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Acute Coronary Syndromes

RELATIONSHIP BETWEEN THE RESOLUTION OF ST-SEGMENT ELEVATION AND MICROVASCULAR DYSFUNCTION IN PATIENTS TREATED WITH PRIMARY PCI: INDEX OF MICROVASCULATORY RESISTANCE (IMR) STUDY

Poster Contributions
Poster Sessions, Expo North
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Session Title: ACS Therapy: No Reflow and Improving Outcomes
Abstract Category: 3. Acute Coronary Syndromes: Therapy
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Backgrounds and Objectives: The usefulness of ST-segment elevation resolution (STR) for predicting epicardial reperfusion in STEMI after reperfusion therpy is well established. We tried to evaluate the relationship between the degree of STR and the extent of microvascular dysfunction, assessed by TIMI myocardial perfusion (TMP) grade and Index of microvasculatory resistance (IMR).

Methods: Total 55 consecutive STEMI patients with successful reperfusion by primary PCI, were enrolled. 12-lead ECG was performed at baseline and at 90 minutes after reperfusion. Patients were classified into 3 group according to STR (none<30%, partial: 30-70%, complete>70%). TMP grade was measured by 2 independent cardiologists. IMR was assessed immediately after reperfusion using thermodilution curves obtained during maximal hyperemia by intracoronary adenosine injection with a pressure/temperature sensor-tipped guide.

Results: Mean age of patients was 58 years. History of hypertension and diabetes under treatment was 60% and 24%, respectively. TMP grade 3 after reperfusion was more frequently achieved in complete STR group (p=0.04, Table 1). No STR group showed a tendency of higher IMR (p=0.2, Table 1) than partial and complete STR group. Magnitude of STR was positively correlated with LVEF(r=0.321, p=0.03).

Conclusions: STR reflects the left ventricular dysfunction (EF) after reperfusion rather than the extent of microcirculatory dysfunction (IMR and TMP).

TMP and IMR according to degree of STR

	None	Patial	Complete
IMR<25 (n.%)	2 (22)	9 (53)	14 (48)
IMR>25	7 (78)	8 (47)	15 (52)
TMP1	0	0	1 (3)
TMP2	3 (33)	11 (65)	6 (21)
TMP3	6 (67)	6 (36)	22 (76)