

Cholesterol Crisis?

By Elsa Youngsteadt

ScienceNOW Daily News

31 March 2008

A new drug study shows that a widely prescribed medicine lowers cholesterol but may not benefit heart health, a paradoxical result that has doctors debating how the drug works and whether it is effective.

The study found that combining an effective older cholesterol drug, simvastatin, with the drug ezetimibe was no better than simvastatin alone in preventing arterial plaques--one of the goals of cholesterol-lowering treatment. The study was funded by Merck and Schering-Plough, the makers of the drugs. The results came as a surprise. On the surface, the two-drug combination looked superior, reducing blood concentration of plaque-inducing low density lipoprotein (LDL) by about 15% more than the older drug alone, doctors reported online 30 March in the *New England Journal of Medicine* and at the annual meeting of the American College of Cardiology in Chicago, Illinois. The results fly in the face of the well-established notion that lowering LDL decreases plaque buildup and thus slows the development of heart disease.

The reason for the results, some researchers think, may be that although both drugs lower cholesterol, they do so in different ways, and one may be more beneficial than the other. Simvastatin is a statin drug that blocks a liver enzyme necessary for the manufacture of cholesterol, and thus stimulates the liver to pull more cholesterol out of the blood stream. Ezetimibe, in contrast, works by slowing the absorption of cholesterol from food by blocking a protein called the scavenger receptor in the small intestine. Allen Taylor, a cardiologist at Walter Reed Army Medical Center in Washington, D.C., says this may be the problem. "That scavenger receptor also works throughout your body to clear away cholesterol that you want to get rid of," Taylor says. "It's like not taking anything new into your house, but you can't put the trash out either." Even though LDL levels in the blood drop, he says, the body might have a hard time getting rid of what little cholesterol it does absorb.

Eric de Groot, a vascular-imaging specialist at the Academic Medical Center in Amsterdam, the Netherlands, and an author of the study, defends ezetimibe. He says that most of the nearly 700 patients in the study had already been treated with statins for 7 to 10 years, so their arteries were already fairly healthy, leaving little room for improvement due to addition of the new medicine. "I read in the press sometimes that this is ... a useless drug," he says. "I totally disagree with that. This design does not prove that." People without a

history of statin use, he says, might see greater benefits from ezetimibe.

Another study will be released in 2012 that follows long-term health effects of ezetimibe on patients with heart disease. "That's going to be the big news," says Cynthia Jackevicius, an expert in pharmacy practice at Western University of Health Sciences in Pomona, California. "We're sort of in limbo until more information comes out."