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MYOCARDIAL ISCHEMIA AND INFARCTION

WHICH IS WORST IN PATIENTS UNDERGOING PRIMARY ANGIOPLASTY FOR ACUTE MYOCARDIAL INFARCTION? HYPERGLYCEMIA?, DIABETES MELLITUS? OR BOTH?

ACC Poster Contributions
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Session Title: Acute Myocardial Infarction--High Risk Subsets
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Authors: *Mehmet Ergelen, Huseyin Uyarel, Gokhan Cicek, Turgay Isık, Damirbek Osmonov, Zeki Y. Gunaydın, Mehmet Bozbay, Ayca Turer, Mehmet Gul, Gul B. Abanonu, Department of Cardiology, Siyami Ersek Cardiovascular and Thoracic Surgery Center, Istanbul, Turkey, Department of Cardiology, Balıkesir University, School of Medicine, Balıkesir, Turkey*

Background: To evaluate the effect of admission hyperglycemia and/or diabetes mellitus (DM) on the outcomes of primary percutaneous coronary intervention (PCI) for ST-segment elevation myocardial infarction (STEMI).

Methods: 2482 consecutive patients with STEMI (mean age 56.5 ± 11.9, years, 2064 male) undergoing primary PCI between October 2003 and March 2008 were retrospectively enrolled into the present study. Hyperglycemia was defined as a venous plasma glucose level ≥200 mg/dl on admission. Patients were classified into four groups: non-diabetics/non-hyperglycemic (NDNH, n=1806); diabetics/non-hyperglycemic (DNH, n=271); non-diabetics/hyperglycemic (NDH, n=64); and diabetics/hyperglycemic (DH, n=341).

Results: In-hospital mortality was higher in NDH (12.5%) compared to DH (8.5%), DNH (6.3%), and NDNH (0.9%) patients (p<0.001). Composite of death, reinfarction, and target-vessel revascularization (major adverse cardiac events [MACE]) in the hospital were also higher in NDH (18.8%) compared with other patients (DH, 13.8% vs. DNH, 10.3% vs. NDNH, 3.7%, p<0.001). The median follow-up time was 21 months. The Kaplan-Meier survival plot for long-term cardiovascular death was worst for DH patients (Log Rank p<0.001). After adjustment for potentially confounding factors, NDH (OR 3.04, 95% CI 1.06-8.73; p=0.03), and DH (OR 2.3, 95% CI 1.29-4.09; p=0.005), but not DNH (OR 1.22, 95% CI 0.57-2.6; p=0.6) status, remained independent predictors of long-term cardiovascular mortality.

Conclusions: STEMI patients with NDH represent the highest risk population for in-hospital mortality, and MACE. But worst outcomes for long-term cardiovascular mortality occurs in DH patients.