Effect of Supplemented Intake of DHA and EPA on Arrhythmias in CHD Patients with ICD – A RCT

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Background: Most compelling epidemiological, experimental and clinical evidences for eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) effect on the reduction of cardiovascular mortality (in particular its ability to reduce the risk of sudden death) focuses on the anti-arrhythmic mechanism of action.We sought to study the antiarrhythmic effect by a randomized crossover placebo controlled study in post MI ICD patients.

Methods: 105 post-myocardial infarction patients with ICD received 3.6 gram of EPA and DHA and placebo for 6 months each at a random order with a 4-month washout period between treatments. 87 patients completed the 16 months study protocol. We looked at arrhythmic episodes stored by the ICDs.

Results: No differences were found in mean number of NSVT episodes or number of patients experiencing NSVT episodes between placebo and fish-oil treatment (3.24 ± 15.1 vs. 1.09 ± 2.7, p= 0.170 respectively). 23 patients in each one of the fish-oil and the placebo period experienced NSVT episode. No difference was found between mean number of VT episodes terminated with ATP or number of patients experienced VT episodes terminated with ATP between placebo and fish-oil treatment (2.8 ± 13.7 vs. 0.5 ± 2.1 p=0.077 respectively and 16 vs. 13 patients p=0.627). No difference where found comparing mean of VT/VF episodes terminated with shock or number of patients experienced VT/VF episodes terminated with shock between placebo and fish-oil treatment (0.11 ± 0.6 vs. 0.10 ± 0.4, p=0.874 respectively and 5 vs. 7 patients p=0.727).

Conclusions: This study failed to show neither protective effect nor proarrhythmic effect of fish-oil in post MI patients with ICD. Our data do not support fish oil supplementation to reduce arrhythmic events in patients with ICD.