primary studies - published RCT

Disrupted intestinal microbiota and intestinal inflammation in children with cystic fibrosis and its restoration with Lactobacillus GG: a randomised clinical trial.

Code: PM24586292 **Year:** 2014 **Date:** 2014 **Author:** Bruzzese E

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

Double-blind randomized clinical trial

Participants

Twenty-two children with CF (median age, 7 years; range, 2-9 years).

Interventions

Administration of probiotics: Lactobacillus GG (LGG) with and without antibiotic treatment.

Outcome measures

The intestinal microbiota were analyzed by denaturing gradient gel electrophoresis (DGGE), real-time polymerase chain reaction (RT-PCR), and fluorescence in situ hybridization (FISH). Intestinal inflammation was assessed by measuring fecal calprotectin (CLP) and rectal nitric oxide (rNO) production in children with CF as compared with healthy controls.

Main results

Fecal CLP and rNO levels were higher in children with CF than in healthy controls (184+/-146 microg/g vs. 52+/-46 microg/g; 18+/-15 vs. 2.6+/-1.2 micromol/L NO2 (-), respectively; P

Authors' conclusions

CF causes qualitative and quantitative changes in intestinal microbiota, which may represent a novel therapeutic target in the treatment of CF. Administration of probiotics restored gut microbiota, supporting the efficacy of probiotics in reducing intestinal inflammation and pulmonary exacerbations.

http://dx.doi.org/10.1371/journal.pone.0087796

See also

PLoS One. 2014 Feb 19;9(2):e87796. doi: 10.1371/journal.pone.0087796. eCollection 2014.

Keywords

Child; Lactobacillus; Probiotics; Supplementation; Oral; Immunoregulatory; pharmacological_intervention;