Omega-3 fatty acid supplementation in patients with chronic epilepsy: a randomized trial

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Animal studies and a preliminary clinical observation suggest that nutritional supplementation with long chain omega-3 fatty acids (omega-3 FAs) may be useful in the nonpharmacological treatment of patients with epilepsy. Omega-3 FAs increase seizure thresholds, and lower inflammatory mediators, which are increased in patients with epilepsy. In this first randomized, placebo-controlled parallel group trial of omega-3 FA supplementation with 1 g eicosapentaenoic acid (EPA) and 0.7 g docosahexaenoic acid (DHA) daily, 57 patients completed a 12-week double-blind phase. Seizure frequency was reduced over the first 6 weeks of treatment in the supplement group, but this effect was not sustained. The supplementation produced a significant increase in EPA and DHA concentrations and a reciprocal fall in arachidonic and linoleic acid concentrations. No change in serum AED concentrations was detected. Further studies are required to examine different omega-3 FA preparations, different doses, longer treatment duration, and larger sample sizes.

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