in CQ and SGQ sustained after treatment. In a recent randomised controlled trial, an 8-week supervised exercise training schedule that includes airway-clearance techniques was compared with standard care. 43 patients were randomised to exercise training and standard care. At the end of treatment, patients in the exercise group had an increase in their incremental shuttle walk distance, improved dyspnoea and a reduced time to the next exacerbation and total number of exacerbations over months [2]. This study clearly demonstrates a benefit of exercise to patients with bronchiectasis, but most of the benefits were not sustained to 6 or 12 months suggesting this kind of intervention needs to be continuous to achieve long-term benefits. A variety of agents, such as nebulised hypertonic saline solution, mannitol and mucolytic agents, have been developed to help patients to clear airway secretions.

Discussion

Hypertonic saline may improve forced expiratory volume when used in combination with chest physiotherapy but a recent trial could not clearly establish it was superior to saline. A large trial of hypertonic saline is needed. Recombinant DNase is effective in CF but has been shown to be potentially harmful in a randomised controlled trial in bronchiectasis. It is therefore not advised for use in this group of

FEV1 which are unlikely to be of clinical significance. The main concern of macrolide therapy is a marked increase in macrolide resistance in oropharyngeal and other bacteria. The BA trial showed macrolide resistance in the treatment group compared on placebo. A recent secondary analysis of the B ESS trial has suggested that erythromycin therapy was associated with the emergence, using molecular techniques. No patients became colonised with .aeruginosa by culture and so the

Conflict of Interest

None

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