

Increase in biomarker linked with increased risk of heart disease, heart failure, death

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Human heart. Credit: copyright American Heart Association

In a study published online by *JAMA Cardiology*, Elizabeth Selvin, Ph.D., M.P.H., of the Johns Hopkins Bloomberg School of Public Health, Baltimore, and colleagues examined the association of 6-year change in high-sensitivity cardiac troponin T with incident coronary

heart disease, heart failure and all-cause mortality.

High-sensitivity cardiac troponin T (hs-cTnT), a protein that can be measured via a blood test, is a biomarker of cardiovascular risk and could be approved in the United States for clinical use soon. Cardiac troponin is critical to the clinical diagnosis of [heart](#) attack, particularly among symptomatic persons with chest pain. However, little is known about the implications of changes in hs-cTnT levels over time. This analysis included 8,838 participants from the Atherosclerosis Risk in Communities Study who were initially free of [coronary heart disease](#) (CHD) and [heart failure](#) (HF) and who had hs-cTnT measured twice, 6 years apart.

Of the participants (average age, 56 years; 59 percent female; 21 percent black), there were 1,157 CHD events, 965 HF events, and 1,813 deaths overall. Incident detectable hs-cTnT (baseline, 50 percent from baseline), there was also evidence suggestive of lower risk for outcomes compared with persons with stable or increasing concentrations.

"Our results indicate that 2 measurements of hs-cTnT appear to be better than 1 for characterizing risk and that large increases in hs-cTnT are particularly deleterious. Temporal change in hs-cTnT may help guide the preventive management of asymptomatic persons at risk for CHD and adults with stage A or B HF," the authors write.

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