primary studies - published RCT

Impact of 1-Year Supplementation with High-Rich Docosahexaenoic Acid (DHA) on Clinical Variables and Inflammatory Biomarkers in Pediatric Cystic Fibrosis: A Randomized Double-Blind Controlled Trial.

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

Randomized, double-blind, and placebo-controlled study

Participants

22 pediatric patients with cystic fibrosis (CF). The mean age was 11.7 years.

Interventions

Dietary supplementation with high-rich docosahexaenoic acid (DHA) (Tridocosahexanoin-AOX(®) 70%) at 50 mg/kg/day. The duration of supplementation was 12 months. A total of 22 patients were included, with 11 in the DHA group and 11 in the placebo group.

Outcome measures

Pulmonary function, exacerbations, sputum cellularity, inflammatory biomarkers in sputum and peripheral blood, and anthropometric variables.

Main results

In the DHA group, there was a significant increase in FVC (p = 0.004) and FVE(1) expressed in liters (p = 0.044) as compared with placebo, and a lower median number of exacerbations (1 vs. 2). Differences in sputum cellularity (predominantly neutrophilic), neutrophilic elastase, and sputum and serum concentrations of resolvin D1 (RvD1), interleukin (IL)-8 (IL-8), and tumor necrosis factor alpha (TNF-Î±) between the study groups were not found. Significant increases in weight and height were also observed among DHA-supplemented patients. The administration of the study product was safe and well tolerated.

Authors' conclusions

The use of a highly concentrated DHA supplement for 1 year as compared with placebo improved pulmonary function and reduced exacerbations in pediatric CF.

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See also

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Keywords

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