

***Medscape News: June 5, 2013, Update from Dr. Topol:** My comments on the lack of fish oil effect for primary prevention of cardiovascular disease were in the context of the patients in the recent Italian (NEJM) published trial. These patients were not enrolled on the basis of significant hypertriglyceridemia. It remains to be seen (and is certainly possible that) if such patients are studied, and treated with effective doses of fish oil, a protective effect -- and reduction of cardiovascular events -- could be demonstrated.*

Eric Topol here. My segment is about the May 9 *New England Journal of Medicine* report on fish oils.^[1] This is one of the largest, most rigorous trials ever performed on fish oils and it comes from Italy -- basically from the GISSI group, with over 800 participating primary care physicians and over 12,500 patients. These patients were at high risk for heart disease -- about 60% had diabetes, 70% had hypercholesterolemia -- but they hadn't had a myocardial infarction (MI).

The Design

Patients were randomly assigned to receive a fish oil preparation with eicosapentaenoic acid and docosahexaenoic acid in quantities that had previously been shown to be useful in patients with heart failure post-infarction -- in those trials where there was a reduction in sudden cardiac death (presumably due to the ability to suppress ventricular arrhythmias). One cannot really question whether this is an efficacious dose. It was compared with placebo.

The trial began a decade ago, back in 2004. The patients were enrolled -- this > 12,000 patient cohort -- over a 3-year period. There was a 5-year follow-up. And this is the primary report of this very impressive Italian collaborative trial.

The only real wart in the execution of the trial was that [the investigators] had assumed too high of an event rate. The event rate of death, MI, or stroke was evaluated in a blinded fashion after 1 year, leading to a change in the primary endpoint to death from cardiovascular causes or hospitalization for cardiovascular causes.