

Myocardial perfusion grade by coronary angiography can predict final infarct size and left ventricular function in patients with ST-elevation myocardial infarction treated with a pharmaco-invasive strategy

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Abstract

Background:

Primary percutaneous coronary intervention (PCI) is the preferred reperfusion strategy in ST-elevation myocardial infarction (STEMI). Immediate transfer for early angioplasty after thrombolytic therapy has been shown to improve outcome compared with thrombolysis alone. TIMI myocardial perfusion (TMP) grade provides important prognostic information beyond epicardial flow. The importance of myocardial reperfusion in STEMI patients treated by thrombolysis followed by early PCI been assessed by left ventriculography and final infarct size by perfusion study is studied.

Aim:

To assess the association between TIMI myocardial perfusion (TMP) at the end of the PCI procedure and left ventricular function (LVEF) and infarct size within one month in such patients

Materials And Methods:

A total of 40 patients with STEMI (mean age 57.32 ± 10.44 , 33 men) were studied. All patients underwent 1ry PCI. Grading of myocardial perfusion is done during PCI. Infarction size, EDV, ESV and EF were estimated by myocardial perfusion (Gated SPECT) imaging within one month from STEMI.

Results:

Final infarct size ranged from 0 to 59, with a mean of (19.18 ± 15.86) cm. EDV ranged from 52 to 228 ml with a mean of (128.60 ± 51.01) ml. ESV ranged from 16 to 169 ml with mean of (72.05 ± 42.09) , EF ranged from 21 % to 72% with a mean of (46.0 ± 12.80) . Viable ischemic area ranged from 0 to 18 cm with (3.38 ± 4.45) . On finding the relation between myocardial perfusion grade and final infarct size, there was significant Indirect correlation between the myocardial perfusion grade and the final infarct size, the higher the MP grade the lesser the infarct size with (p value : 0.001). Also, myocardial perfusion grade was significantly

inversely related to EDV and ESV , the higher the grade the lesser the EDV and ESV, with p value(0.019,0.001) respectively, EF was strongly and significantly related to the MPG , the higher the grade the higher the Ejection fraction with p value of 0.002. And on finding the relation between thrombolytic therapy to final infarct size,the patients who received thrombolytic therapy had significant lesser MPG than who underwent PCI directly (p value : 0.004)

Conclusion:

Assessment of the myocardial perfusion grade during PCI can predict the final infarct size ,ESV,EDV and EF measured by perfusion study in patients with STEMI treated with pharmaco-invasive strategy.

Key words: STEMI,PCI,MPG,Infarct size,Perfusion study.