

Study reveals mounting evidence of heart health benefits from Omega-3 Fatty Acids

There is mounting evidence that omega-3 fatty acids from fish or fish oil supplements not only help prevent cardiovascular diseases in healthy individuals, but also reduce the incidence of cardiac events and mortality in patients with existing heart disease. A new study, published in the August 11, 2009, issue of the Journal of the American College of Cardiology, extensively reviews data from a broad range of studies in tens of thousands of patients and sets forth suggested daily targets for omega-3 consumption.

"This isn't just hype; we now have tremendous and compelling evidence from very large studies, some dating back 20 and 30 years, that demonstrate the protective benefits of omega-3 fish oil in multiple aspects of preventive cardiology," said Carl Lavie, M.D., F.A.C.C., medical director of Cardiac Rehabilitation and Prevention, Ochsner Medical Center, New Orleans, LA, and lead author of the article. "The strongest evidence of a cardioprotective effect of omega-3s appears in patients with established cardiovascular disease and following a heart attack with up to a 30 percent reduction in CV-related death."

Dietary intake of fish oil can also decrease the risk of atherosclerosis, arrhythmias, heart attack, sudden cardiac death and even heart failure. Dr. Lavie adds that although there is a smaller benefit in reducing heart failure death -- 9 percent mortality benefit in a major recent randomized controlled trial -- this is still very impressive given patients' grave prognosis.

"If we translate this finding, it means that we only need to treat 56 patients for four years to prevent one death," he said. "And we are talking about a very safe and relatively inexpensive therapy."

Most of the evidence for the cardioprotective benefits supports the use of DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid), the long-chain fatty acids in the omega-3 family. According to Dr. Lavie, EPA and DHA work by getting into the membranes of cells and, in doing so, may help to improve the heart's electrical activity, vascular tone, plaque stabilization and blood pressure, among other benefits. Studies show that the reduction in CV events is inversely related to the tissue level EPA and, even more so, DHA.

Based on these findings, and because the body does not produce its own essential fatty acids, the authors recommend that healthy individuals should consume 500 mg daily of omega-3 fish oil containing EPA and DHA, and people with known heart disease or heart failure aim for at least 800 to 1,000 mg daily.

"There are clear health and heart benefits associated with increasing one's intake of foods that are rich in Omega-3s, including oily fish like salmon, sardines, trout, herring, and oysters" said Dr. Lavie "Patients should talk with their doctors about whether a fish oil supplement is needed to get the right amount and, in turn, benefit from the associated cardiovascular protection."

Dr. Lavie and his team came across only a few negative studies, including a recent one that showed no benefit in post-MI patients, but it has raised the possibility that omega-3 fatty acids may not provide as much additional protective benefits in low-risk patients already receiving extensive and rigorous post-MI therapies. "It was a one-year study that enrolled fewer than 4,000 patients and the majority were using aspirin, clopidogrel, statins, beta-blockers and ACE-inhibitors -- the best of modern medicine," he said. "It may be that their risk was so low to start, that a larger study with longer follow-up would be required to better assess the true efficacy of omega-3 in such relatively low-risk patients."

Authors say further studies are needed to investigate and determine optimal dosages, as well as the relative ratio of DHA and EPA that provides maximal heart protection in those at risk of cardiovascular disease, and in the treatment of atherosclerosis, arrhythmias and heart attacks.

Interestingly, culture has historically played a role; sometimes dubbed the "Eskimo factor," research shows cultures that have traditionally supported a diet rich in fish oil (Asian and Alaskan American populations) had a lower prevalence of cardiovascular disease and mortality, including a reduced prevalence of atherosclerosis and heart disease, compared to European and United States populations where consumption of fish is lower. Ironically, the introduction of Western dietary practices into Asian and Native American cultures may be diluting the cardioprotective benefits enjoyed by these populations by both reducing the overall intake of fish oils, as well as overwhelming its benefits with other deleterious dietary practices, including high intakes of saturated and trans fats and cholesterol.