Reduced Induction of Tachycardia in Patients with DHA/EPA Supplementation

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Reference:

Effect of dietary n-3 polyunsaturated fatty acids on the inducibility of ventricular tachycardia in patients with ischemic cardiomyopathy


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Summary:

The present clinical trial was conducted to evaluate the potential effect of treatment with supplemental fish oil containing DHA/EPA on the inducibility of ventricular tachycardia in patients at high risk of sudden cardiac death (ventricular tachycardia is an abnormally accelerated heart rate which is potentially fatal). The test patients for this study had coronary artery disease and were undergoing defibrillator implantation. At the beginning, and after the 6 week treatment period, all patients underwent electrophysiological testing to determine their susceptibility to induction of ventricular tachycardia (VT). During this 42 day period, one group of patients received no omega-3 supplementation while the treatment group consumed 900 mg of DHA/EPA (sum) daily consisting of 360 mg of DHA plus 540 mg EPA. After the 6 week period, 42% of the DHA/EPA-supplemented group exhibited no inducible VT as compared to only 7% in the control (untreated) group. Dietary fish oil caused a decrease in the inducibility of sustained VT in patients with heart disease and with previous inducible VT. As expected, the levels of DHA/EPA in the red blood cells (phospholipid) were much higher in the fish oil-supplemented patients when measured as compared to the controls. The authors concluded that their results herein support an anti-arrhythmic effect of fish oil containing DHA/EPA.

Dr. Holub's Comments:
The present study suggests that DHA/EPA omega-3 fatty acids may possibly reduce the risk of sudden cardiac death (as reported in some studies) by allowing the arrhythmia to self-terminate. It is noted that the level of supplementation used (total intake of DHA plus EPA of 900 mg/day) is very similar to that used in the GISSI Prevenzione trial (wherein a marked reduction in sudden cardiac death was observed with omega-3 supplementation in patients following a heart attack) and is the level advocated in dietary guidelines from the American Heart Foundation for patients with coronary heart disease. Such levels of total DHA/EPA intakes are common in a substantial portion of the adult population in Japan due to their high intake of fish/seafood.