



Late Breaking Abstract - Benefits of a low-frequency airway clearance technology in non-CF patients with bronchiectasis

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Abstract

Introduction: Bronchiectasis is classified as an obstructive lung disease with typical symptoms including chronic cough with mucus production and dyspnea on exertion. The cause is unknown in almost a half of patients. Airway Clearance Techniques (ACTs) are recommended to prevent worsening of the disease.

Aim and objectives: This study aims to evaluate the benefits of an innovative ACT in non-CF patients with bronchiectasis admitted to hospital due to severe exacerbation.

Methods: 13 non-CF patients with confirmed bronchiectasis were hospitalized due to acute exacerbation. Routine pharmacological therapy was supported by airway clearance device (Simeox, Physio-Assist) facilitating airways clearance by generating successive low-frequency depressions during passive exhalation for 7 consecutive days. Respiratory symptoms, body plethysmography, CAT score and 6MWT were

assessed before and after the intervention.

Results: Population: age 65 ± 6 ys, FEV1% 62 ± 29 , FVC% 83 ± 22 , FEV1/FVC 58 ± 20 , CAT score 24 ± 8 , 6MWT 326 ± 116 m. After 7 days of ACT therapy, CAT score improved by -8 ± 8 ($p=0.008$) and 6MWT increased by $+74\pm 117$ m ($+23\%$, $p=0.036$). Oxygen desaturation during exercise (Δ SpO₂) was reduced by $-0.9\pm 1.2\%$ compared to baseline. Cough intensity, chest congestion and perceived dyspnea decreased significantly. PFT data were slightly improved.

Conclusions: Patients with non-CF bronchiectasis benefit from the use of airway clearance technique during acute exacerbation in hospital setting. Easy to use and efficient airway clearance technology may increase quality of life and exercise capacity of these patients.

Footnotes

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