Methods: The study compared patients who died in-hospital to those who survived to discharge in a cohort of 93 patients meeting strict definitions for CS to identify correlates associated with mortality.

Results: The overall in-hospital mortality rate for the study cohort was 33%. The baseline characteristics were balanced except for older average age and left ventricular ejection fraction in those who died (p=0.049 and p=0.014, respectively). As detailed in the Table, the insertion of IABP pre-PCI, cardiac arrest at the catheterization lab, and lower ejection fraction (EF) were all correlated with in-hospital mortally (odd ratios 2.68, 5.93 and 0.02, respectively).

Conclusions: In the era of PPCI and IABP as standard of care in AMI complicated by CS, patients with low EF, those who necessitate IABP insertion pre-PCI and those who necessitated CPR during PCI are at higher risk for in-hospital mortality and should be considered for more robust devices (e.g. assisted devices) with an attempt to improve their prognosis.

Table 1.   The demographic and clinical characteristics of patients with AMI complicated by CS.

Variable	Odds Ratio (95% CI)	Lower OR-Upper OR	P Value
Age	1.04	1-1.07	0.053
Men	0.87	0.35-2.15	0.756
Diabetes mellitus	1.23	0.5-3.01	0.646
Body mass index	0.91	0.83-1	0.059
Ejection fraction (%)	0.02	0-0.5	0.018
Number of diseased vessels	1.54	0.92-2.6	0.102
IABP pre PCI	2.68	1.11-6.52	0.029
Pre-hospital CS	0.183	0.76-4.33	1.81
CPR in the catheterization laboratory	5.93	1.66-21.2	0.006

CRT-29

Comparison Of Outcomes Of Patients Presenting With Inferior STEMI With Proximal And Distal Right Coronary Artery Obstruction

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Background: While, proximal right coronary artery (RCA) occlusion in patients with inferior STEMI would suggest right ventricular involvement, the effect of location of RCA occlusion on outcomes has not been studied. We sought to evaluate the impact of site of occlusion of RCA on outcomes of patients with inferior STEMI undergoing PCI.

Methods: All patients presenting to a tertiary care center between June 2006 and May 2012 with STEMI and undergoing PCI with RCA as the culprit vessel were included. Patients with proximal RCA occlusion were compared to patients with distal RCA occlusion. Lesion location was determined based on whether the occlusion was proximal or distal to major right ventricular branch take-off. Patients with posterior descending branch or posterolateral branch occlusion were excluded to correct for left ventricular myocardium at risk in both comparison groups. Clinical and outcome variables were retrieved from retrospective chart review.

Results: One hundred, ninety-seven patients were included in final analysis of which, 94 patients had proximal RCA and 103 had distal RCA occlusion. There were no significant differences between the two groups with respect to gender, prevalence of hypertension, hyperlipidemia (HL), diabetes mellitus (DM), smoking, chronic pulmonary disease and timely revascularization. Twenty-four patients were treated with PTCA, while 173 patients were treated with stenting. Major adverse cardiovascular events (MACE) defined as combined incidence of cardiogenic shock, IABP use, cardiac arrest and death was similar in the two groups (21.3% vs. 18.4%; p <0.05). Individual event rates for cardiogenic shock, IABP use, death, cardiogenic shock and hypotension were also statistically similar in both groups. Post STEMI left ventricular function was similar in both groups (46.8 vs 47.2%; p = 0.77) as was the duration of hospitalization (5.06 vs. 5.17 days; p = 0.75). No clinical variables (gender, hypertension, DM, smoking, HL, chronic pulmonary disease, etc.) predicted MACE. However, time to revascularization > 6 hours

from symptom onset showed a statistical trend towards predicting MACE (OR=0.50 [95% CI 0.24-1.05], p = 0.06).

Conclusions: In patients presenting with inferior STEMI treated with PCI, location of occlusion with respect to the right ventricular branch origin does not predict major adverse cardiovascular events Proximal lesion location in right coronary artery should not be used as a surrogate for clinically significant right ventricular involvement in STEMI patients.

CRT-30

Prediction Of Multivessel Disease In STEMI Patients

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Background: Although early loading of antiplatelet therapy is beneficial for STEMI patients, it may cause bleeding complications in patients with multivessel coronary artery disease (MVD) requiring coronary artery bypass surgery. The identification of MVD in STEMI patients using the initial electrocardiogram (ECG) would be beneficial. We therefore investigated the ability of the initial ECG to predict MVD in STEMI patients.

Methods: From January, 2008 through December, 2010, 224 patients undergoing primary PCI for STEMI were evaluated. Baseline demographics, ECG findings, angiographic findings and in-hospital clinical events were collected. ECG findings included the amount of ST segment elevation and/or depression in mm in all ECG leads and the total number of leads with > 1 mm ST segment elevation and/or ST segment depression. MVD was defined as > 2 coronary vessels with > 70% luminal diameter stenosis; single vessel disease (SVD) was defined as 1 coronary vessel with > 70% luminal diameter stenosis. Patients with SVD (n=106) were compared to those with MVD (n=118) and predictors of MVD disease were evaluated using multiple logistic regression analysis.

Results: Patients with MVD had a higher prevalence of hypertension, hyperlipidemia, diabetes mellitus, metabolic syndrome and a family history of CAD compared to those with SVD. The left anterior descending artery was more commonly the infarct related artery in patients with SVD compared to the right coronary artery in patients with MVD. In-hospital MACE rates were significantly higher in patients with MVD compared to those with SVD, 30.5% versus 17.9%, p 0.03, respectively. Hyperlipidemia, hypertension, diabetes mellitus, total ST segment changes > 6 mm and total number of ECG leads with > 1 mm ST segment depression predicted the presence of MVD. After adjusting for age and gender, more than 3 ECG leads with > 1 mm of ST segment depression predicted the presence of MVD, odds radio 3.79 (95% CI 1.2 to 12.3, p 0.03).

Conclusions: STEMI patients with MVD can be identified based upon the initial ECG.

CRT-31

Total Bilirubin Predicts Long Term Clinical Outcomes In No-reflow Patients With Acute St-segment Elevation Myocardial Infarction During Primary Coronary Intervention

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Background: Increased oxidative stress and vascular inflammation are main mechanisms for no reflow onset after acute ST-segment elevation myocardial infarction(STEMI) who were treated by primary percutaneous coronary intervention (PCI). Recent studies have been reported that the concentration of total bilirubin (TB), acted as antioxidant, could preserve coronary flow reserve and coronary microvascular functions and was reversely associated with in hospital outcomes of primary PCI. However, it is not clear whether high TB exert favorable effects on prognosis of no reflow patients during PCI. This study was performed to assess the prognostic role of TB in no reflow patients.

Material and Methods: 143 consecutive patients (age: 65.29±12.62 years old) with no reflow treated by primary PCI was enrolled to study. Patients were divided into two groups based on the TB concentrations (0.9 mg/dl). No-reflow was diagnosed using 2 different methods after PCI: TIMI flow Grade≤2 or TIMI flow grade 3 with a TIMI myocardial perfusion grade(TMPG)≤1. All patients were retrospectively followed up for 9 years for the all cause death and cardiac death.

Results: There were 31 all cause deaths during follow-up. Of them, 26 patients died from cardiac cause. Patients with adverse events had lower baseline serum TB levels (P<0.05). All patients were stratified into high TB and low TB groups. The mortality of