News
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***New findings show ability of omega-3 fatty acids to inhibit narrowing process after vessels have been dilated by angioplasty.

DALLAS -- A Dallas cardiology team has shown that dietary fish oils can help prevent the restenosis (recurrence of blockage) within coronary arteries after balloon angioplasty is used to dilate the narrowed vessels.

The research findings, published in the September 22 issue of "The New England Journal of Medicine," could have important implications for more widespread use of diets high in omega-3 fatty acids to prevent restenosis after coronary artery angioplasty, says Dr. James T. Willerson, chief of cardiology at The University of Texas Southwestern Medical Center at Dallas.

The investigation was conducted in 1986-87 by a UT Southwestern cardiology team at the Dallas Veterans Administration Medical Center. Involved in the study were Dr. Gregory J. Dehmer, former assistant professor of internal medicine at UT Southwestern and now director of the C.V. Richardson Cardiac Catheterization Laboratory at North Carolina Memorial Hospital in Chapel Hill, N.C., and Drs. James M. Schmitz, Jeffrey T. Popma, Egerton K. van den Berg, Eric J. Eichhorn, Jacquin B. Prewitt, William B. Campbell, Linda Jeffings and Willerson.

A group of 82 men was studied. All were patients suffering from advanced atherosclerosis at the Dallas VAMC. All showed signs of significant narrowing of the coronary arteries, putting them at risk for future heart attacks or sudden death. Adding to their risk, half were heavy smokers at the time of the study.

The patients were all treated with balloon angioplasty to dilate one or more coronary arteries narrowed by cholesterol plaque. The procedure involves reopening a clogged vessel by inserting a catheter and balloon into the vessel's interior. After the catheter is in place, a sausage-shaped balloon is inflated, creating pressure that widens the vessel.

The patients were also all treated with standard drug therapy designed to prevent the accumulation of platelets on artery walls. Conventional antiplatelet therapy includes aspirin and dipyridamole.

Each patient received a calcium channel blocker medication in standard doses and heparin therapy as an anticoagulant during angioplasty. No attempts were made to modify or control other aspects of the patients' diets or medications, except each was encouraged to stop smoking.

A control group of 39 patients in whom 53 lesions were dilated by angioplasty received only standard preventive drug therapy. The treated group of 43 men with 50 lesions dilated were given daily dietary supplements of omega-3 fatty acids (fish oils) in addition to standard therapy. The omega-3 fatty acid supplementation consisted of approximately 3.2 grams of eicosapentaenoic acid and

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2.2 grams of docosahexaenoic acid per day. Treatment with omega-3 fatty acids, found naturally in cold water fish, began seven days before and continued for six months after angioplasty.

No major bleeding problems or other serious side effects occurred in the treated group. Seven men complained of mild gastrointestinal side-effects including belching, stomach upset, and gas, but these patients did not require any alterations in their therapy. Three men in the control group also complained of belching and stomach upset.

Results, confirmed by coronary angiography (X-ray), showed that narrowing recurred in 36 percent (19 of 53 lesions) of the control group compared to only 16 percent (8 of 50 lesions) of the treated group.

"In the past, various preventive treatments using aspirin and dipyridamole, calcium channel blockers or warfarin have failed to alter the rate of restenosis markedly," Willerson says. "High-dose aspirin therapy may lower the restenosis rate, but considerable gastrointestinal side-effects preclude its widespread use."

Dehmer says, "In contrast to standard preventive therapy alone, we found that dietary supplementation with omega-3 fatty acids concurrent with conventional antiplatelet agents is safe, well-tolerated, and results in a significant reduction in the risk of early restenosis in male patients who were at increased risk for coronary artery restenosis after angioplasty."

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Note: The University of Texas Southwestern Medical Center at Dallas comprises Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences and Southwestern Allied Health Sciences School.