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IMPACT OF DIABETES ON PROGNOSIS IN PATIENTS WITH A FIRST ACUTE MYOCARDIAL INFARCTION

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Objective Diabetic patients with acute myocardial infarction (AMI) have poor prognosis. The aim of this study was to compare the influence of diabetes on prognosis after AMI by serial changes of serum myocardium biomarkers and infarct size.

Methods CK-MBmass and CK-MBact were measured by the microparticle enzyme immunoassay and immunoinhibition assay respectively. The size of the myocardial infarction area was calculated on the basis of serial changes.

Results In diabetic AMI patients (n=72), the peak values of CK-MBmass and CK-MBact appeared at 23.1 h and 24.2 h, and maintained at peak level for 16.6 h and 17.3 h before returned to normal by 62.3 h and 69.2 h respectively. In contrary, the peak values of these enzymes in non-diabetic AMI surfers (n=154) returned to normal by 58.4 h and 63.2 h respectively

(both $p < 0.01$). Patients with diabetes also had larger infarct size as calculated the serial serum measurements of CK-MBmass (47.3 ± 10.5 vs 41.6 ± 10.7 , $p < 0.01$) and CK-MBact (52.4 ± 12.8 vs 46.9 ± 13.4 , $p < 0.01$), accompanying with higher occurrences of arrhythmias (40.3% vs 29.9%, $p < 0.01$), cardiac dysfunction (34.7% vs 24.0%, $p < 0.01$) and mortality (11.1% vs 7.1%, $p < 0.01$).

Conclusions Diabetic patients with AMI are associated with increased release of serum myocardium biomarkers, larger infarct size and higher incidence of in-hospital complications and mortality. These associations could explain the poor prognosis in diabetic patients with AMI.