

primary studies - published RCT

# Comparison of intrapulmonary percussive ventilation and chest physiotherapy. A pilot study in patients with cystic fibrosis.

Code: PM8205878 Year: 1994 Date: 1994 Author: Natale JE

### Study design (if review, criteria of inclusion for studies)

Randomized crossover. Community-based CF referral center.

#### **Participants**

9 nonhospitalized CF patients (range, 7 to 40 years; median, 12.4 years) with moderate to excellent Shwachman scores.

#### Interventions

Three treatment regimens: (1) 2.5 mg albuterol delivered via IPV (internal percussive component activated); (2) 2.5 mg. albuterol delivered via IPV (internal percussive component inactivated), followed by P&PD; and (3) 2.5 mg albuterol delivered via updraft nebulizer, followed by P&PD.

#### **Outcome measures**

Outcome measures included pulmonary function testing (PFTs) and quantitative and qualitative sputum analysis.

#### Main results

Among the three treatment groups, there were no significant differences in the change in predicted PFTs 1 h or 4 h after treatment, nor in the volume of sputum expectorated in the first 4 or in the subsequent 20 h. Among patients receiving IPV, more serious disease was associated with greater improvement in FEF25-75 1 h after treatment, but these differences disappeared by 4 h. There were no meaningful differences in viscoelastic characteristics of sputum expectorated after each treatments. Participants reported general satisfaction with no adverse effects while using IPV.

#### **Authors' conclusions**

This initial pilot study suggests (1) stable patients with CF tolerated one treatment of IPV without adverse sequelae, and (2) IPV was as effective as standard aerosol and P&PD in improving short-term PFT results and enhancing sputum expectoration.

http://www.mrw.interscience.wilev.com/cochrane/clcentral/articles/029/CN-00102029/frame.html

# See also

Chest. 1994 Jun;105(6):1789-93.

## Keywords

Adolescent; Adult; Airway clearance technique; Artificial Ventilation; Child; Drainage; Intrapulmonary; non pharmacological intervention - devices OR physiotherapy; Percussion; pharmacological\_intervention; Postural Drainage; Ventilators; Ventilators- Mechanical; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Intrapulmonary Percussive Ventilation; Respiratory System Agents; oscillating devices; Chest physiotherapy;