IMPACT OF DIABETES MELLITUS ON PLAQUE VULNERABILITY AND CLINICAL OUTCOME IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION WITH PLAQUE RUPTURE

i2 Poster Contributions
McCormick Place South, Hall A
Saturday, March 24, 2012, 9:30 a.m.-Noon

Session Title: Acute Myocardial Infarction
Abstract Category: 13. PCI - Complex Patients, Diabetes, Renal Insufficiency
Presentation Number: 2520-24

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Background: We assessed the impact of diabetes mellitus on plaque vulnerability and clinical outcome in 224 acute myocardial infarction (AMI) patients (116 ST segment elevation and 108 non-ST segment elevation AMI, 94 diabetic and 130 non-diabetic patients) with plaque rupture (PR).

Methods: Major intravascular ultrasound (IVUS) findings included multiple ruptured plaques (different PRs separated by a >5-mm length of artery containing smooth lumen contours) and a thrombus. The incidences of no-reflow, stent thrombosis, and 12-month major adverse cardiac event (MACE) including death, MI, target vessel revascularizations were observed.

Results: The presence of multiple PR (62% vs. 31%, p<0.001) and thrombus (74% vs. 54%, p=0.002) were more common in diabetic patients compared with non-diabetic patients. The composite of no-reflow and acute stent thrombosis after stent implantation occurred more frequently in diabetic patients compared with non-diabetic patients (22% vs. 11%, p=0.019) and diabetes mellitus (odds ratio (OR): 2.968, 95% CI: 1.287-6.542, p=0.024) and multiple PR (OR: 3.128, 95% CI: 1.357-6.687, p=0.012) were the independent predictors of the composite of no-reflow and acute stent thrombosis. There was no significant difference in 12-month MACE between diabetic and non-diabetic patients (17% vs. 11%, p=0.18).

Conclusions: Diabetic AMI patients with IVUS-evident PR have more plaque vulnerability (more frequent multiple PR and more thrombus) and have higher incidences of acute complications after stenting compared with non-diabetic AMI patients with PR.