Omega-3 fatty acids not associated with beneficial effects in multiple sclerosis: study

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Omega-3 fatty acid supplements were not associated with beneficial effects on disease activity in patients with relapsing-remitting multiple sclerosis, according to a report of a randomized controlled trial published Online First by *Archives of Neurology*.

Multiple sclerosis is a chronic, incurable disease of the central nervous system that affects about 2.5 million people worldwide. Some patients use, or have tried, omega-3 fatty acids supplementation to control the disease because the essential fatty acids could theoretically have anti-inflammatory and neuroprotective effects in multiple sclerosis, the authors write in their study background.

Øivind Torkildsen, M.D., Ph.D., of Haukeland University Hospital, Bergen, Norway, and colleagues included 92 patients with multiple sclerosis in their double-blind, placebo-controlled trial to examine whether omega-3 fatty acid supplementation as a monotherapy (single therapy) or in combination with subcutaneous (under the skin) interferon beta-1a could reduce disease activity.

Half of the patients (46) were given omega-3 fatty acids - 1350 mg of eicosapentaenoic acid and 850 mg of docosahexaenoic acid daily - and the other half (46) were administered placebo. After six months, all patients received interferon beta-1a three times a week for another 18 months. Researchers used magnetic resonance imaging (MRI) to measure disease activity by the number of new T1-weighted gadolinium-enhancing lesions in the brain.

"The results from this study did not show any beneficial effects of ω-3 [omega-3] fatty acid supplementation on disease activity in multiple sclerosis as a monotherapy or in combination with interferon beta," the authors comment. They note their results were in contrast with two other studies reporting a possible positive effect.

The median number of new T1-weighted gadolinium-enhancing lesions was three in the omega-3 fatty acids group and two in the placebo group during the first six months, according to the study results. The results indicate no difference between the two groups in the number of relapses during the first six months of treatment or after 24 months. No differences were detected either in fatigue or quality-of-life scores.

However, the authors comment their data do not suggest that omega-3 fatty acid supplementation was harmful or that it interfered with interferon beta treatment, which they note can reduce disease activity in the relapsing-remitting course of the disease.

"The design of this study allowed us to compare the effect of ω-3 fatty acid supplementation both against placebo alone and in combination with interferon beta. As expected, the MRI disease activity was significantly reduced when interferon beta-1a was introduced," they conclude.

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