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Titel des Beitrags: Peak cardiac troponin-T level, scintigraphic myocardial infarct size and one-year prognosis in patients undergoing primary percutaneous coronary intervention for acute myocardial infarction.

Abstract: Current guidelines recommend troponin T (TnT) as the biomarker of choice in the diagnosis of myocardial infarction. In patients with ST-elevation myocardial infarction (STEMI) however, its role in providing a measurement of infarct size and its association with survival is less well established. We sought to assess the correlation of TnT and creatine kinase-MB (CK-MB) with scintigraphically determined infarct size and to assess the predictive value of all 3 parameters on 12-month mortality. Patients presenting with STEMI managed with primary percutaneous intervention underwent serial TnT and CK-MB measurements at admission and for >= 72 hours after presentation. Before hospital discharge patients underwent assessment of infarct size by technetium-99m sestamibi single-photon emission computed tomographic (SPECT) scan. Clinical follow-up was performed up to 1 year. Data were available for 1,237 patients. Mean age was 62.9 ± 12.9 years. Infarct location was anterior in 509 patients (41%); 75 (6.1%) had cardiogenic shock. Median admission and peak TnT were 0.74 ?g/L (0.10 to 2.70) and 3.70 ?g/L (1.69 to 6.99), respectively. Corresponding values for CK-MB were 44.1 U/L (21.0 to 108.8) and 160.0 U/L (69.0 to 301.0), respectively. Median infarct size on
SPECT scan was 12.0% (3.0 to 25.0) of the left ventricle. Peak TnT and CK-MB demonstrated similar moderate correlation with final infarct size ($r = 0.45$, $p<0.001$, and $r = 0.41$, $p<0.001$ respectively). This correlation was not affected by Thrombolysis In Myocardial Infarction flow grade after intervention. At 1 year, 47 patients (3.8%) had died. Final infarct size at SPECT scanning better predicted mortality than peak TnT or CK-MB. In conclusion, this study is the largest investigation on the value of cardiac troponin for assessment of infarct size in acute STEMI. Compared to peak CK-MB, peak TnT shows similar correlation with scintigraphic infarct size, although scintigraphic infarct size remains a better correlate of 1-year mortality than either biomarker.