Use of omega-3 does not appear to reduce recurrence of atrial fibrillation

November 15 2010

Although some data have suggested that omega-3 fatty acid supplements, such as from fish oil, may improve treatment of atrial fibrillation, a randomized trial with more than 600 patients finds that treatment with high-dose prescription omega-3 did not reduce the recurrence of atrial fibrillation over six months, according to a study that will appear in the December 1 issue of *JAMA*. The study is being released early online because it will be presented at the American Heart Association's annual meeting.

"Atrial fibrillation (AF) is a highly prevalent disease that is responsible for reduced quality of life, costly hospitalizations, heart failure, stroke, and death. No current therapy, drug, device, or ablation [removal of tissue or cells] is uniformly effective, and several available therapies have the potential to cause harm. Consequently, useful alternatives are being sought," the authors write. "Limited data from small trials suggest omega-3 polyunsaturated fatty acids may provide a safe, effective treatment option for AF participants."

Peter R. Kowey, M.D., of the Lankenau Institute for Medical Research, Wynnewood, Pa., and colleagues conducted a randomized clinical trial to assess the efficacy of a pure prescription formulation of omega-3 fatty acids (prescription omega-3), at a dose considerably higher than what has been tested in previous trials, for preventing recurrent atrial fibrillation. The study included 663 U.S. outpatient participants with confirmed symptomatic paroxysmal (sudden attacks) (n = 542) or persistent (n = 121) AF, with no substantial structural heart disease, who

were recruited from November 2006 to July 2009 (final follow-up was January 2010). Participants received prescription omega-3 (8 grams/day) or placebo for the first 7 days; prescription omega-3 (4 grams/day) or placebo thereafter through week 24.

After 6 months of follow-up, the researchers found that in the paroxysmal group, there were 129 documented symptomatic AF or flutter (abnormal, rapid heart beat) events (48 percent) in the placebo group and 135 (52 percent) in the prescription group. In the persistent AF group, there were 18 documented symptomatic AF or flutter events (33 percent) in the placebo group and 32 (50 percent) in the prescription group, while in the 2 groups combined there were 147 events (46 percent) in the placebo group and 167 (52 percent) in the prescription group.

None of the secondary efficacy end points, including first recurrence of AF or flutter in the persistent group and both groups combined, reached statistical significance. Sixteen participants (5 percent) taking placebo, and 12 (4 percent) taking prescription omega-3 discontinued study medication due to an adverse event.

"In this population of patients with symptomatic paroxysmal AF or persistent AF, and no evidence of substantial structural heart disease, prescription omega-3 did not show evidence of reducing the recurrence of symptomatic atrial fibrillation," the authors write.

They add that several factors might contribute to the discordance between their findings and those of other studies. "Either the positive results reported in some trials represent a chance effect of small sample sizes or the differences are real. If the latter, there are several possibilities, including differences in the study populations, in population-specific AF mechanisms, in dosing regimens and product formulations, or in concomitant therapies. In our study, nearly half the

events occurred during the first 2 weeks of follow-up, suggesting that fish oil may not have rapid effects, even with high-loading doses."

More information: *JAMA*. 2010;304[21]:doi:10.1001/jama.2010.1735