

primary studies - published RCT

Probiotics in cystic fibrosis patients: a double blind crossover placebo controlled study: pilot study from the ESPGHAN Working Group on Pancreas/CF

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

Double―blind multicenter cross―over 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 z―score of ―0.5 (―1.5―0.08), height z―score of ―0.4 (―1.1―0.05) and FEV1% of 100% (87.2―106.6). Median FCP at start was 61 mug/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 z―score (p = 0.043) and gut permeability to abdominal pain (p = 0.015). The microbiome revealed a high predominance of Actinobacteria and Proteobacteriae. 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.

https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01623615/full

See also

Clinical nutrition ESPEN

Keywords

Probiotics; Immunoregulatory; pharmacological_intervention;