

Predictive value of newly developed T wave inversion after successful reperfusion therapy in patients with ST elevation myocardial infarction.

Background T wave inversion in patients with ST-elevation myocardial infarction (STEMI) after thrombolytic reperfusion therapy is considered a sign of spontaneous reperfusion and good clinical outcomes. Then, we investigated the prognostic value of newly occurred T wave inversion after primary percutaneous coronary intervention (PCI) in patients with STEMI.

Methods We analyzed 291 consecutive patients (age : 61.5 ± 13.7 years , male 81%) with STEMI undergoing primary PCI between October, 2011 and May, 2014. The primary endpoint was major adverse cardiovascular events (MACE). MACE was composed of cardiovascular mortality, non-fatal myocardial infarction, stroke, and re-hospitalization of uncompensated heart failure.

Results The new T wave inversion after primary PCI were observed in 160 patients (55%), resting 131 patients did not presented new T wave inversion. The mean follow-up period was 21.8 ± 15.2 months. MACE occurred in 42 patients (14%), cardiac death in 24 patients (8%), non-fatal myocardial infarction in 3 (1%), and hospitalization for heart failure in 15 (5%), respectively. Cumulative rate of MACE was significantly lower in new T wave inversion group (8% vs. 22%; odds ratio 0.311; 95% confidential interval 0.154 to 0.627; $p=0.001$). In multivariable Cox regression analysis, new T wave inversion was independent good prognostic factor for MACE (hazard ratio 0.324; 95% CI 0.164 to 0.639; $p=0.001$).

Conclusion Newly developed T wave inversion after successful interventional reperfusion therapy in patients with STEMI was a favorable predictor for MACE, including cardiovascular mortality.