

primary studies - published RCT

Once-daily tobramycin in cystic fibrosis: better for clinical outcome than thrice-daily tobramycin but more resistance development?.

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

3-month, parallel design trial. Randomised using random number generator.

Participants

43 children and adults with "severe" CF mutations (age range 7 to 41 years); 35 participants completed the study; 18 female, 17 males. 20 participants were chronically infected with *Pseudomonas aeruginosa*. 8 participants discontinued the study and the inclusion parameters of these patients did not differ from those who completed the study.

Interventions

50 mg/kg per day of one of three fatty acid blend capsules over 3 months; group A capsules contained predominantly EPA and DHA, group C contained high proportion of linoleic acid and arachidonic acid and group B (placebo) contained predominantly saturated fatty acids. Participants increased their pancreatic enzymes by 10% to 20% to maintain normal stools.

Outcome measures

changes in serum phospholipid essential fatty acid content; changes in inflammatory markers; adverse effects; BMI and weight; lung function; medical treatment.

Main results

35 patients in clinically stable condition completed the study. The serum phospholipid FA pattern changed significantly in all 3 groups. An increase of the n-6 FA, arachidonic acid, was associated with a decrease of FENO and nNO. The inflammatory biomarkers, erythrocyte sedimentation rate, and interleukin-8 decreased after supplementation with n-3 FA and erythrocyte sedimentation rate increased after supplementation with n-6 FA.

Authors' conclusions

This small pilot study indicated that the composition of dietary n-3 and n-6 FA influenced the inflammatory markers in CF. FENO and nNO were influenced by changes in the arachidonic acid concentration, supporting previous studies suggesting that both the lipid abnormality and the colonization with *Pseudomonas* influenced NO in the airways.

<http://dx.doi.org/10.1093/jac/dkl328>

See also

J Antimicrob Chemother. 2006 Oct;58(4):822-9. Epub 2006 Aug 2.

Keywords

Adolescent; Adult; Child; omega-3; omega-6; non pharmacological intervention - diet; Supplementation; essential fatty acids; Capsules; Docosahexaenoic Acid -DHA-; linoleic acid;