

and 271 genes had low expression ( $p \leq 0.05, |\log FC| > 1$ ). Gene ontology showed these genes belonged to 128 cellular components, and involved in 521 biological processes and 151 molecular functions. Analyzed by KEGG showed that these genes involved in 107 gene pathways. The results of RT-PCR analyzed with  $2^{-\Delta\Delta Ct}$  method showed that compared to healthy people, the expression of CYP4F3 gene was  $1.62 \pm 0.27$  ( $p = 0.006$ ), the expression of IL13RA1 gene was  $1.11 \pm 0.35$  ( $p = 0.681$ ), and the expression of USP25 gene was  $0.56 \pm 0.07$  ( $p = 0.003$ ).

**CONCLUSIONS** The results of RT-PCR were consistent with microarray results. The microarray can be used as the basis of selecting the pathogenic gene of myocardial infarction, and the abnormal expression of CYP4F3 or USP25 may take part in the process of the occurrence and development of myocardial infarction. It can be conjectured that the findings of this microarray may provide efficient strategies for prevention, diagnosis and treatment of myocardial infarction.

#### GW26-e0273

##### Relationship between thrombelastography test and routine platelet parameters in patients with acute coronary syndrome

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**OBJECTIVES** To evaluate the correlation between the thromboelastogram (TEG) and conventional platelet parameters and its effectiveness in determining the coagulation status in patients with acute coronary syndrome (ACS) undergoing percutaneous coronary intervention (PCI).

**METHODS** A total of 91 patients with ACS were enrolled. All patients received a loading dose of 300 mg clopidogrel and 300 mg aspirin followed by 75 mg clopidogrel and 100 mg aspirin daily pre-PCI. R time, alpha angle, K time, maximal amplitude (MA) and coagulation index (CI) were measured by TEG while routine platelet parameters were tested simultaneously 3 days after PCI.

**RESULTS** There were statistical differences in MA, platelet count (PLTs) and plateletcrit (PCT) among the three groups of ACS patients ( $P = 0.008$ ,  $P = 0.016$ ,  $P = 0.007$ ). The PLTs is negatively correlated with K time ( $P = 0.018$ ) and positively associated with alpha angle, MA and CI ( $P = 0.003$ ,  $P = 0.000$ ,  $P = 0.000$ ) respectively. The PCT is negatively correlated with K time ( $P = 0.024$ ) and positively associated with alpha angle, MA and CI ( $P = 0.002$ ,  $P = 0.000$ ,  $P = 0.000$ ) respectively. Some MA values corresponding with platelet count beyond normal references remain in the normal range.

**CONCLUSIONS** There is relationship between TEG-based indicators and platelet parameters in ACS patients undergoing PCI. The combination of the two methods may help to monitor the coagulation status to ensure the security of antithrombotic therapy.

#### GW26-e4534

##### Stent Implantation Comparison of Early versus Selective PCI in Patients with NSTEMI-ACS: A Prospective Single Center Clinical Study

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**OBJECTIVES** To compare stent numbers and clinical outcomes in non-ST-segment elevation acute coronary syndrome (NSTEMI-ACS) patients undergoing early percutaneous coronary intervention (early PCI) and selective percutaneous coronary intervention (selective PCI) respectively.

**METHODS** In this prospective single center trial, 180 NSTEMI-ACS cases with indications of PCI in our unit were randomized to either an early (angiography and revascularization if appropriate  $\leq 72$  hr) or a selective invasive strategy ( $> 72$  hr after randomization). Major adverse cardiac events (MACE) at 30-day and 6-month follow-up was taken for comparative study.

**RESULTS** Patients number undergoing PCI in 2 groups had no significant difference ( $P > 0.05$ ). However, there was a significant difference ( $P < 0.05$ ) in the number of stent implantation between 2 groups and the stent number was negative correlation to the beginning time of PCI. The incidence rate of MACE (the combined incidence

of death, reinfarction and / or recurrent ischemia) was similar in 2 groups ( $P > 0.05$ ) at both 30-day and 6-month follow-up.

**CONCLUSIONS** Selective PCI significantly reduce the number of stents in patients with NSTEMI-ACS.

#### GW26-e0267

##### The Prevalence of Depression and Anxiety in Patients with Acute Coronary Syndrome

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**OBJECTIVES** In the present study, the prevalence of depression and anxiety disorders were evaluated in patients with ACS using the self-rating depression scale (SDS) and the self-rating anxiety scale (SAS)

**METHODS** Patients admitted to department of cardiology at Daxing Hospital Capital University of Medical Science were recruited for ACS from October 2011 to June 2012. Exclusion criteria: Linguistic difficulties; Psychosis or dementia; paralysis; patients with severe systemic disease could not perform daily activities; severe, life-threatening medical conditions; New York Heart Association (NYHA) functional class IV; current alcohol or substance abuse. After signing of the informed consent form, the SDS and SAS screening questionnaire concerning depression and anxiety were administered to the patients with ACS.

The Scores method was conducted based on the 20 item in SDS and SAS questionnaire, and the 4-degree scoring standard was used on basis of severity of each item, then the total score of the 20 items was obtained; the standard score was calculated through multiplying the total score by 1.25. These verity of depression was stratified into mild depression for 53-62 of the standard score, moderate depression for 63-72 and severe depression for more than 72. These verity of anxiety was stratified into mild anxiety for 50-59 of the standard score, moderate anxiety for 60-69 and severe anxiety for more than 69. By screening through SDS and SAS, depression and anxiety were identified among the patients with ACS.

**RESULTS** Overall, 318 patients were enrolled, of the 318 ACS patients consenting to the SDS and SAS screening procedure, 30.19% (96/318) had positive screen results during their stay at hospital. 23.59% (75/318) and 19.18% (61/318) had depression and anxiety in the patients with ACS respectively; 41.97% (40/96) of depressed patients had concomitant anxiety. Moderate-severe depression and moderate-severe anxiety had affected 6.92% (22/318) and 5.03% (16/318) of the patients following an ACS respectively.

**CONCLUSIONS** After ACS, 23.59% (75/318) and 19.18% (61/318) had depression and anxiety respectively; 41.97% (40/96) of depressed patients had concomitant anxiety.

#### GW26-e0707

##### Application of different methods for hemodynamic monitoring of acute inferior myocardial infarction

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**OBJECTIVES** To compare the hemodynamic monitoring effects of PiCCO, Swan-Ganz and UCG in AMI.

**METHODS** A total 32 cases of acute inferior myocardial infarction were enrolled from July 2012 to January 2012 in the PLA general hospital. The 32 patients were hospitalized in CCU and underwent the PiCCO, the Swan-Ganz catheter and echocardiography hemodynamic monitoring. The research was divided into two parts, the first part is comparison of the PiCCO and the Swan-Ganz catheter in monitoring hemodynamic changes (The correlation analysis of hemodynamic parameters related with the changes of volume of rehydration fluids); The second part is the correlation analysis of PiCCO and echocardiography in monitoring hemodynamic changes (Monitoring the hemodynamic

parameters at the time of PiCCO implantation and 72 hours after implantation), through the analysis of hemodynamic data to compare the three methods in monitoring hemodynamic parameters, and to know which is superiority in acute inferior myocardial infarction.

**RESULTS** In this experiment set range of rehydration, by comparing the PiCCO monitor with the Swan - Ganz catheter before and after rehydration, CO has good correlation ( $r = 0.9667$ ,  $p = 0.9667$ ); CVP and PCWP also have good correlation ( $r = 0.6135$ ,  $p = 0.6135$ ). The MAP and CO have good correlation with EVLWI ( $r = 0.984$ ,  $p = 0.000$  and  $r = 0.981$ ,  $p = 0.000$  respectively). PiCCO and ultrasonic parameters of CO, CI, GEF/EF have good correlation ( $r = 0.871$ ,  $p = 0.003$ ;  $r = 0.660$ ;  $p = 0.010$ ;  $r = 0.652$ ,  $p = 0.001$ ).

**CONCLUSIONS** In the case of same treatment goals, PiCCO, Swan-Ganz catheter and echocardiography can effectively monitor the hemodynamic changes of acute inferior myocardial infarction. Three methods have their own advantages. First, echocardiography has less noninvasive monitoring parameters, and it can not monitoring the real-time hemodynamic changes; second, the Swan-Ganz is accurate, but is difficult to operate, and its trauma is larger than other methods and the indwelling time is short. Third, the PiCCO as a minimally invasive hemodynamic monitoring method, it can provide dynamic, continuous, accurate and perfect hemodynamic parameters, and can also show the specific parameters as whole heart end-diastolic volume (GEDV) and lung water index (EVLWI). PiCCO is convenient for clinical application and with better clinical feasibility.

#### GW26-e0753

##### Long-term efficacy and safety of Drug-eluting stent Versus Bare-metal Stent Implantation in Patients with Acute Coronary Syndrome: Clinical and Angiographic Follow-up

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**OBJECTIVES** To compare the long-term outcomes of drug-eluting stent (DES) with bare-metal stent (BMS) implantation in patients with acute coronary syndrome (ACS).

**METHODS** The study included 1143 patients with ACS who underwent stent implantation from January 2001 to December 2010. Of them there were male 892 (78.0%) and female 251 (22.0%), and there were 673 patients (58.9%) with unstable anginal, 86 patients (7.5%) with non-ST elevation myocardial infarction and 384 patients (33.6%) with acute STEMI. The average age of the cases was  $59.02 \pm 9.97$  (range 33-86) years old. The coronary angiography showed stenosis with 75%-100% in a native coronary artery. Out of 1143 subjects there were 122 cases (10.7%) with CTO lesions. The study subjects were divided into BMS group ( $n = 479$ ) who received a BMS implantation and DES group ( $n = 664$ ) who received a DES implantation. All patients were followed by clinical and angiography for a mean follow-up period of ( $70.26 \pm 35.94$ ) months (range 12-172 months). The main endpoint was the occurrence of the first major adverse cardiac event (MACE), defined as death, nonfatal recurrent myocardial infarction, target lesion revascularization (TLR), target vessel revascularization (TVR), very late in-stent thrombosis (VST) and CABG.

**RESULTS** The significant differences of baseline characteristics in two groups were not found for age, gender, hypertension, hyperlipidemia, diabetes, smoking, heart failure, previous cerebral stroke and history of OMI. CTO lesions (11.7%, 56 cases) and LM lesions (2.5%, 12 cases) in BMS group were not significant difference compared with those (9.9%, 66 cases and 4.7%, 31 cases) in DES. The mean number of lesion coronary branches in BMS and DES was dividedly  $1.45 \pm 0.64$  and  $1.66 \pm 0.74$  ( $P > 0.001$ ). The number of implanted stents ( $1.76 \pm 0.90$ ) in DES group was more than that ( $0.45 \pm 0.77$ ) in BMS group ( $P < 0.001$ ). The length and diameter of the stents implanted were respectively ( $3.19 \pm 0.40$ ) mm in BMS vs ( $3.13 \pm 0.38$ ) mm in DES ( $P = 0.016$ ) and ( $19.63 \pm 6.79$ ) mm in BMS vs ( $20.80 \pm 5.32$ ) mm in DES ( $P = 0.001$ ). During follow-up the cumulative MACE rate was 35.3% (169 cases) in BMS and 20.2% (134 cases) in DES ( $P < 0.001$ ). The mortality of all-cause was 14.2% (68 cases) in BMS and 5.0% (33 cases) in DES group ( $P < 0.01$ ). The TLR rate in BMS was significantly higher than 6.2% (41cases) in DES ( $P < 0.01$ ). The TVR rate (5.6%) in BMS was similar to that (5.4%) in DES. The

nonfatal recurrent myocardial infarction and VST were 0 in BMS, and were respectively 1.2% (8 cases) and 1.1% (7cases) in DES. Heart failure (0.4%) and CABG (0.4%) in BMS were similar to those (1.4% and 0.3%) in DES. The rates of in-stent restenosis (31.1%, 102 cases) in BMS were higher than those (16.1%, 95 cases) in DES ( $P < 0.01$ ). The restenosis rate of in-segment of stent (17.4%) in BMS and (13.9%) in DES was similar.

**CONCLUSIONS** The MACE rate in groups was significant difference in long-term follow-up. The cumulative MACE rate, the mortality of all-cause death and TLR rate in BMS were higher than those in DES.

#### GW26-e0769

##### Impaired Responsiveness to Ticagrelor in Patients with Coronary Artery Disease and Type 2 Diabetes

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**OBJECTIVES** In this study, we aimed to study the mechanisms for impaired the P2Y<sub>12</sub> receptor inhibitor ticagrelor response in coronary artery disease (CAD) and diabetes mellitus (DM).

**METHODS** The study involved 53 ACS patients admitted between March 2014 and 2015 to our hospital, 23 patients were diagnosed CAD only; 30 patients were diagnosed coronary artery disease (CAD) with diabetes mellitus (DM). They all took aspirin 100 mg/d p.o q24h and ticagrelor 90mg/d p.o q12h. Before and at various times (0.5, 1, 2, 4, 6, and 24 h) after 180mg load dose of ticagrelor, blood was collected and measure. We used a comprehensive methodological approach embracing PK and PD assessments and ex vivo and in vitro evaluations, and its major active metabolite AR-C124910XX exposure was also determined.

**RESULTS** PD assessments significantly showed that residual platelet reactivity after 24-h treatment with ticagrelor was higher in patients with diabetes mellitus than in non-diabetes mellitus patients. AR-C124910XX exposure was lower in diabetes mellitus than in non-diabetes mellitus patients.

**CONCLUSIONS** Our data suggested that ticagrelor -mediated platelet P2Y<sub>12</sub> receptor blockade responses are impaired in patients with diabetes mellitus compared with non-diabetes mellitus patients.

#### GW26-e1076

##### The significance of platelet volume changes in acute

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**OBJECTIVES** This study sought to evaluate clinical value of ACS and its relationship with coronary artery disease through the Mean platelet volume (MPV) and platelet large cell rate (P-LCR) changes in patients with ACS.

**METHODS** A total of 378 patients was divided into the ACS group and the control group. A total of 273 patients in ACS group, including ST-segment elevation myocardial infarction (STEMI) of 94 cases patients, non-ST segment elevation myocardial infarction (NSTEMI) of 62 cases patients, unstable angina(UA) 117 cases of patients, selected the same phase hospital diagnosed with cardiac neurosis patients 85 cases as control group. All patients were collected elbow vein blood samples, including routine blood all items, troponin (cTNI), brain natriuretic peptide precursor (NT - proBNP), renal function, D - dimer testing ect. All patients were performed coronary angiography examination, take Gensini score as an index of the severity of coronary artery lesions. Selected 60 patients of ACS group, who treated by PCI and regular oral clopidogrel, and were followed up for 6 months, according to the presence of MACE can be divided into MACE group and non-MACE group, review of MPV, P-LCR after following up for 1 month. Selected 60 patients of ACS group, who treated by PCI and regular oral clopidogrel, and were followed up for 6 months, according to the presence of MACE events can be divided into MACE group and non-MACE group, review of MPV, P - the LCR after following up for 1 month. Using multivariable logistic regression analysis the relevance between Gensini score and MPV, P-LCR. Using the