primary studies - published, non RCT

Long-term evaluation of effectiveness for selected chest physiotherapy methods used in the treatment of cystic fibrosis.

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Participants

80 CF children (39 male, 41 female), mean age 11.44 yrs (range 6-18 yrs), with varying degree of severity.

Interventions

The study was carried out during 7 months. The subjects were assigned into four groups. Group had conventional postural drainage with clapping (33 patients, age x-11.12), group II- conventional postural drainage with clapping and vibration (16 patients, age x-11.25), group III - active cycle of breathing technique (18 patients, age x-10.5), group IV Flutter (13 patients, age x- 13.77). All patients had three physiotherapy sessions a day.

Outcome measures

FEV1 FVC, FEV1/FVC, MEF 25-75%, PEF, before and after the study.

Main results

In the group with postural drainage and clapping we observed statistically significant decrease of all studied parameters. The use of additional vibration improved FVC and FEV1/FVC values but the improvement was not statistically significant. FEV1, PEF and MEF25%, were significantly lower. Statistically significant increase of all studied parameters was observed in patients using ACBT. In the Flutter group an increase of FEV1 and FVC values was observed. The other parameters were decreased without statistical significance. Analysis of variance of pulmonary function parameters between groups demonstrated significant differences in FEV1, PEF and MEF50% between postural drainage with vibration and active cycle of breathing technique. Significant differences have also been shown in PEF between postural drainage with clapping and active cycle of breathing technique.

Authors' conclusions

Main conclusions: 1) postural drainage with clapping is less effective compared with the other studied techniques.2) The use of additional vibration did not bring about improvement of drainage efficiency. Vibration increased airways resistance. 3) Flatter device may be less effective in peripheral airways clearance.

http://www.mrw.interscience.wiley.com/cochrane/clcentral/articles/055/CN-00404055/frame.html

See also

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Keywords

non pharmacological intervention - devices OR physiotherapy; clapping; flutter; Postural Drainage; Airway clearance technique; Chest physiotherapy; oscillating devices;