primary studies - published RCT

Setting of noninvasive pressure support in young patients with cystic fibrosis.

Code: PM15459142 **Year:** 2004 **Date:** 2004 **Author:** Fauroux B

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

randomized trial

Participants

10 children with CF

Interventions

Non-invasive pressure support ventilation (PS-NI) and invasive pressure support ventilation (PS-I)

Outcome measures

a clinical noninvasive method of setting up noninvasive pressure support ventilation (PS-NI) vs a more invasive method (PS-I) targeted at optimising unloading of the inspiratory muscles and enhancing patient-ventilator synchronisation.

Main results

PS-NI differed from PS-I with regard to the level of inspiratory pressure (n=5), rate of inspiratory pressurisation (n=1), inspiratory trigger sensitivity (n=2) and expiratory trigger sensitivity (n=5). Although both methods modified breathing pattern, improved oxygen saturation and reduced diaphragmatic pressure time product (450+/-91 cmH2O.s(-1).min(-1) during spontaneous breathing, and 129+/-125 and 104+/-75 cmH2O.s(-1).min(-1) during PS-NI and PS-I, respectively), patient-ventilator synchrony and patient comfort were enhanced more during PS-I.

Authors' conclusions

In young patients with cystic fibrosis, setting up pressure support using a clinical noninvasive approach based on easily measurable parameters, such as respiratory rate and comfort rating, is as effective as a more invasive technique based on unloading of the inspiratory muscles and optimising patient-ventilator synchronisation. However, whilst the standard clinical method is satisfactory in the majority of patients, more invasive measurements should be considered in patients who have difficulty synchronising with the ventilator to enhance patient tolerance and compliance.

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See also

Eur Respir J. 2004 Oct;24(4):624-30.

Keywords

Adolescent; Adult; Artificial Ventilation; Child; Positive-Pressure Respiration- PEP- pep mask; Airway clearance technique; non pharmacological intervention - devices OR physiotherapy; NIV; Ventilators;