PROGNOSTIC PERFORMANCE OF A SINGLE-MOLECULE HIGH-SENSITIVITY CARDIAC TROPONIN ASSAY AFTER NON-ST ELEVATION ACUTE CORONARY SYNDROME: ANALYSIS FROM MERLIN-TIMI 36

ACC Moderated Poster Contributions
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Background: New high-sensitivity cardiac troponin (hs-cTn) assays measure levels of cTn previously undetectable by conventional assays; as such, their prognostic relevance remains debated. We investigated the prognostic performance of a novel single-molecule hs-cTnI assay along with established risk indicators in a large cohort with non-ST elevation acute coronary syndrome (ACS).

Methods: Within a group of 4,155 patients (pts) in the MERLIN-TIMI 36 trial, we measured cTnI (Erenna, Singulex, 99%ile 9 pg/mL,’S-TnI’) in 1,231 pts with negative TnI-Ultra (Siemens, 99%ile 0.04 μg/L).

Results: Pts with elevated S-TnI were at significantly higher risk of cardiovascular death (CVD)/MI at 1 year (7.0% v. 3.8%; p<0.001, Fig-left; HR 2.05, CI 1.23-3.41); including a higher rate of CVD (3.5% v. 1.5%, p<0.001) and MI (5.0% vs. 2.8%, p<0.001) individually. The risk of CVD/MI was significant after adjustment for the TIMI Risk Score (adj-HR 1.74, CI 1.05-2.90). Moreover, S-Tnl showed a gradient of risk of CVD/MI, even below the S-Tnl 99%ile cutpoint (p=0.016, Fig-right).

Conclusion: Low-level elevation of cTnl detected using a novel single-molecule technique, but below the cutpoint of a contemporary sensitive assay, identified a further risk gradient when added to traditional risk indicators. These findings support the prognostic relevance of low-level cTn elevation with increasingly sensitive assays in pts with ACS.

Event rates for CVD/MI at 1 year