

Coronary CT Screening in Asymptomatic Patients Leads to More Detection and Treatment, But...



Researchers from South Korea reported that screening for atherosclerosis with coronary CT imaging in asymptomatic patients leads to more detection and treatment, but little or no change in outcomes. In a prospective cohort study, coronary CT angiography (CCTA) found atherosclerosis in about one in five of those screened. After 18 months, a screened group and a control group had only one cardiovascular event each. The researchers argued their results imply that the CCTA as screening method was not a justifiable test at this time.

The researchers stated that there is high interest in early atherosclerosis detection because more than half of the deaths from coronary heart disease (CAD) occur in asymptomatic patients. A CT approach is known to be highly sensitive to the presence of atherosclerotic plaques, and could have prognostic value. However, the consequences of CT screening were not certain. Thus, the researchers decided to study this.

The study participants included 1,000 asymptomatic volunteers who had been screened by CCTA in a previous study, and in whom 215 were found to have atherosclerosis. The control group consisted of another 1,000 asymptomatic volunteers from the same study, who had not been screened by CCTA. The two groups were followed for 18 months, with tracking of medication use, referral for new tests, revascularisation, and cardiac outcomes.

Medication use was higher in the atherosclerotic group, compared to those who had a negative screening result and the non-screened control group. At 90 days, 34% of the atherosclerotic group were using statins (5% and 8% in the negative group and non-screened groups respectively). For aspirin, the numbers were 40%, 5%, and 8%, respectively. At 18 months, statin use was 20%, 3%, and 6%, respectively,

while aspirin use was 26%, 3%, and 6%.

At 90 days, there were 55 (5%) secondary tests in the whole screened group, compared to 22 (2%) in the non-screened controls ($P < 0.001$). There were 13 revascularisations in the screened group compared to only one in the control group ($P < 0.001$).

The main limitation of the study was that it was not randomised, and there might have been selection bias, residual confounding, and allocation bias. For example, those in the control group had not opted for CT screening in the first study, and they might also have been less likely to fill prescriptions or to undergo secondary tests. Also, all participants were Korean, and the results might not apply to other populations.

An accompanying commentary opined that the study highlighted the need for large randomised trials to see if CCTA screening leads to clinically beneficial diagnosis of disease. The absence of such trials might lead to coronary “pseudodisease” (a condition that would have had no clinical significance if it had not been detected by a screening test). **SMA**

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Sources

1. McEvoy JW. Impact of coronary computed tomographic angiography results on patient and physician behavior in a low-risk population. *Arch Inter Med* 2011; DOI: 10.1001/archinternmed.2011.204.
2. Lauer MS. Pseudodisease, the next great epidemic in coronary atherosclerosis? *Arch Inter Med* 2011; DOI: 10.1001/archinternmed.2011.205.