New Medical Review Supports Cardio Benefit of High Dose Omega-3 in Patients with Disease

Reference:

Long-Term Effect of High Dose Omega-3 Fatty Acid Supplementation for Secondary Prevention of Cardiovascular Outcomes: A Meta-Analysis of Randomized, Double-Blind, Placebo Controlled Trials


Centre of Epidemiology and Preventive Pharmacology, University of Milan, Milan, Italy

Summary:

Numerous population studies, controlled clinical trials, and reviews (including meta-analyses) have reported a beneficial impact on cardiovascular disease and events by consuming fish/fish oil containing DHA/EPA omega-3 fatty acids. However, some inconsistency has arisen regarding the established benefit of omega-3 supplementation in this regard based on a few recent trials and reviews of the relevant literature. The present authors have carried out a systematic review herein (and ‘meta-analysis’) using specific criteria for including published clinical trials in their evaluation which, as they outline, differ from the criteria used in the recent and inconsistent reviews. They point out that some of the latter reviews: 1) included clinical trials wherein an appropriate control group (placebo was not employed, 2) included trials wherein widely-different doses of omega-3 were used, 3) included trials of short duration (less than one year) such that a longer duration may have yielded a clinical benefit, 4) included mixed subject groups ranging from disease-free to those with mild-moderate disease to high-risk patients such as those with heart failure.

In the current analysis and review of published clinical trials, the present authors employed the following criteria: 1) the controlled trial had to have included an appropriate control (placebo group), 2) the patients had to have a history of cardiovascular disease, 3) the trial had to have used an appropriately high daily dose of supplemental omega-3 fatty acid of at least one gram or more, 4) the duration of the trial should have been at least one year or more, 5) so-called ‘hard outcomes’ such as cardiac death, sudden death, myocardial infarction, other should have
been investigated and allow for quantitative determinations of such end-points.

The authors found 11 clinical trials for review that fulfilled their criteria with these studies collectively having 15,348 patients with 7,694 receiving supplementation with omega-3 (in addition to other cardioprotective medications) and 7,654 receiving supplementation with a ‘placebo’ (no omega-3). Significant protective effects of omega-3 supplementation were found (relative to the ‘placebo’ group) for cardiac death (32% reduction overall), sudden death (25% reduction), and myocardial infarctions (25% reduction). In addition to the criteria they employed which differed from those used in a couple of recent reviews which did not find a significant protection of omega-3 supplementation (see above- factors such as high risk patients used in this review, higher dosages, longer durations), the authors emphasized the point that those patients not receiving statin medication (for blood cholesterol-lowering) for whatever reasons may be more likely to derive benefit from omega-3 supplementation. The authors conclude that their results supply evidence ‘that long-term effect of high dose omega-3 fatty acid supplementation may be beneficial for the onset of cardio death, sudden death, and myocardial infarction among patients with a history of cardiovascular disease’.

Dr. Holub’s Comments:

This newly-released review adds to conclusions from numerous previous reviews (including meta-analyses) regarding the cardio-protective effects of EPA/DHA omega-3 supplementation. As mentioned, there have been a couple of recent reviews on the topic which did not conclude that statistically-significant benefits on cardio outcomes were realized with omega-3 supplementation. This present review provides a strong argument for the importance of the patient population studied, dose and duration of omega-3 supplementation, and background medication (ie, statins) as factors which influence the likelihood of supplementary EPA/DHA providing significant cardio-protection against myocardial infarctions (heart attacks), cardio and sudden death.