ARTERIAL STIFFNESS IS ASSOCIATED WITH MINIMALLY ELEVATED HIGH-SENSITIVITY CARDIAC TROPONIN T LEVELS IN A COMMUNITY-DWELLING POPULATION

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Objectives Arterial stiffness predicts an excess risk of future cardiovascular events, supposedly via myocardial damage. Minimally elevated levels of plasma cardiac troponin T (TnT), a marker of cardiomyocyte injury, can be detected by the recently developed, high-sensitivity TnT (hsTnT) assay. The current study aims to investigate the relationship between plasma hsTnT levels and the alterations in arterial stiffness in a community-based population.

Methods The authors related levels of plasma hsTnT to measures of arterial stiffness (carotid-femoral pulse wave velocity (PWV), office pulse pressure (PP) and carotid-radial PWV) in 1479 participants (mean age, 62.3 years; 619 men, 860 women) from a community-based population of Beijing, China.

Results In multiple logistic regression models, carotid-femoral PWV (OR: 1.84; 95% CI: 1.06 to 3.17; p=0.028) and office PP (OR: 2.02; 95% CI: 1.31 to 3.11; p=0.002) were associated with higher likelihood of detectable hsTnT. In addition, carotid-femoral PWV (OR: 2.34; 95% CI: 1.03 to 5.30; p=0.042) and office PP (OR: 2.30; 95% CI: 1.13 to 4.66; p=0.022) were found to be significantly related to higher risk of elevated hsTnT levels.

Conclusions Carotid-femoral PWV and office PP are associated with minimally elevated hsTnT levels in the older, indicating a relationship between central artery stiffness and subclinical myocardial damage.