2.18-42.22, p=0.003) but not in non-diabetic patients (HR: 1.93, 95% CI: 0.97-3.86, p=0.06).

CONCLUSION Hyperglycemia on-admission is a powerful predictor of in-hospital death in patients presenting for STEMI. Its prognostic value is higher in diabetic compared to non-diabetic patients.

CRT-100.32

OCT Evaluation of Culprit Lesions in STEMI After Manual Thrombus Aspiration

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BACKGROUND Thrombus aspiration is a well established technique in the sitting of primary coronary angioplasty for STEMI. We conducted a prospective OCT study evaluating the effect of intensive thromboaspiration in STEMI. We present here as a part of this study the characteristics of the underlying culprit lesion as seen by OCT.

METHODS AND RESULTS In a prospective non randomized single center study, 40 consecutive patients with STEMI were treated by manual thrombus aspiration guided by OCT. Once a TIMI 3 flow is obtained after a mean of 4 aspirations (standard care), a first OCT run was done to assess residual thrombus. Then aspiration was continued with an OCT run every 4 catheter passages until no further decrease in thrombus burden was observed by OCT (intensive aspiration). A mean of ten aspirations were done in order to obtain the smallest final thrombus volume which was halved as compared to thrombus burden after standard care. The OCT characteristics of the underlying lesion were studied on the last run before stenting. We evaluated the continuity of the fibrous cap and the presence of a disruption defined a plaque rupture, a thrombus attached to an intact cap characterized an OCT plaque erosion. We also studied the thickness of the fibrous cap, the presence of macrophages and the extent of the lipid pool. Plaque rupture was found as culprit lesion in 34 patients (85%) and plaque erosion in 6 patients (15%). Plaque rupture was associated with a larger thrombus burden (8.24 vs 1.62mm-3), a larger lipid pool (+45%), and greater macrophages accumulation (+400%). Plaque rupture was most often located upstream to the narrowest part of the lesion (85%) A larger thrombus burden was associated with the presence of plaque rupture and a longer total ischemic time. There was no correlation between thrombus volume and vessel size nor with distance between the lesion and the first collateral. In the sitting of plaque rupture and after intensive aspiration we were able to measure the volume of the removed necrotic core (8.32µ

CONCLUSION In the setting of STEMI, 85% of culprit lesions are plaque rupture. Thrombus burden is greater in the presence of a plaque rupture when compared to a plaque erosion and is correlated to a longer total ischemic time. Shear stress seems to play a role in the location of the plaque rupture. This data emphasize the utility of an effective thrombus aspiration.

CRT-100.33

Effect Of Chronic Pre-treatment With Beta Blockers on the No Reflow Phenomenon in Diabetic Patients With Acute ST-Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Angioplasty

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BACKGROUND No-reflow is an important factor as it predicts a poor outcome in patients undergoing primary angioplasty. In comparison to patients attaining TIMI 3 flow, patients with no-reflow have an increased incidence of ventricular arrhythmias, early congestive cardiac failure, cardiac rupture and cardiac death. As such, it is of paramount importance to consider strategies to prevent the occurrence of no-reflow phenomenon. Previous evidence suggests that Beta (β) blockers have multiple favorable effects on the vascular system not directly related to their effect on blood pressure. However, there is insufficient data regarding the effects of prior Beta blocker use on coronary blood flow after primary PCI in patients with AMI.

AIM The aim of this study is to test the hypothesis that Beta blocker treatment before admission would have beneficial effects on the development of the no-reflow phenomenon after acute myocardial infarction.

METHODS AND RESULTS The study included 107 diabetic patients who had presented with acute STEMI within 12 hours from the onset of chest pain. All of them have undergone primary angioplasty at Ain Shams University hospitals or National Heart institute. The incidence of no-reflow phenomenon was 21%. No-reflow phenomenon was significantly lower in patients on chronic beta-blocker therapy (12% vs. 28%; $P = 0.04$). The heart rate was significantly lower in the normal reflow group than in the no-reflow group ($P = 0.03$). The study also showed that B-blocker pretreatment is an independent protective predictor for the no-reflow phenomenon (P=0.045).

CONCLUSION Chronic pre-treatment with B-blocker in diabetic patients presenting with STEMI, is associated with lower rate of occurrence of no-reflow phenomenon after primary PCI.

CRT-100.34

Impact Of Optimal Medical Therapy On Patients With Acute Myocardial Infarction Undergoing Percutaneous Coronary Intervention

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BACKGROUND There are limited data to evaluate the impact of optimal medical therapy (OMT) on patients with acute myocardial infarction (AMI) undergoing percutaneous coronary intervention (PCI) with drug-eluting stents.

METHODS From national health insurance claims data in South Korea, 30,369 patients aged 18 years or older without known history of coronary artery disease, who underwent PCI with drug-eluting stents as a diagnosis of AMI between 2009 and 2013, were enrolled. OMT was defined as the combination of at least 1 antiplatelet drug, statin, β-blocker, and angiotensin-converting enzyme inhibitor/angiotensin receptor blocker. According to the discharge medication, patients were categorized into OMT (n=22,919) and non-OMT (n=7,450) groups. Clinical outcomes were compared in 2 groups.

RESULTS The average age of study participants was 62.4±12.7 years and 22,585 (74.4 %) were men. During the follow-up period (median, 2.0 years; interquartile range, 0.9-3.2), OMT was associated with a significant reduction in death/myocardial infarction (hazard ratio, 0.838; 95% confidence interval, 0.755-0.929; P=0.001) and death/myocardial infarction/stroke (hazard ratio, 0.870; 95% confidence interval, 0.794-0.952; P=0.003). Additionally, even after adjustments with the propensity-score matching (n=14,896), the favorable pattern of death/ myocardial infarction (hazard ratio, 0.824; 95% confidence interval, 0.759-0.894; P<0.001) and death/myocardial infarction/stroke (hazard ratio, 0.869; 95% confidence interval, 0.810-0.933; P<0.001) was unchanged in the OMT group.

CONCLUSION The use of OMT provided clinical benefits in South Korean patients with AMI undergoing PCI. Appropriate strategies to improve OMT use in AMI patients are needed in South Korea.

CRT-100.35

Gender Differences in Patients Undergoing Percutaneous Coronary Intervention for Acute Myocardial Infarction at a Safety Net Hospital

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BACKGROUND Cardiovascular disease is a leading cause of death in women and significant gender differences remain. Women have higher rates of post-procedural complications and worse outcomes compared to male counterparts following percutaneous coronary intervention (PCI). The aim of this analysis was to evaluate gender differences in indigent patients undergoing PCI for acute myocardial infarction (AMI).

METHODS Patients undergoing elective and emergent PCI for AMI from January 2008 to May 2016 were enrolled at 2 hospital centers in Los Angeles County (Los Angeles County+USC Medical Center and Keck Hospital of USC). Patients were included if they underwent PCI for NSTEMI and STEMI. Patients with unstable angina, missing clinical information and those receiving only diagnostic coronary angiography were excluded, yielding a study cohort of 1444 patients; 320 female (22%) and 1124 male (78%). Baseline demographics, angiographic findings, procedural data and in-hospital clinical outcomes were evaluated. The primary outcomes were major adverse