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THE INFLUENCE OF ABNORMAL GLYCOMETABOLISM ON ADIPONECTIN LEVEL AFTER STEMITREATED WITH PPCI AND PROGNOSTIC VALUE OF ADIPONECTIN

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Objectives To characterise the glucometabolic state of patients with acute myocardial infarction (AMI), and to investigate the influence of abnormal glucometabolism on adiponectin levels after the first acute myocardial infarction treated with PPCI and prognostic value of adiponectin.

Methods Two hundreds and six consecutive patients with STEMI at Beijing Friendship hospital were enrolled from July 2010 to August 2011. Patients with non-diagnosed diabetes were performed oral glucose tolerance test (OGTT). Patients with AMI were divided into three groups on the glucometabolic state: NGT (normal glucose

tolerance), IGR (impaired glucose regulation) and DM (Diabetes Mellitus). Blood samples were drawn before the invasive procedure, after immediately the invasive procedure, and at 24 h, 48 h, 72 h and 7 days after AMI onset. Left ventricular end-diastolic diameter (LVEDD) and left ventricular ejection fraction (LVEF) were measured in all patients. All of the subjects accomplished the coronary angiography (CAG); assessed the severity of coronary artery lesions, TIMI grade and CTFC (corrected TIMI frame count).

Results

1. 28.2% patients had known type 2 diabetes mellitus before AMI. Of patients with no diabetes, 46.6% patients had impaired glucose regulation (IGR), 10.8% patients had newly diagnosed diabetes. Of all patients with AMI, 79.4% patients had abnormal glycometabolism.
2. Compared with NGT and IGT group, the fasting blood glucose and blood glucose immediately at admission of DM group were higher ($p < 0.05$). LVEF of DM group was lower than the others ($p < 0.05$). Plasma adiponectin level of DM group before the invasive procedure, after immediately the invasive procedure, and at 48 h, 72 h and 7 days after AMI onset were lower than NGT group ($p < 0.05$). Plasma adiponectin level of DM group before the invasive procedure, after immediately the invasive procedure, and 72 h and 7 days after AMI onset were lower than IGT group ($p < 0.05$).
3. The fasting blood glucose and blood glucose immediately at admission in the low adiponectin group were higher than the high adiponectin group ($p < 0.05$).
4. There was no significant difference in mortality between the low adiponectin group and the high adiponectin group ($p < 0.05$). Patients with high adiponectin had increased MACE at discharge and 6-month follow up compared to patients with low adiponectin ($p < 0.05$).

Conclusions

1. Abnormal glyco metabolism is common in patients with AMI.
2. Compared with NGT and IGT, LVEF of DM at admission was worse.
3. Compared with NGT and IGR, adiponectin of DM was lower.
4. Plasma adiponectin levels after the invasive procedure in NGT, IGR and DM were lower than before the invasive procedure. Plasma adiponectin level at 24 h after AMI onset in NGT, IGR and DM was the lowest one.
5. Increased plasma adiponectin predicts MACE in patients with STEMI treated with PPCI at discharge and 6-month follow up.