
**Significance:** A protective role of n-3 polyunsaturated fatty acids (PUFA) from marine sources is strongly suggested from epidemiologic and observational studies. Experimental studies also suggest numerous plausible mechanisms for this protective effect; however, there has been no clear biomarker that links these fatty acids to coronary heart disease (ie, they do not lower blood cholesterol). Accordingly, well-designed intervention studies are necessary in order to establish the definitive benefits of n-3 PUFA. The significance of this study, aside from its size and length of follow-up, is that it showed daily supplementation of n-3 PUFA reduced long-term complications of coronary heart disease to a clinically important extent.

**Findings:** This study followed 11,324 patients surviving a recent myocardial infarction who were randomly assigned supplements of n-3 PUFA (0.85–0.88 g eicosapentaenoic acid plus docosahexaenoic acid daily), vitamin E (300 mg daily), both or none. At the end of 3.5 years of follow-up, treatment with n-3 PUFA alone or in combination with vitamin E significantly lowered the risk of the primary composite endpoint of death, nonfatal myocardial infarction and stroke by 10% in a two-way analysis and by 15% in a four-way analysis (*P* < 0.05). The benefit was attributable to a very substantial decrease in cardiovascular deaths (from 17% to 30% using a two-way and four-way analysis, respectively, *P* < 0.05), and sudden deaths (from 24% to 45%, two-way and four-way analysis, respectively, *P* < 0.05). Vitamin E alone or in combination with the n-3 PUFA provided no significant benefit. These results are particularly impressive because the n-3 PUFA benefit was observed in patients already covered by recommended secondary prevention pharmaceutical treatments.


**Significance:** Despite the fact that certain types of dietary protein are commonly being accepted as having a beneficial effect on heart disease, increasing dietary protein intake has been discouraged because of the potential for undesirable health consequences. In addition, cross-country epidemiologic studies suggest that populations who consume a predominant amount of protein from vegetable sources, particularly soy protein, have a low rate of heart disease; however, these populations usually also have low fat intakes or differences in other dietary components (eg, antioxidants, fiber) that may contribute to these effects. The present study is intriguing because it suggests that moderately elevated protein intake is associated with a significantly reduced risk of ischemic heart disease (IHD) in women, and the association is independent of dietary fat intake.

**Findings:** This is a 14-year follow-up examination of the association between baseline dietary intakes of protein and fat and risk of IHD in 80,082 women, aged 34 to 59 years and without previous diagnosis of disease at baseline. After adjustment for multiple IHD risk factors, the relative risk of total myocardial infarction (both fatal and nonfatal) in women in the extreme quintile of total-protein intake (median 25% energy) versus those in the bottom quintile (median 14.7% energy) was 0.74 (95% CI; 0.57-0.91). Both animal and vegetable proteins contributed to the lower risk.
Additional adjustment for saturated fat, monounsaturated fat, polyunsaturated fat, and trans fat did not alter the RRs. These findings suggest that the contribution of protein to the total diet may also play an important role in the development of heart disease.


Significance: Inflammation, lipid peroxidation, and altered platelet function play major roles in the initiation and progression of atherosclerosis and artery disease. If these processes continue unabated, they can lead to endothelial dysfunction. Changes in the vascular endothelium during the progression of atherosclerosis can alter the vascular expression of surface adhesion molecules that modulate these inflammatory (eg, vascular cell adhesion molecules, VCAM-1, E-selectin, P-selectin) and hemostatic processes (eg, vonWillebrand factor, vWF, thrombomodulin, TM, and tissue plasminogen activator antigen, tPAa). Soluble forms of these adhesion molecules can be detected in the circulation and may serve as surrogate markers of atherosclerosis; thus, interventions that reduce the circulating levels of these molecules may indicate beneficial effects on atherosclerotic process. This study showed that fish oil supplementation differentially affects circulating levels of hemostatic and inflammatory soluble adhesion molecules in patients with coronary artery disease.

Findings: This study was a continuation of a larger study in which patients with artery disease were initially randomized to receive 5.1 g/d of n-3 polyunsaturated fatty acids (84% eicosapentanoic acid plus docosahexanoic acid) or corn oil placebo for 6 months. Twenty-three patients in the current study previously took n-3 PUFA and 31 were previously given placebo. In this continuation study, all patients were given 5.1 g/d of n-3 PUFA for an additional 4 weeks. At baseline, the n-3 PUFA group had significantly lower circulating levels of soluble hemostatic markers vWF and TM, but had higher levels of inflammatory markers E-selectin and VCAM-1 compared with the placebo group. After 4 weeks of n-3 PUFA supplementation, the original placebo group had significantly lower hemostatic markers and higher inflammatory markers compared with baseline levels, so that there were no differences between the two groups at the end of the supplementation period. These results suggest that, although n-3 PUFA may reduce hemostatic markers of atherosclerosis, they may exacerbate an inflammatory response. The authors speculate that this latter effect may have been caused by an increase in lipid peroxidation, resulting from the slight depletion in serum levels of vitamin E that accompanies n-3 PUFA supplementation.


Significance: Coronary heart disease (CHD) is the leading cause of death in individuals with type-2 diabetes. Despite the fact that a beneficial effect of modest alcohol consumption on reducing CHD risk is consistently reported in numerous observational and prospective epidemiologic studies, this association in diabetic individuals has not been determined. The present study supports these observations of an overall beneficial effect of alcohol consumption in decreasing the risk of death due to CHD in people with diabetes.

Findings: This was a 12-year prospective study of 983 older-onset diabetic individuals who were participating in the Wisconsin Epidemiologic Study of Diabetic Retinopathy and who had been interviewed about their past-year’s intake of alcoholic beverages at baseline in 1984-1986. Compared with those who never drink, and controlling for several cardiovascular risk factors and indicators of diabetes severity, consumption of alcohol was associated with a RR of 0.54 (95% CI: 0.33–0.90) for less than one drink per day to a RR of 0.21 (95% CI: 0.09–0.49) for about one drink or more per day. A subset (n = 451) of the cohort data for which there was complete information on HDL- and total- cholesterol levels was included in the multivariate model, which still showed signif-