primary studies - published RCT

Linoleic acid absorption from lipid supplements in patients with cystic fibrosis with pancreatic insufficiency and in control subjects.

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

randomized controlled trial

Participants

CF patients with documented pancreatic insufficiency and normal control subjects

Interventions

four different lipid supplements on separate days (a minimum of 3 days apart). The supplements were commercial safflower oil, Microlipid, Captex 810D, and Captex 810B. Fasting subjects consumed 36 g of lipid in a milk shake containing 15 g of protein and 45 g of carbohydrate.

Outcome measures

plasma linoleic acid. Plasma samples obtained at 0, 2, 4, 6, and 8 h after the meal

Main results

Plasma samples obtained showed that CF patients absorbed linoleic acid from all of the lipid preparations tested when administered with their regular dose of pancreatic enzyme supplement. The mean maximal increase in percent plasma linoleic acid in CF patients was not different from controls after ingestion of safflower oil, Microlipid, and Captex 810B. With Captex 810D CF patients had a significantly higher increase in percent plasma linoleic acid than controls, 6.75% vs. 2.27%, respectively, at 2 h (p

Authors' conclusions

Results indicate that malabsorption alone cannot account for the inadequate or marginal essential fatty acid status of CF patients. The fact that linoleic acid was absorbed as well by CF patients as controls in the present study suggests that CF patients in many previous supplementation studies either have not been given sufficient linoleic acid or have used the linoleic acid ingested to meet caloric needs. There is increasing evidence that adequate total caloric intake may be a far more important factor in determining the essential fatty acid status of CF patients than previously recognized. Our results suggest that long-term consumption of supplemental linoleic acid in addition to adequate caloric intake should improve the linoleic acid status of most, if not all, CF patients

http://www.mrw.interscience.wiley.com/cochrane/clcentral/articles/293/CN-00357293/frame.html

See also

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Keywords

Child; Gastrointestinal Diseases; linoleic acid; Malabsorption; non pharmacological intervention - diagn; non pharmacological intervention - diet; Nutrition Disorders; Pancreas insufficiency; Pancreatic Diseases; Supplementation; omega-6; essential fatty acids;