**ACUTE CORONARY SYNDROME**

**GW26-e0003**

A simple risk score for prediction of cardiac rupture in patients with ST-elevation myocardial infarction

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**OBJECTIVES** Cardiac rupture is a potentially fatal mechanical complication of ST-elevation myocardial infarction (STEMI). The aim of this study was to develop and validate a practical risk score to predict the cardiac rupture after the STEMI.

**METHODS** A total of 11,234 consecutive STEMI patients from 6 centers in China were studied in our trial, we firstly developed a simplified fast-track risk model from 7,455 STEMI patients, and then prospectively validated the score system using receiver-operating characteristic (ROC) curves with data from 3,779 STEMI patients.

**RESULTS** The incidence of cardiac rupture was 2.14% (240/11,234), but the thirty-day mortality was up to 89.6%. We developed a risk model which had 7 independent baseline predictors (female sex, advanced age, anterior myocardial infarction, delayed admission, elevated white blood cell count, anemia, model c-statistic=0.74). The cardiac rupture risk score differentiated patients with thirty-day rate of cardiac rupture ranging from 0.3% to over 10%. The risk score system demonstrated a good risk predictive value with a c-statistic of 0.78 (95% CI of 0.73–0.84) in validation set based on ROC analysis. Beta-blockers could lower the risk of cardiac rupture for the STEMI patients with high risk (14.4% vs. 18.6%, p<0.001).

**CONCLUSIONS** A simple risk score system based on 7 baseline clinical variables could identifies patients at increased risk for CR, for whom appropriate treatment strategies can be implemented.

**GW26-e0500**

Expression characteristics of neutrophil and mononuclear-phagocyte related genes in the SAP and AMI stages of coronary artery disease.

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**OBJECTIVES** To investigate expression differences of neutrophil and mononuclear phagocyte related genes mRNA among acute myocardial infarction (AMI), stable angina pectoris (SAP) and control groups, and then discuss their expression characteristics in the SAP and AMI stages of coronary artery disease.

**METHODS** Whole Human Genome Oligo Microarrays were applied to assess the differential expres-sion characteristics of neutrophil and mononuclear phagocyte related mRNAs in patients with AMI (n=20), SAP (n=20) and controls (n=20).

**RESULTS** (1) Almost all colony-stimulating factors (CSF) and their receptors related mRNAs was up-regulated in AMI and SAP groups compared with the control group, and the expression of GM-CSF and G-CSFR mRNAs in the AMI group was significantly up-regulated (P<0.01) than the SAP and control groups. (2) The expression of mRNAs related to monocyte chemoattractant protein-1 (MCP-1), CCR2 (MCP-1 receptor) and CXCR2/LIL-8 receptor) was significantly up-regulated (P<0.01) in AMI group compared with SAP and control groups, and IL-8 mRNA expression in the AMI group was clearly higher (P<0.05) than the controls. (3) All mRNAs expression related to opsonic receptors IgG FcR and C3bR/C4bR was significantly up-regulated (P<0.01) in AMI group compared with SAP and control group, and the SAP group showed an upward trend compared with the controls. (4) Most pattern recognition receptor (PRR)-related mRNAs expression was up-regulated in AMI group compared with SAP and control groups. Most Toll like receptor (TLR) mRNAs expression was significantly up-regulated (P<0.01) than the SAP and control groups; macrophage scavenger receptor (MSR) mRNA was significantly up-regulated (P<0.01) in AMI group compared with the control group, and the SAP group showed an upward trend compared with the controls.

**CONCLUSIONS** The expression of most neutrophil and mononuclear-macrophage function related genes mRNAs was significantly up-regulated by stages during the progression of CAD, suggesting that the adhesive, chemotactic and phagocytic functions of neutrophil and mononuclear-macrophage are strengthened in the occurrence and development of coronary atherosclerosis and AMI and show an stepped upward trend as the disease progresses.

**GW26-e0982**

Prognostic Value of Plasma Intermedin Level in Patients with Non-ST-Stage Elevation Acute Coronary Syndrome

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**OBJECTIVES** Intermedin (IMD), an autocrine/paracrine biological active peptide, plays a critical role in maintaining vascular homeo-stasis and is widely involved in the pathogenesis of cardiovascular disease. Recent study has shown high plasma IMD level associated with poor outcomes for patients with ST-segment elevation acute myocardial infarction and adds prognostic value to the Global Registry of Acute Coronary Events score (GRACE score). However, the prognostic role of IMD level in non-ST-stage elevation acute coronary syndrome (NSTEMI-ACS) remains unknown. We aimed to assess the prognostic performance of IMD level in a prospective cohort of patients with NSTE-ACS.

**METHODS** Plasma IMD was determined by radioimmunoassay in 132 NSTE-ACS patients on admission to hospital. The endpoint was major adverse cardiovascular events (MACEs), including death, heart failure, hospitalization, and acute myocardial infarction, over follow-up.

**RESULTS** In total, 22 patients exhibited MACEs during follow-up (mean 95±64 days, range 2 to 249 days). Median IMD level was higher for patients with MACEs than MACE-free survivors (390.3 [range 127.2 to 1772.2] vs. 308.9 [range 73.0 to 2121.9] pg/ml, p<0.001). The area under the receiver-operating characteristic curve for IMD and N-terminal pro-B-type brain natriuretic peptide (NT-proBNP) did not significantly differ (0.75 and 0.78, both p>0.001, respectively; p=0.792). On Cox regression analysis with cardiovascular risk variables and NT-proBNP, the risk of MACEs increased 3.89-fold (95% confidence interval 1.46–10.33; p=0.006) with high IMD level (upper tertile [≥362.4] vs. lower 2 tertiles [<362.4] pg/ml).

**CONCLUSIONS** IMD might be a promising prognostic biomarker for predicting MACEs in patients with NSTE-ACS.

**GW26-e1599**

The use of statins maybe is safety in acute coronary syndrome patients with hepatitis B Virus

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**OBJECTIVES** To investigate the safety of HMG-CoA reductase inhibitor (statins) use in acute coronary syndrome (ACS) patients with hepatitis B Virus.

**METHODS** 108 ACS patients with hepatitis B Virus and normal liver function aged 45-70 years provided the therapy with or without HMG-CoA reductase inhibitor (statin) according to 2:1 random distribution. The level of blood lipid (including triglyceride, total cholesterol, LDL-c, HDL-c), the liver function (including ALT, AST, γ-GT and bilirubin), creatase, renal function and the copy of hepatitis B Virus were assessed at baseline, and after 1, 3, 6 month of atorvastatin (20mg/d) treatment. The experiments comply with the current law of China.

**RESULTS** A significant reduction was revealed in serum triglyceride, total cholesterol, LDL-c, and significant increase in serum HDL-c level in group with atorvastatin in 1, 3, 6month respectively (all P<0.05). There is no difference in ALT, AST, γ-GT, bilirubin, creatase, and the copy of hepatitis B Virus in the case group received atorvastatin (20mg/d) at (all P>0.05).

**CONCLUSIONS** The use of HMG-CoA reductase inhibitor (statins) maybe is safety in acute coronary syndrome patients with hepatitis B Virus and normal liver function.