

Ultrasound of carotid artery helps predict heart attacks, other events in low-risk adults

Using ultrasound imaging of the carotid artery in the neck to find plaque buildups may help predict heart attack and other coronary events in otherwise low-risk adults, researchers reported at the American Heart Association's 7th Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke.

"A significant proportion of people who have heart attacks do not have traditional heart disease risk factors," said Kwame O. Akosah, M.D., lead author of the study and associate professor of Medicine at the University of Wisconsin in Madison. This is especially true of people who are in younger age brackets — up to age 65.

"In this study, we looked at whether using carotid ultrasound — a simple, noninvasive, relatively cheap test that is available in many doctors' offices — might help identify which patients are at risk for cardiac events."

Atherosclerosis is systemic — meaning that if the carotid artery has plaque buildup, other important arteries, such as coronary and leg arteries, might also be atherosclerotic. Coronary atherosclerosis is the leading cause of heart attack.

Researchers used the ultrasound imaging on 246 people (men were average age 55 years; women were average age 65 years) who came to the facility for cardiac testing but were considered at low risk for heart disease. They found that non-coronary atherosclerosis, or plaque buildup in the neck artery, was present in 141, or nearly half, of the subjects. The other half of the study group had no sign of non-coronary atherosclerosis. The researchers then monitored all these patients for 33 months.

"The people who had an abnormal test result for non-coronary atherosclerosis were nearly three times more likely than those who had normal test results to have severe coronary atherosclerosis, which was diagnosed by a coronary angiogram," said Akosah, who is also director of the Heart Failure Clinic at the Gunderson Lutheran Health System in La Crosse, Wis.

During the follow-up, 10 people in the study experienced a "hard" event, including death, heart attack or stroke. Of those, nine had non-coronary atherosclerosis.

Researchers also looked at a group that had other cardiac events, such as those who needed to undergo coronary bypass surgery, needed a stent implant (a tube inserted into a blood vessel to keep it open) or had a new diagnosis of heart failure. They found 36 qualified to be in this group. Of those, 27 had abnormal carotid ultrasound results.

"We found that people who had normal carotid studies were significantly more likely to be free from cardiac events during the 33 months of the study," he said.

Researchers concluded that ultrasound imaging for non-coronary atherosclerosis predicts future cardiovascular events in low-risk adults, and the testing could be an important addition to current risk stratification strategies.

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