

Acute Coronary Syndromes

PROGNOSTIC IMPLICATIONS OF LOW-LEVEL CARDIAC TROPONIN ELEVATION USING THE HIGH-SENSITIVITY ASSAY FOR CARDIAC TROPONIN T: RESULTS FROM EARLY ACS & SEPIA-TIMI 42

Oral Contributions

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Background: A high-sensitivity assay for cardiac troponin T (hsTnT) that reliably detects very low concentrations is widely used in many countries worldwide and is under regulatory consideration in the US. It is uncertain whether low levels detected with hsTnT are prognostically meaningful compared with the older cTnT assay (4th generation) currently used in the US.

Methods: We measured serum cTnT in 4160 patients (pts) with acute coronary syndrome using both hsTnT and 4th gen assays (Roche) in 2 large trials. Pts were stratified at the 99thile cut-point for each assay.

Results: Pts with baseline hsTnT ≥ 14 pg/ml (N = 3812) were at significantly higher 30-day risk of CV death or MI (9.3 vs 2.4%, $p < 0.0001$). After adjusting for all other elements of the TIMI Risk Score, hsTnT ≥ 14 carried a 4.3 fold higher risk of CVD/MI (95% CI 2.5-7.4, $p < 0.0001$). Elevated levels of hsTnT just above the 99thile (14 to 50 pg/ml) similarly revealed increased risk (CVD/MI: 7.6 vs. 2.4%, $p = 0.0002$). Moreover, pts with hsTnT $< 99^{\text{th}}$ ile but > 3 pg/ml (detection limit) were also at higher risk of CVD/MI (Fig-L). Importantly, pts with neg 4th gen cTnT but a pos hsTnT were 4.0 times more likely to have CVD/MI (95% CI 1.8-9.4, $p = 0.001$) than pts with neg hsTnT (Fig-R) after adjusting for the TIMI Risk Score.

Conclusion: Low-level increases in cTnT detected using the hsTnT assay identify pts at meaningfully higher risk and who might otherwise be missed using the cTnT assay currently available in the US.

