Cardiovascular benefits of omega-3 fatty acids.

von Schacky C, Harris WS


Abstract
Cardiac societies recommend the intake of 1 g/day of the two omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) for cardiovascular disease prevention, treatment after a myocardial infarction, prevention of sudden death, and secondary prevention of cardiovascular disease. These recommendations are based on a body of scientific evidence that encompasses literally thousands of publications. Of four large scale intervention studies three also support the recommendations of these cardiac societies. One methodologically questionable study with a negative result led a Cochrane meta-analysis to a null conclusion. This null conclusion, however, has not swayed the recommendations of the cardiac societies mentioned, and has been refuted with good reason by scientific societies. Based on the scientific evidence just mentioned, we propose a new risk factor to be considered for sudden cardiac death, the omega-3 index. It is measured in red blood cells, and is expressed as a percentage of EPA + DHA of total fatty acids. An omega-3 index of >8% is associated with 90% less risk for sudden cardiac death, as compared to an omega-3 index of <4%. The omega-3 index as a risk factor for sudden cardiac death has striking similarities to LDL as a risk factor for coronary artery disease. Moreover, the omega-3 index reflects the omega-3 fatty acid status of a given individual (analogous to HbA1c reflecting glucose homeostasis). The omega-3 index can therefore be used as a goal for treatment with EPA and DHA. As is the case now for LDL, in the future, the cardiac societies might very well recommend treatment with EPA and DHA to become goal oriented (e.g. an omega-3 index>8%).

MeSH
Animals; Cardiovascular Diseases; Cardiovascular System; Death, Sudden, Cardiac; Dietary Supplements; Erythrocytes; Fatty Acids, Omega-3; Fish Oils; Health Status Indicators; Humans

CAS Registry Number (Substance Name)
0 (Fatty Acids, Omega-3); 0 (Fish Oils)

Author Address
Medizinische Klinik und Poliklinik Innenstadt, Ludwig Maximilians-Universität München, Ziemssenstrasse 1, D-80336 Munich, Germany. Clemens.vonschacky@med.uni-muenchen.de

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