

primary studies - published RCT

Effects of noninvasive ventilation on treadmill 6-min walk distance and regional chest wall volumes in cystic fibrosis: Randomized controlled trial.

Code: PM25195137

Year: 2014 Date: 2018

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

Double-blind multicenter crossover study (2 x 4 m)

Participants

31 CF patients entered the study of which 25 finished it. At start patients aged 9.3yrs (6.9-12.2), had a median BMI score of 18.5 (15-20.8), height score of 1.4 (1.1-1.7) and FEV1% of 100% (87.2-106.6). Median FCP at start was 61 mg/g (17-108) and gut permeability 0.079 (0.051-0.122).

Interventions

Probiotics

Outcome measures

Abdominal pain, nutritional status, pulmonary function, pulmonary exacerbation, fecal calprotectin (FCP) and lactulose/mannitol gut permeability test. Patients kept a diary with daily scoring of abdominal pain, stool frequency and consistency as well as treatment changes.

Main results

No significant changes were observed in the clinical parameters (BMI, FEV1%, abdominal pain, exacerbations). Despite being frequently abnormal (17/28 (61%) >50 mg/kg), FCP did not change significantly with probiotics. The proportion of patients with normal permeability was 8% during placebo and 32% during probiotic treatment (p = 0.031). FCP correlated to BMI score (p = 0.043) and gut permeability to abdominal pain (p = 0.015). The microbiome revealed a high predominance of Actinobacteria and Proteobacteria. Probiotic supplementation did not result in a shift at the phylum nor at phylogenetic level.

Authors' conclusions

Normalization of gut permeability was observed in 13% of patients during probiotic treatment. However, none of the previously described effects could be confirmed.

<http://dx.doi.org/10.1016/j.rmed.2014.04.006>

See also

Respir Med. 2014 Oct;108(10):1460-8.

Keywords

Probiotics; Immunoregulatory; pharmacological_intervention;