infarction (TIMI) flow grade 0/1 before primary percutaneous coronary intervention (PCI) for ST-elevation myocardial infarction (STEMI) is associated with a worse clinical outcome. However, it is unclear whether the same is true in patients with ongoing STEMI of less than 6 hours' duration, rapid reperfusion and modern guideline-adherent therapy.
Methods: The multicenter, randomized, double-blind ATLANTIC (Administration of Ticagrelor in the Cath Lab or in the Ambulance for New ST Elevation Myocardial Infarction to Open the Coronary Artery) study compared prehospital versus in-hospital treatment with ticagrelor in patients with acute STEMI. For this analysis, patients were divided into three groups according to the preprocedural TIMI flow grade of the infarct vessel: TIMI 0/1, TIMI 2, and TIMI 3.
Results: From a total of 1,680 patients, 1,113 (66.3%) had TIMI 0/1, 279 (16.6%) TIMI 2, and 288 (17.1%) TIMI 3 flow grade before primary PCI. The rate of TIMI flow grade <3 (21.3, 22.8, and 2.6%) and incomplete ST resolution after PCI (45.6, 47.5, and 39.0%) were lowest in the group with TIMI 3 patency before PCI. At 30 day, the composite ischemic endpoint (5.5, 2.9, and 2.1%) and all-cause death (3.0, 1.4, and 2.1%) were highest in patients with TIMI flow grade 0/1. After adjustment for age, sex, body mass index, TIMI Risk Score, arterial access, glycoprotein IIb/IIIa inhibitor before PCI, infarct localization and pre-PCI ST resolution, preprocedural TIMI flow grade was not an independent predictor of major adverse ischemic events within 30 days (odds ratio 1.89, 95% confidence interval 0.74–4.85). Rates of major bleeding events were similar among the three groups. Definite stent thrombosis only occurred in patients with initial TIMI flow grade 0/1 (1.0%). Among those, patients with prehospital administration of ticagrelor were less often affected (0.3 versus 1.3%, $P<0.05$).
Conclusion: In this post-hoc analysis of the ATLANTIC study, preprocedural TIMI flow grade was not independently associated with a higher rate of other adverse ischemic events. However, only patients with preprocedural TIMI flow 0/1 developed definite stent thrombosis.

P5603
Nomograms to predict occurrence of major bleeding in patients undergoing off-pump coronary artery bypass grafting

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Background: Perioperative major bleeding is associated with increased morbidity and mortality in patients undergoing cardiac surgery. An accurate preoperative prediction of major bleeding can help surgeons to optimize management aimings to improve clinical outcomes.
Objective: To identify risk factors for perioperative major bleeding in patients undergoing off-pump coronary-artery bypass grafting (OPCAB) and establish an effective nomogram in order to predict perioperative major bleeding.
Patients and method: Data on 3988 consecutive coronary artery disease patients who underwent OPCAB between the date December 22, 2009, and December 26, 2014 in our Hospital were retrospectively reviewed. Eligible patients were divided by the use of simple random sampling into a derivation cohort (75%, n=2991) and a validation cohort (25%, n=997) for model development. We identified major bleeding according to the universal definition of perioperative bleeding (UDPB) criteria. The UDPB of class 3 to 4 were defined as major bleeding. Multivariate logistic regression was used to identify the independent risk factors associated with major bleeding that then were incorporated into the nomogram. The predictive ability of the nomogram was measured by ROC curves
Results: The rate of perioperative major bleeding was 9.23% (n=276) and 9.23% (n=92) in the two cohorts. The results of univariable analyses showed that patients with advanced age, sex (female), lower body mass index (BMI), decreased left ventricular ejection fraction (LVEF), lower baseline haematocrit (Hct) values and clopidogrel exposure within 5 days prior to surgery were at an increased risk of major bleeding. In multivariate analysis of the derivation cohort, preoperative factors including age, sex (male), BMI, LVEF, Hct, preoperative creatinine level and date of clopidogrel discontinuation before surgery were identified as independent predictors for major bleeding. Incorporating these 7 factors, the nomogram demonstrated good predictive ability for the estimation of major bleeding risk as indicated by the AUC of 0.69 (95% CI: 0.66–0.73) and 0.69 (95% CI: 0.63–0.74) for the derivation and validation cohorts. The positive and negative predictive values of the nomogram were calculated, with positive predictive values of 15.6% and 15.8% and negative predictive values of 95.5% and 94.9% for the derivation and validation cohorts.
Conclusions: The proposed nomogram achieved preoperative predictive accuracy in estimating the risk of perioperative major bleeding among patients undergoing OPCAB. Our prognostic nomogram could inform clinical decision making and may be advantageous to optimize perioperative management

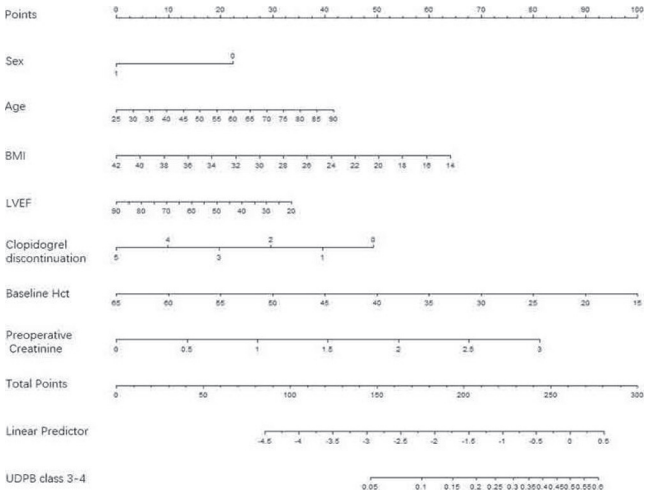

Figure 1

P5604
The effect of rheolytic thrombectomy on myocardial salvage index in patients with ST segment elevation myocardial infarction and large thrombus burden: a magnetic resonance imaging study

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Background: Controversial data exist regarding the potential benefits of the use of Rheolytic thrombectomy (RT) in patients with ST segment elevation myocardial infarction (STEMI) before infarct artery stenting.
Purpose: To determine whether RT to the culprit vessel before conventional percutaneous coronary intervention (PCI) results in improved myocardial salvage index (MSI) assessed by cardiac magnetic resonance imaging (CMR) compared to conventional PCI only in patients with STEMI and large thrombus burden
Methods: This was a randomized controlled, 2-arm, single center, prospective study conducted on patients with acute STEMI and large thrombus burden (TIMI thrombus grade 4 and 5) indicated for primary PCI. Patients with cardiogenic shock, culprit vessel size less than 2.5 mm or received thrombolytic therapy were excluded. Baseline -within 48 hours after PCI- and follow up -after 3 months- CMR were performed to obtain MSI [(percent of the total area at risk – percent of total final infarct size) / the percent of total area at risk], microvascular obstruction (MVO) and final infarct size. The primary end point of the study was CMR-derived MSI at 3 months. The secondary end points were: corrected TIMI frame count (cTFC) and ST-segment resolution (STR) defined as a reduction in ST-segment elevation ≥50% at 30 minutes after infarct artery recanalization.
Results: Eighty patients were randomly assigned on 1:1 basis to RT before conventional PCI (38 patients) or conventional PCI only (42 patients). Mean age was 55 years; 75% male. There was no significant difference between both study groups regarding door to device time [60 (30–130) min in RT group and 55 (20–155) min in the conventional PCI group, p=0.19]. The RT group had similar MVO in the baseline CMR study (25 (73) vs. 24 (70), p=0.78], MVO in the follow up CMR study, [4 (12) in both groups p=0.99], and final infract size [30% vs 23%, p=0.24] compared to the conventional PCI group. The LVEF in the baseline CMR study was significantly worse in the RT group than conventional PCI group [40%±14 vs. 47%±9 respectively, p=0.01], and this persisted in the follow up CMR study [44±14 vs. 51±12 respectively, p=0.04]. No significant difference in MSI at 3 months [0.32±0.25 in RT group and 0.38±0.22 in the conventional PCI group p=0.33], cTFC [24 (5–73) in RT group and 22 (6–95) in the conventional PCI group, p=0.32] and STR [27 (71) in RT group and 29 (69) in the conventional PCI group p=0.84] were detected.
Conclusion: Rheolytic thrombectomy did not improve myocardial salvage index in patients with STEMI and large thrombus burden presenting for primary PCI.

P5605
A new score for prediction of slow/no-reflow phenomenon during primary percutaneous coronary intervention in patients with acute myocardial infarction

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Background: No-reflow phenomenon is the most striking example of myocardial reperfusion clinical failure. It is caused by a lack of adequate blood flow in tissues after successful recanalization of infarct-related artery and is of multifactorial nature. Patients with "no-reflow" have highly increased risk of complications such as reduced systolic function, heart muscle remodeling, dilatation, cardiac chambers hypertrophy/hyperplasia, left ventricular aneurysm etc. In addition, "no-reflow" increases the risk of death. Predisposition for "no-reflow" might be associated with a number of local and systemic factors.
Methods: The study included 422 consecutive patients; with Acute STEMI underwent primary PCI. The patients were divided into a study group (400 patients), and a validation group (22 patients). The study group patients were subdivided into 2 subgroups, No reflow Group (N) with (TIMI flow ≤2), and Reflow group (R) with (TIMI flow 3), and different demographic, clinical, ECG, echo and angiographical data were collected and compared between the two subgroups. Relevant variables were entered in forward binary logistic regression analysis, a weighted score was constructed. The score was validated on the validation group.