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.wiley.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;