OMEGA-3 FATTY ACIDS IN PREVENTION OF POST-CARDIAC SURGERY ATRIAL FIBRILLATION: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Background: Previous randomized studies have reported conflicting results on the efficacy of omega-3 fatty acids (PUFA) in preventing atrial fibrillation (AF) post cardiac surgery. Therefore, a meta-analysis of the role of PUFA in the prevention of atrial fibrillation in post-cardiac surgery patients was conducted.

Methods: A systematic search was conducted to identify all of the studies in human subjects published until end of October 2012, that reported the effects PUFA on the prevention of atrial fibrillation in post-cardiac surgery patients. Comprehensive meta-analysis software version 2.0 was used for statistical analysis. Combined odds ratios (OR) across all the studies and 95% confidence intervals (CI) were computed. A two-sided alpha error <0.05 was considered statistically significant.

Results: A total of 2687 patients (1337 PUFA therapy group, 1387 placebo group) from 8 prospective randomized controlled studies were included. Both groups had similar baseline characteristics. The use of PUFA significantly reduced the incidence of postoperative AF (odds ratio [OR] 0.75; 95% confidence interval [CI], 0.57 to 0.99; P: 0.04) [Figure 1]. On sensitivity analysis, no statistically significant difference was noted when stratified by study design or quality of the studies.

Conclusions: In post-cardiac surgery patients, PUFA therapy significantly reduces the risk of developing AF.