primary studies - published RCT

Biological effects of a dietary omega-3 polyunsaturated fatty acids supplementation in cystic fibrosis patients: a randomized, crossover placebo-controlled trial.

Code: PM16325968 **Year:** 2006 **Date:** 2006 **Author:** Panchaud A

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

2 x 6-month period, cross-over trial with no washout period.

Participants

17 children and young adults with CF and pancreatic insufficiency (mean (SD) age 18 (9) years)), 10 male and 7 female. 1 participant discontinued study after 8 months for personal convenience.

Interventions

Liquid dietary supplement containing PUFA mixture (EPA, DHA, GLA and STA) compared with liquid dietary supplement without PUFA mixture over 6 months. Volume of supplementation was determined according to participant's weight; intake ranged from 100 - 300

Outcome measures

number of people experiencing adverse events; number of deaths; changes in peripheral blood neutrophil membrane composition; in vitro neutrophilic response to inflammatory stimuli; changes in in-vitro neutrophil chemotaxis.

Main results

Increase in eicosapentaenoic acid was observed in neutrophil membrane following omega-3 PUFA dietary supplementation (from 0.7+/-0.6 to 1.6+/-0.6 micromol%, P

Authors' conclusions

Our results show that omega-3 PUFA are incorporated in neutrophil membranes. The subsequent decrease in LTB(4)/LTB(5) ratio suggests that, in such conditions, neutrophils may produce less pro-inflammatory mediators from the acid arachidonic pathway. These data indicate that omega-3 PUFA intake may have anti-inflammatory effect that still need to be assessed by long-term studies following large groups of patients.

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See also

Clin Nutr. 2006 Jun;25(3):418-27. Epub 2005 Dec 2.

Keywords

Adolescent; Adult; Child; omega-3; non pharmacological intervention - diet; pharmacological_intervention; placebo; essential fatty acids; Supplementation; Docosahexaenoic Acid -DHA-;