Abstract: 1937

Predictive utility of high-sensitivity troponin-T for new-onset heart failure is higher in women than in men

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Topic(s):
Chronic Heart Failure – Prevention

Citation:

Funding Acknowledgements:
Netherlands Heart Foundation, Netherlands Organization for Scientific Research, European Research Council

Background: Detectable cardiac tropinin-T (cTnT) levels in the plasma indicate ongoing myocardial damage and individuals with higher cTnT have an increased risk of developing heart failure (HF). Data is scarce on sex-specific associations of cTnT and new-onset HF in the general population.

Purpose: To evaluate sex-specific associations of cTnT with incident HF

Methods: Observational study in general population setting; included 8225 community-dwelling individuals from the PREVEND (Prevention of Renal and Vascular ENd-stage Disease) cohort. Mean age=49 years and 50% women. Measurements include baseline cTnT levels and incident HF, and its sub-types. HF cases were identified according to HF guidelines issued by the European Society of Cardiology. Cox proportional-hazards models adjusting for age, classical HF-risk factors, EKG-assessed left ventricular hypertrophy and NT-proBNP (N-terminal pro-B-type natriuretic peptide) were employed to evaluate the predictive utility of cTnT in men and women separately.

Results: cTnT was a robust predictor of incident HF in the general population, and its predictive utility was greater in women than in men. During a mean follow-up of 12 years, 358 developed HF (36% women). cTnT doubling was associated with a greater risk of developing new-onset HF in women – Pint=0.025, HR-1.60-(1.15-2.14) vs 1.39-(1.12-1.73). Secondary analyses revealed that sex differences were stronger and only present for incident HFR EF (HF with reduced ejection fraction), Pint = 0.003; but not for incident HFpEF (HF with preserved ejection fraction), Pint = 0.988.

Conclusions: cTnT can be particularly useful in predicting new-onset HFrEF in women.