primary studies - published RCT

Non-invasive proportional assist and pressure support ventilation in patients with cystic fibrosis and chronic respiratory failure.

Code: PM11809990 **Year:** 2002 **Date:** 2002 **Author:** Serra A

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

RCT

Participants

12 stable patients with cystic fibrosis and chronic CO2 retention

Interventions

two periods of spontaneous breathing were followed randomly by non-invasive pressure support ventilation (PSV) (12 (3) cm H2O) and non-invasive proportional assist ventilation (PAV) (flow assist 4.9 (1.3) cm H2O/l.s, volume assist 18.9 (5.1) cm H2O/l) set for the patient's comfort and administered for 40 minutes with 2 cm H2O continuous positive airway pressure.

Outcome measures

Ventilatory pattern, transcutaneous blood gas tensions, and surface diaphragmatic electromyography were measured in the last 10 minutes of each application

Main results

On average, both PSV and PAV improved ventilation (+30%), tidal volume (+30%), and transcutaneous CO2 (-7%) while reducing diaphragmatic activity (-30% with PSV, -20% with PAV). Mean inspiratory airway pressure was lower during PAV than during PSV (9.7 (1.9) and 12.9 (2.7) cm H2O, respectively; p

Authors' conclusions

These results show that short term administration of nasal PAV and PSV to patients with stable cystic fibrosis with chronic respiratory insufficiency is well tolerated, improves ventilation and blood gas tensions, and unloads the diaphragm.

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See also

Thorax. 2002 Jan;57(1):50-4.

Keywords

Adult; non pharmacological intervention - devices OR physiotherapy; Respiratory Insufficiency; Respiratory Tract Infections; Ventilators; Positive-Pressure Respiration- PEP- pep mask; Airway clearance technique; NIV; Infection; Respiratory Tract Diseases; Continuous; Artificial Ventilation;