EFFECT OF DIFFERENT INTERVENTION ON PLASMA N-TERMINAL PRO-B-TYPE NATRIURETIC PEPTIDE LEVELS AND EARLY EXERCISE TOLERANCE IN PATIENTS WITH ACUTE ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

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Objective The aim of this study was to investigate the effect of different interventions on N-terminal pro-B-type natriuretic peptide (NT-proBNP) levels and early exercise tolerance in patients with acute STEMI.

Methods One hundred and forty six consecutive patients with STEMI receiving emergency percutaneous coronary intervention (PCI) (n=55), elective PCI (n=47) or drug treatment (n=44) were included. The plasma NT-proBNP concentration and the left ventricular ejection fraction (LVEF) were measured before and at 1 week and 1 month after interventions. Exercise stress test was performed one month after intervention and the occurrence of major adverse cardiac events (MACE) was recorded during 1-month follow-up.

Results Compared with elective PCI group and drug treatment group, both at 1 week and 1 month after intervention, the plasma NT-proBNP level in emergency PCI group was significantly lower and the LVEF was significantly higher (all p<0.05). There was a significantly negative correlation between plasma NT-proBNP levels and LVEF in each group (all p<0.05). The positive rates of exercise stress test were 13.0%, 32.6% and 38.6% in emergency PCI, elective PCI and drug treatment groups, respectively (p<0.05). The occurrence of MACE in emergency PCI, elective PCI and drug treatment groups were 34.5%, 59.5% and 65.9%, respectively (p<0.05).

Conclusion Emergency PCI provides a lower plasma NT-proBNP level with lower MACE incidence, higher LVEF and better early exercise tolerance when compared with elective PCI or drug treatment, indicating that a lower plasma NT-proBNP level predicts a better prognosis.