

REPLY: Immediate Invasive Strategy for Patients With Both New Ischemic Electrocardiographic Changes and Troponin Elevation



We thank Drs. Sanchis and Núñez for their insightful comments and agree with the observation that our study enrolled a high-risk population, combining baseline troponin elevation and the clinical features of ischemia, because we included patients with acute chest pain and both elevation of cardiac troponin and new ST-segment depression of at least 1 mV and/or T-wave inversion in ≥ 2 contiguous leads (1). Consequently, in showing improved outcomes with immediate invasive strategy, our study results are in line with previous findings suggesting an incremental benefit of an early invasive procedure in higher risk patients (2). The concern expressed by Drs. Sanchis and Núñez pertains to the application of our study results to a more heterogeneous and lower risk population of non-ST-elevation acute coronary syndrome (NSTEMI) patients in the era of high-sensitivity cardiac troponin.

However, the absence of significant coronary stenosis could hardly be interpreted as a sign of a benign outcome in patients with NSTEMI and elevated troponin. On the contrary, a subanalysis of the ACUITY (Acute Catheterization and Urgent Intervention Triage Strategy) trial showed that patients with NSTEMI and elevated troponin but without obstructive coronary artery disease (CAD), although having low rates of subsequent myocardial infarction and unplanned revascularization, have a higher risk of 1-year mortality from noncardiac causes compared with a propensity-matched group of patients with obstructive CAD (3).

In view of its favorable safety profile (2) and with the help of intravascular and cardiac magnetic resonance imaging, early invasive coronary angiography could facilitate faster diagnosis and enhance diagnostic accuracy in patients without obstructive CAD by differentiating between occult plaque disruption and other causes of cardiac troponin elevation.

Therefore, we believe that the positive effects of immediate invasive management may remain beneficial in the high-sensitivity troponin era if biomarker elevation is accompanied by clinical features of ischemia because the incidence of non-obstructive CAD seems to be relatively rare in that patient subset (3% to 8.1%) (1,3). The ongoing NON-STEMI (NON-ST-Elevation Myocardial Infarction) trial (NCT01638806), which is expected to randomize 4,500 patients to either an immediate primary PCI-like or delayed invasive approach within 72 h of admission, will provide more evidence of the impact of immediate invasive management in a broad, contemporary NONSTEMI population and consequently also the opportunity to analyze the impact of the timing of invasive coronary angiography in the subgroup of patients with nonobstructive CAD.

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