

SIGNIFICANCE STATEMENT

Cardiac troponin is a sensitive biomarker of myocardial injury, routinely used to diagnose acute myocardial infarction (MI), but troponin assays are of reduced utility for MI diagnosis in patients with impaired renal function. The authors examined diagnostic performance of contemporary and high-sensitivity cardiac troponin (hs-cTnl) measurements in a large cohort of patients presenting with symptoms suggestive of MI. hs-cTnl had excellent diagnostic accuracy, but clinical specificity and positive predictive value for ruling in MI trended downward with decreasing renal function. In contrast, the assay's sensitivity and negative predictive value for ruling out showed no significant dependence on renal function. The results support developing strategies for implementation of high-sensitivity troponin assays for early rule out and rule in of MI in patients with renal dysfunction.