

Tips from Other Journals

Adult Medicine

- 137 Are Omega-3 Fatty Acid Supplements an Effective Secondary Prevention for CVD?
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Are Omega-3 Fatty Acid Supplements an Effective Secondary Prevention for CVD?

Background: Although omega-3 fatty acid supplements may be effective for the secondary prevention of cardiovascular disease (CVD), the evidence remains inconclusive. Observational studies have reported a beneficial effect with fish or fish oil consumption, whereas randomized controlled trials (RCTs) have yielded mixed results. A 2009 meta-analysis of 11 RCTs (including studies without placebo control groups) reported that omega-3 fatty acid supplement use had a protective effect against CVD, although an earlier systematic review of RCTs found no clear benefit. Kwak and colleagues conducted a meta-analysis of randomized, double-blind, placebo-controlled trials to determine whether the two major omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), could help prevent cardiovascular events among patients with CVD.

The Study: RCTs were included in the analysis if the participants had used omega-3 fatty acid supplementation for a minimum of one year and if the study reported specific cardiovascular outcomes, including angina, myocardial infarction, heart failure, stroke, and cardiovascular and all-cause mortality. The primary analysis was the association between supplementation and overall cardiovascular events.

Results: Fourteen trials including 20,485 patients were reviewed. The mean age of participants was 63.4 years (range = 40 to 80 years), the mean EPA or DHA dosage was 1.7 g per day (range = 0.4 to 4.8 g per day), and the mean follow-up period was two years (range = 1.0 to 4.7 years). Overall, omega-3 fatty acid supplementation was not found to reduce the risk of overall cardiovascular events (relative risk [RR] = 0.99; 95% confidence

interval [CI], 0.89 to 1.09). Similarly, no significant protective effect was found in most other outcome measures, including all-cause mortality, sudden cardiac death, fatal or nonfatal myocardial infarction, angina, congestive heart failure, and transient ischemic attack and stroke. Subgroup analyses found no significant protective effect against CVD based on the duration of treatment (less than two years versus two years or more) or the dosage of EPA or DHA (less than 1.7 g per day versus 1.7 g or more per day). A small

significant protective effect was found with omega-3 fatty acid supplementation in reducing cardiovascular death (RR = 0.91; 95% CI, 0.84 to 0.99) and in a subgroup analysis of CVD prevention among patients using anti-platelet agents (RR = 0.71; 95% CI, 0.5 to 1.0); however, these associations disappeared after excluding one study with major methodologic problems.

Conclusion: In this meta-analysis of placebo-controlled RCTs, there was insufficient evidence of a cardiovascular benefit from omega-3 fatty acid supplementation among patients with preexisting CVD.

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Source: Kwak SM, et al. Efficacy of omega-3 fatty acid supplements (eicosapentaenoic acid and docosahexaenoic acid) in the secondary prevention of cardiovascular disease: a meta-analysis of randomized, double-blind, placebo-controlled trials. *Arch Intern Med.* May 14, 2012;172(9):686-694.

Flexible Sigmoidoscopy Screening Reduces Colorectal Cancer Incidence

Background: Endoscopy is believed to be more sensitive than fecal occult blood testing for detecting adenomatous polyps, the precursor lesions of colorectal cancer. However, observational studies have raised doubts as to whether screening with flexible sigmoidoscopy can reduce incidence and mortality associated with colorectal cancer. Schoen and colleagues conducted a trial to compare flexible sigmoidoscopy with usual care on the incidence of distal and proximal colorectal cancer and related mortality.

The Study: The Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial evaluated flexible sigmoidoscopy as a screening tool for colorectal cancer in 154,900 men and women 55 to 74 years of age. Participants were randomized to receive usual care or offered two flexible

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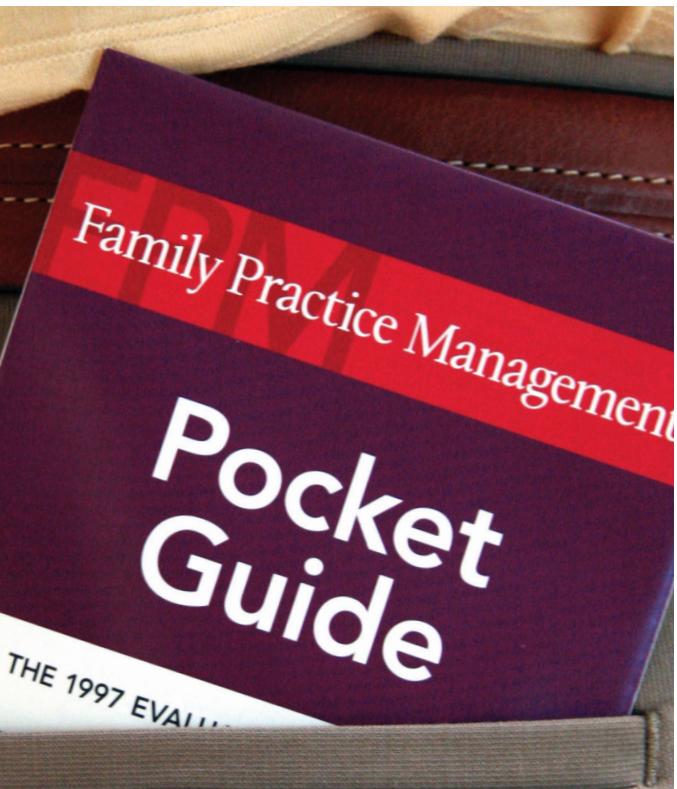
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sigmoidoscopy screenings three to five years apart. A screening was considered positive if a polyp or mass was identified, in which case patients were referred to their primary care physician for further treatment. Exclusion criteria included a history of prostate, lung, colorectal, or ovarian cancer; ongoing cancer treatment; or a lower endoscopic procedure within the previous three years. The primary end point was death from colorectal cancer, with secondary end points of colorectal cancer incidence, cancer stage, survival, adverse events of screening, and all-cause mortality.

Results: Over a mean follow-up time of 11 years, 86.6 percent ($n = 67,071$) of participants in the intervention group underwent at least one sigmoidoscopy screening, and 50.9 percent ($n = 39,440$) underwent two procedures. At least one screening was positive for a polyp or mass in 28.5 percent of participants in the intervention group, and 22 percent underwent colonoscopy as a result of sigmoidoscopy screening.

The overall incidence of colorectal cancer was significantly lower in the intervention group compared with the control group (1,012 versus 1,287 cases, respectively; relative risk [RR] = 0.79; $P < .001$). This included the incidence of distal (below the splenic flexure; RR = 0.71; $P < .001$) and proximal (from the cecum through the transverse colon; RR = 0.86; $P = .01$) malignancy. Colorectal cancer-related mortality was reduced overall with sigmoidoscopy (252 versus 341 deaths in the intervention and usual care groups, respectively; RR = 0.74; $P < .001$). However, this was because of reduced mortality from distal colorectal cancer (RR = 0.50; $P < .001$); no mortality reduction was seen with proximal colorectal cancer (RR = 0.97; $P = .81$). Cancers identified in the screening group were more likely to be early stage (I or II) compared with those in the usual care group (75.4 versus 50.9 percent, respectively; $P < .001$). The number needed to invite for screening to prevent one case of colorectal cancer was 282, and the number needed to invite for screening to prevent one colorectal cancer-related death was 871.

Conclusion: Compared with usual care, flexible sigmoidoscopy screening with follow-up colonoscopy in most patients with abnormal findings significantly reduced the incidence of distal and proximal colorectal cancers. Mortality from distal colorectal cancer was reduced by 50 percent, although no reduction in mortality related to proximal colorectal cancer was observed.

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Source: Schoen RE, et al. Colorectal-cancer incidence and mortality with screening flexible sigmoidoscopy. *N Engl J Med*. June 21, 2012;366(25):2345-2357. ■