Impact of Implementation of the High-Sensitivity Cardiac Troponin T Assay in a University Hospital Setting

To the Editor:

The performance of the high-sensitivity cardiac troponin T assay (hs-cTnT)\(^1\) has been evaluated in a multicenter study\(^1\). Effective July 2009, we replaced the fourth-generation troponin T (cTnT) assay with the hs-cTnT assay in clinical practice. This study audits the impact of this implementation.

The hs-cTnT, implemented on the cobas e 411 platform (Roche Diagnostics), fully replaced the cTnT performed on the Elecsys 2010 analyzer [cutoff, 30 pg/mL—based on actual assay performance (10% CV concentration)]. We obtained a detection limit of 5 pg/mL, a 99th percentile of 15 pg/mL, limited comparability with the cTnT at concentrations <100 pg/mL (on average, a 30-pg/mL cTnT concentration yielded a value of approxi-}

\(^1\) Nonstandard abbreviations: hs-cTnT, high-sensitivity cardiac troponin T assay; cTnT, fourth-generation troponin T assay.
menting this assay in a routine protocol. The number of examinations with positive results increased from approximately 25% to >50%. Although the hs-cTnT could appear confounding as a test less specific for the diagnosis of myocardial infarction (4), we were unable to demonstrate differences in the percentage of curves with a typical marker release when we compared the cTnT and the hs-cTnT. An interpretative approach based on the demonstration of a pathophysiology-defined release of troponin in the blood may allow the same specificity performance to be achieved when using different generations of troponin T assays, thus supporting the use of serial testing for clinical decisions (5).

Author Contributions: All authors confirmed they have contributed to the intellectual content of this paper and have met the following 3 requirements: (a) significant contributions to the conception and design, acquisition of data, or analysis and interpretation of data; (b) drafting or revising the article for intellectual content; and (c) final approval of the published article.

Authors’ Disclosures or Potential Conflicts of Interest: No authors declared any potential conflicts of interest.

References

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Previously published online at DOI: 10.1373/clinchem.2011.164426