primary studies - published RCT

Fatty acids composition of plasma phospholipids and triglycerides in children with cystic fibrosis. The effect of dietary supplementation with an olive and soybean oils mixture.

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

RCT

Participants

The study included 14 young subjects, aged between 6 and 15 years, affected by cystic fibrosis, with pancreatic insufficiency and heterozygotes or homozygotes for the delta F508 mutation. The subjects were matched by age and randomly assigned to treatment group (n = 7), or to a control group (n = 7).

Interventions

dietary supplement constituted of a mixture of 50% extra virgin olive oil and 50% soybean oil

Outcome measures

plasma phospholipids and triglycerides fatty acids

Main results

In contrast to the control group, the patients with supplemented diet achieved significant increases of the relative amount of C18:1 in the triglycerides as well as a significant decrease in saturated fatty acids (C 16:0, C 17:0, C 18:0, C 22:0). Moreover, the ratio between LA acid and AA significantly increased in the triglycerides of the OM group. In the phospholipids of the OM group, the relative amount of C 18:1 and of palmitic acid increased significantly whereas the relative amount of the most important polyunsaturated fatty acids (PUFA) decreased. These results show that oleic acid can be absorbed and incorporated into the plasma triglycerides of CF patients receiving pancreatic enzymes, whereas poor incorporation of LA occurs. Despite the reduction in the relative amounts of phospholipid PUFA, the supplemented subjects did not reported adverse effects There were no significant differences between groups in the clinical indexes recorded (height, weight, BMI, Schwachman-Kulczycki score and FEV 1s).

Authors' conclusions

The results of this study showed that the supplementation with a mixture of extravirgin olive and soybean oil was safe in seven CF patients treated during a 2-months period and no negative clinical effects were evident. However, further clinical trials will be necessary in order to better evaluate the consequence of the observed changes in plasma fatty acids composition in a longer testing period.

http://www.bambinoprogettosalute.it/download/caramia/lavori/Fat.ac.FC.pdf

See also

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Keywords

Adolescent; Caloric Intake; Child; Food; non pharmacological intervention - diet; oils; soya; Supplementation; essential fatty acids;