

[Heart Rhythm](#). 2011 Nov 23. [Epub ahead of print]

Long-term omega-3 polyunsaturated fatty acid supplementation reduces the recurrence of persistent atrial fibrillation after electrical cardioversion.

[Kumar S](#), [Sutherland F](#), [Morton JB](#), [Lee G](#), [Morgan J](#), [Wong J](#), [Eccleston DE](#), [Voukelatos J](#), [Garg ML](#), [Sparks PB](#).

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Department of Cardiology, The Royal Melbourne Hospital, Parkville, Victoria, Australia; Department of Medicine, University of Melbourne, Parkville, Victoria, Australia.

Abstract

BACKGROUND:

Persistent atrial fibrillation (AF) is associated with a high risk of recurrence after electrical cardioversion.

OBJECTIVE:

We examined if long-term supplementation with omega-3 polyunsaturated fatty acids in fish oils commenced >1 month prior to electrical cardioversion and continued thereafter reduces the recurrence of persistent AF.

METHODS:

This was an open-label, randomized study of patients with documented persistent AF >1-month duration. Participants were assigned to control group or omega-3 group (6 g/d fish oil) and underwent cardioversion 1 month later. Concurrent antiarrhythmic use of sotalol or amiodarone was permitted. Fish oil was continued till return of persistent AF or a maximum of 1 year. Intention-to-treat analysis was performed for the primary end point defined as the recurrence of persistent AF.

RESULTS:

Mean duration of fish oil intake was 56 days precardioversion and a total of 242 days in follow-up. Eicosapentaenoic acid and docosahexaenoic acid, the active components of fish oils, were 1.8-fold and 2.1-fold higher, respectively, in the omega-3 group compared with controls at the time of cardioversion ($P < .001$). At 90 days, 38.5% of the patients receiving omega-3 fatty acid supplement had AF recurrence compared with 77.5% of the controls (hazard ratio [omega-3 vs control] 0.38; 95% confidence interval 0.27-0.56; $P < .001$). Omega-3 intake was associated with a significant reduction in AF recurrence with or without concurrent antiarrhythmic drugs.

CONCLUSIONS:

Omega-3 polyunsaturated fatty acid supplementation commenced >1 month prior to electrical cardioversion and continued thereafter reduces the recurrence of persistent AF. Randomized trials on long-term fish oil supplementation are needed to confirm these findings.