Early end to key study on benefits of niacin, a B vitamin, in keeping arteries open was premature

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Heart experts at Johns Hopkins are calling premature the early halt of a study by researchers at Walter Reed Army Medical Center and Washington Hospital Center on the benefits of combining extended-release niacin, a B vitamin, with cholesterol-lowering statin medications to prevent blood vessel narrowing. Cardiovascular atherosclerosis, as it is also known, is believed responsible for one in three deaths in the United States each year.

The study, called HDL and LDL Treatment Strategies, or HALTS, involved 363 men and women, and was shut down after only 208 study participants had completed the full treatment timeline of 14 months. Results showed that prescribed niacin worked better in combination with a statin than another double-cholesterol-lowering drug combo, ezetimibe and a statin, in reducing carotid arterial wall thickness in the neck - the measure used as a gauge of atherosclerosis. An average wall reduction of 0.014 of a millimeter with niacin was observed. By contrast, the ezetimibe group showed no significant change.

Study participants, of whom nearly half were taking niacin and the rest were taking ezetimibe, were at high risk of heart disease or already had it, with average bad LDL blood-cholesterol levels of 82 milligrams per deciliter. All had already been prescribed statin therapy.

Results in both groups showed improvements in LDL levels, which

dropped by an average 18 milligrams per deciliter in the ezetimibe group, and by an average of 10 milligrams per deciliter in the niacin group. But only the niacin group showed a significant increase in good HDL blood-cholesterol levels, an average of 8 milligrams per deciliter, whereas the ezetimibe group dropped an average 3 milligrams per deciliter.

Citing the apparent benefits of niacin therapy when combined with a statin, the researchers halted the study last month.

In an editorial to be published alongside the study in *The* New England Journal of Medicine online Nov. 16 and presented jointly at a news conference at the American Heart Association's (AHA) annual Scientific Sessions in Orlando, Hopkins cardiologist Roger Blumenthal, M.D., says that the HALTS study has "too many limitations" for other physicians, at this time, to change the way they treat high-risk patients.

"Although study results are provocative, I am not convinced," says Blumenthal, a professor and director of the Ciccarone Preventive Cardiology Center at the Johns Hopkins University School of Medicine and its Heart and Vascular Institute. "These early results offer no conclusive evidence that niacin along with a statin will actually lower the number of deaths and incidents of heart attack from coronary artery disease down the road."

Among the key study limitations, he says, are that 40 percent of study participants were not monitored for the full study duration and were left out of the final analysis.

Measuring the thickness of the inner, or intima, layer of the carotid artery, in the main blood vessel in the neck, Blumenthal adds, may not be the best predictor of actual atherosclerosis. He points out that newer techniques for measuring actual unstable plaque volume or area are

considered more reliable models. Also, changes in the carotid artery may not be directly tied to changes in other arteries.

Blumenthal says that observed reductions in cholesterol levels were "not that surprising," in light of other, larger studies, which showed combination therapy was more effective at reaching reduced cholesterol targets than statins alone. But stronger doses of statins might have achieved the same result, he adds, noting that the HALTS study average starting LDL-cholesterol levels did not even meet accepted goals of less than 70 milligrams per deciliter.

The latest study results are not sufficient to merit a change in current treatment guidelines, he says, for people with coronary artery disease, namely, recommending statin therapy alone as a first step in treatment. And if statin therapy does not help patients reach their target cholesterol levels, "only then should add-on therapy, such as niacin be considered." However, the HALTS study along with a recently published study from Oxford University supports the add-on use of niacin "as a preferred second, cholesterol-lowering agent."

Co-editorial author and cardiologist Erin Michos, M.D., M.H.S., also at Hopkins, says that several large, ongoing international studies on the long-term vascular benefits of niacin and ezetimibe - in particular studies called AIM-HIGH and IMPROVE-IT- should provide more definitive data about whether these drugs lower rates of heart attack and stroke when used in combination with a statin, or if statin therapy works better alone. Hopkins is participating in that research, as well.

Indeed, Michos says, preliminary results from another Johns Hopkins study, also to be presented at the AHA's Scientific Sessions on Wednesday, will show that niacin does not help reduce the volume build up of plaque inside the arterial wall in people taking statin therapy who already had higher HDL levels. "Further research is needed still, as we

have a lot to find out about the real and long-term effects of niacin on the heart and arterial blockages," she says.

She points out that extended-release niacin used in this study is a prescription medication, and that it is not sold over the counter like many other vitamin B products.

Michos, an assistant professor at Hopkins, says that study results, regardless, do not change the fundamental basics of preventing coronary heart disease in the first place. She advocates that people stick with the everyday healthy lifestyle choices, known as the A, B, C, D, E and Fs. She recommends that people focus on Antiplatelet drug therapy (such as taking daily aspirin if they are at high risk), monitor Blood pressure and cholesterol levels (taking drugs, as needed to control it), keeping tabs on blood cholesterol levels and never smoking or Ceasing to smoke, watching their Diet to avoid weight gain, Exercising regularly, and knowing their Family history for developing such potentially fatal heart disease.

Source: Johns Hopkins Medical Institutions