primary studies - published RCT

Chest physiotherapy with positive airway pressure: a pilot study of short-term effects on sputum clearance in patients with cystic fibrosis and severe airway obstruction.

Code: PM17005060 **Year:** 2006 **Date:** 2006 **Author:** Placidi G

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

Randomised, cross-over trial.

Participants

17 participants with CF. Severe lung disease. Acute participants. Mean (SD) age 27 (7) years; mean (SD) FEV1% predicted 25 (6); mean (SD) BMI 18 (3) kg/m2; mean (SD) MIP% predicted 87 (17); mean (SD) wet weight sputum 5 (5) g.

Interventions

Order of intervention randomised. Treatment twice daily for 70 mins for 2 days per intervention. Intervention 1 directed cough; Intervention 2 mask PEP; Intervention 3 mask CPAP; Intervention for NIV with IPAP 8 - 12 cmH20; EPAP 4 cmH20.

Outcome measures

Sputum wet and dry weight; number spontaneous coughs; FEV1; mean SpO2; participants subjective impression of the effectiveness and fatigue induced by each treatment.

Main results

There was no statistically significant difference in the dry weight of sputum collected: mask PEP 0.9 +/- 0.6 g, CPAP 0.8 +/- 0.4 g, NPPV 0.9 +/- 0.6 g, control treatment 1.0 +/- 0.8 g. There was a statistically significant difference in the wet weight of sputum collected: mask PEP 15.8 +/- 5.5 g, CPAP 13.7 +/- 5.5 g, NPPV 13.2 +/- 5.0 g, control treatment 14.0 +/- 5.0 g (p

Authors' conclusions

There were no differences in sputum clearance or pulmonary-function measures between mask PEP and short-term administration of either CPAP or NPPV combined with directed cough. After mask PEP these patients felt more tired than after CPAP or NPPV secretion-clearance therapy.

http://www.rcjournal.com/contents/10.06/10.06.1145.pdf

See also

Respir Care. 2006 Oct;51(10):1145-53.

Keywords

Adult; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Positive-Pressure Respiration-PEP- pep mask; Airway clearance technique; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections; Chest physiotherapy;