

188

The clinical significance of troponin T, troponin I, CK and CKMB after coronary angioplasty.

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Increases of serum creatinine kinase (CK and CK-MB), troponin T (TnT), troponin I (TnI) are associated with myocardial injury. The clinical significance of these parameters is debated, however. Therefore, the present study was undertaken to identify factors associated with myocardial damage, to determine the additional value of TnT or TnI and to assess the predictive value of these parameters for early and late cardiac events after PTCA. Myocardial enzymes were determined before and 4 hours post PTCA in 114 consecutive pts. All had normal biochemical values before PTCA. After angioplasty, TnI > 0.5 µg/L; CKMB > 9µg/L; abnormal TnT; CK > 240 U/L; CK MB > 5% CK and CK > 360 UI were noted respectively in 17.5; 14.9; 7.0; 5.2; 3.5 and 1.7 %. Abnormal TnI and positive TnT were associated with CK MB increase > 9 µg/L (p<0.001). Only 2/6 pts with CK > 240 U/L and 2/4 pts with CKMB > 5 % had abnormal TnI, however. Forty-eight clinical angiographic and procedural variables were compared with enzymatic changes. We could not identify any parameter predictive for abnormal Tn or CK value, although a trend toward increase levels of TnI and CK MB was noted after stent implantation or high pressure dilatation. Impact of biochemical changes following PTCA on late clinical outcome will be assessed.

We conclude that new biochemical markers TnT and TnI are sensitive for minimal myocardial damage which occurs frequently (up to 17.5 %) after PTCA, notably after stenting. However, these new markers don't improve diagnostic accuracy achieved with CK MB and are not clinically relevant following PTCA.

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