

Clinical

Coronary calcium score doesn't help predict risk in low-risk men

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By Victoria Stern

NEW YORK (Reuters Health) - Adding the coronary artery calcium score (CAC) to traditional Framingham risk factors doesn't help predict which healthy lower-risk men will develop coronary heart disease (CHD), according to a new report.

CAC correlates with cardiovascular risk - but the recent MESA study showed it was most useful for assessing asymptomatic intermediate-risk patients (see Reuters Health story of Apr 28, 2010).

The current report is from the Prospective Army Coronary Calcium Project (PACC). An earlier PACC report said CAC independently predicted coronary heart disease risk in asymptomatic men between the ages of 40 and 50.

But the current PACC report, published online May 20 in the American Journal of Cardiology, suggests that CAC may not be useful for asymptomatic lower-risk men who score below 5% on the Framingham Risk Score (FRS).

"The results are not surprising," Dr. Philip Greenland, from the Feinberg School of Medicine, Chicago, told Reuters Health. "I do not think this paper changes our thinking about the place of CAC in risk assessment. If CAC has a role, it is most helpful in intermediate-risk patients, and perhaps borderline helpful in people at the upper end of low-risk (such as in this paper)," said Dr. Greenland, who was not involved in the current study.

Lead investigator Dr. Allen Taylor and colleagues from Walter Reed Army Medical Center in Washington DC based their conclusions on data from 1,634 unselected men, all active duty army personnel, recruited for a physical examination in the PACC Project. All were aged 40 to 50 at enrollment, with no known heart disease or diabetes.

During a mean follow-up of 5.6 years, 22 men had CHD events, including 14 "hard events" (2 cardiac deaths, 6 acute myocardial infarctions, 6 hospitalizations for unstable angina) and 8 revascularization procedures. Participants with CHD events had a mean CAC score of 146, vs. 17 for those with no CHD event ($p < 0.001$).

The low-risk patient data were stratified by Framingham Risk Score tertile, with 547 subjects at lowest 5-year risk (0% to 3%), 547 at intermediate risk (>3% to 5%), and 540 at high risk (>5%). Only in the highest tertile was there a significant relation between CAC and CHD outcomes (HR 9.3, $P < 0.0001$).

The researchers concluded that CAC screening did not help predict events in the lowest risk segments of their population, but could refine risk assessment of low-risk men when FRS exceeded approximately 5%.

Dr. Greenberg notes, however, that it is difficult to make such a definitive conclusion about CAC screening when the researchers had so few events to look at.

"The next step in this research should be a clinical trial focused on intermediate-risk men and women to determine whether CAC really makes a difference on clinical outcomes rather than just a difference on prediction of events," Dr. Greenberg said.

<http://www.ajconline.org/article/S0002-9149%2810%2900603-X/abstract>

[Am J Cardiol](#) 2010.