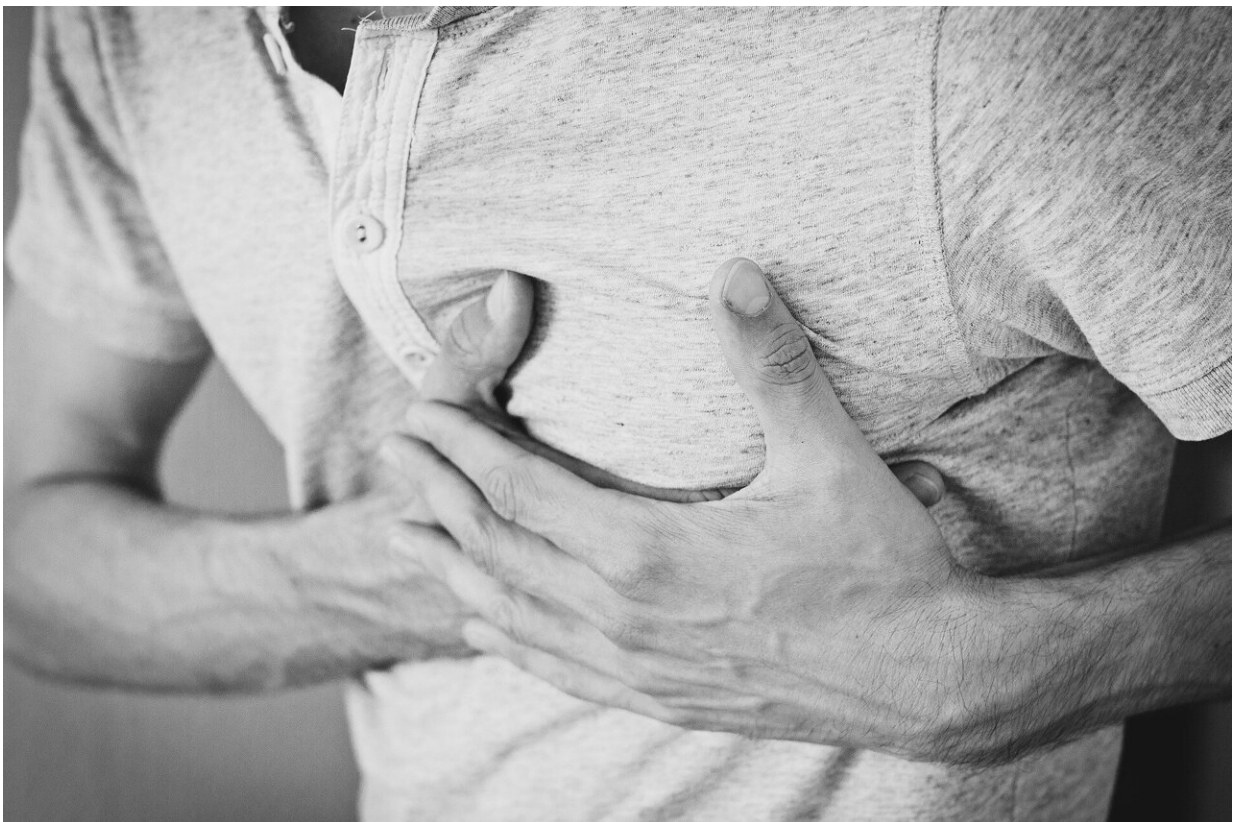


Asymptomatic, CT angiography-detected coronary artery disease associated with 8-fold increased risk for heart attack

March 27 2023



Credit: Pixabay/CC0 Public Domain

A cohort study of more than 9,000 persons found that in asymptomatic middle-aged persons without known cardiovascular disease, subclinical,

obstructive coronary atherosclerosis is associated with a more than 8-fold elevated risk for myocardial infarction. The findings are published in *Annals of Internal Medicine*.

Coronary atherosclerosis is a biological process responsible for the development of myocardial infarction. These conditions together define the clinical syndrome "[ischemic heart disease](#)." Subclinical coronary atherosclerosis precedes ischemic heart disease and may evolve at an early age, many years before clinical disease develops.

For more than 50 years, obstructive [coronary artery disease](#), defined as a luminal coronary stenosis of 50% or greater, has been considered a key feature of elevated risk. In the past decades, however, the extent of atherosclerosis in the coronary tree as well as specific morphologic features of the atherosclerotic plaque have been acknowledged as important risk factors.

Researchers from the University of Copenhagen, Copenhagen, Denmark studied 9,533 asymptomatic persons aged 40 years or older without known [cardiovascular disease](#) to define characteristics of subclinical coronary atherosclerosis associated with the development of myocardial infarction. Participants were assessed using computed tomography angiography (CTA) to diagnose obstructive coronary atherosclerosis.

The authors found that 54% of persons had no subclinical coronary atherosclerosis. Among the 46% of persons diagnosed with subclinical coronary atherosclerosis, 36% had nonobstructive disease and 10% had obstructive disease. Among persons diagnosed with the condition, subclinical coronary atherosclerosis was also found in 61% of male participants and 36% of women. According to the authors, identification of luminal obstructive or extensive subclinical [coronary atherosclerosis](#) provides potentially clinically relevant, incremental risk assessment in patients without suspected or known ischemic heart disease undergoing

cardiac CT and/or electrocardiogram-gated chest CT for other clinical indications.

An accompanying editorial by authors from the BHF Centre for Cardiovascular Science, University of Edinburgh highlights that this research provides an opportunity to study the contemporary natural history of coronary artery disease in the absence of intervention, where neither patient nor clinician are aware of scan findings. The authors add that the study also provides invaluable data about event rates and prevalence of asymptomatic coronary artery disease that will inform public health prevention strategies and ongoing clinical trials of targeting preventative therapies in persons screened for occult coronary artery disease.

More information: Subclinical Coronary Atherosclerosis and Risk for Myocardial Infarction in a Danish Cohort, *Annals of Internal Medicine* (2023). [DOI: 10.7326/M22-3027](https://doi.org/10.7326/M22-3027)

Contemporary Natural History of Coronary Artery Disease, *Annals of Internal Medicine* (2023). [DOI: 10.7326/M23-0533](https://doi.org/10.7326/M23-0533).
www.acpjournals.org/doi/10.7326/M23-0533

Provided by American College of Physicians

Citation: Asymptomatic, CT angiography-detected coronary artery disease associated with 8-fold increased risk for heart attack (2023, March 27) retrieved 23 June 2024 from <https://medicalxpress.com/news/2023-03-asymptomatic-ct-angiography-detected-coronary-artery.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.