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Letters to the Editor

High-sensitivity cardiac troponin T in patients with ST-segment elevation myocardial infarction

Keywords:
High-sensitivity cardiac troponin T
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Mortality

I read the article by Ndrepepa et al. on the evaluation of predictive ability of high-sensitivity cardiac troponin T (hs-cTnT) for mortality in patients with ST-segment elevation myocardial infarction (STEMI) [1]. Primary percutaneous coronary intervention (PPCI) was applied and hs-cTnT was measured at preprocedural and peak postprocedural point. Adjusted hazard ratios (HRs) [95% confidence intervals (CIs)] of preprocedural and peak postprocedural hs-cTnT value for mortality were 1.08 (1.03–1.12) and 1.06 (1.04–1.08), respectively. In combination with C-statistic values, preprocedural or peak postprocedural hs-cTnT could predict independently for mortality in patients with STEMI undergoing PPCI. I have two concerns on their study.

First, Than et al. conducted a 5-year prospective study to evaluate the effect of serum hs-cTnT on all-cause mortality in patients with possible acute coronary syndrome [2]. HR (95% CI) of hs-cTnT for mortality was 2.3 (95% CI, 1.7–3.1). They also selected major adverse cardiovascular events (MACE) as another endpoint, and reported superiority of hs-cTnT against high-sensitivity cardiac troponin I (hs-cTnI) for predicting mortality. There have been many related studies, including reports with no difference of predictive ability between hs-cTnT and hs-cTnI for cardiac outcomes [3]. A meta-analysis would present useful information.

Second, Hendriks et al. evaluated the effect of hs-cTnT on all-cause and cardiovascular mortality in patients with stable type 2 diabetes [4]. Adjusted HRs (95% CIs) of log hs-cTnT for all-cause and cardiovascular mortality were 1.30 (1.19–1.42) and 1.33 (1.15–1.53), respectively. The Harrell C-statistic values also supported predictive ability of hs-cTnT. Comorbidities should be adequately adjusted for the risk assessment. In addition, measurement timing of hs-TnT after STEMI should also be considered [5].

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We thank Dr Kawada for the interest in our study on prognostic value of high-sensitivity cardiac troponin T (hs-cTnT) in patients with ST-segment elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI) [1]. In the letter, the author raised two main concerns, apparently by comparing the findings of our study with other studies rather than by directly addressing them.

First, Dr Kawada cited a study by Than et al. [2] which tested the association of two high-sensitivity cardiac troponin assays (hs-cTnT and hs-cTnI) with 5-year major adverse cardiovascular events (MACE) in patients with suspected acute coronary syndromes. For the troponin assay and outcome investigated in both studies (hs-cTnT and mortality), our study and the study by Than et al. [2] are directionally concordant. The studies differ with respect to the