

Incidence of Left Ventricular Thrombus Formation among Patients with Acute Anterior ST-Elevation Myocardial Infarction Undergoing Primary Coronary Angioplasty

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Adjuvant coronary artery aspiration thrombectomy (ASP) before primary coronary angioplasty (PPCI) is accepted and recommended according to the guideline in patients with acute ST-elevation myocardial infarction (STEMI).

Aim:

Evaluate the effects of ASP in patients with acute anterior STEMI undergoing PPCI on the incidence of left ventricular (LV) thrombus.

Methods:

227 patients with acute anterior STEMI were evaluated. 65 patients had PPCI preceded by ASP and 162 without ASP. All patients had evaluation of TIMI and myocardial blush grades before and after PPCI as accepted. All patients had trans-thoracic echocardiographic studies as usual and evaluation of LV function and for the presence of LV thrombus.

Results:

The incidence of LV thrombus was higher in patients with ASP 14(21%) compared to those without 19(11.7%), $p=0.04$. Patients with LV thrombus had higher blood creatinine values 1.4 ± 0.57 mg/dl compared to 1.008 ± 0.52 mg/dl in those without, $p=0.001$. TIMI grade before PPCI was lower in patients treated ASP 0.64 ± 1.0 , compared to 1.01 ± 1.2 , in those without, $p=0.03$. Patients with LV thrombus had lower pre-PPCI TIMI grade 0.15, compared to those without 1.036, $p=0.005$.

Conclusions:

Patients with acute anterior STEMI treated with pre-PPCI aspiration thrombectomy had higher incidence of LV thrombus. However, patients treated with ASP had lower TIMI grade before PPCI implying more severe selected population. In addition, patients with LV thrombus were more clinically difficult, with lower pre-PPCI TIMI-grade and higher blood creatinine levels.