TCTAP A-134
Role of Hypercholesterolemia and Inflammation in No/Slow Reflow During Elective PCI in ACS patients

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Background: No/Slow Reflow is a nightmare in cath labs because of its serious manifestations from severe chest pain to death. However, its exact etiopathogenesis is still a mystery. We intend to find its possible underlying mechanism(s).

Methods: Among the High Risk ACS patients for No/Slow Reflow (Hypertensive, Diabetes, Chronic Total Occlusion, Stent Restenosis, SVG Stenosis, Arteriectomy Done, Left Main and LAD Lesion, Multivessel and Diffuse Lesion) who had undergone Elective PCI from October 2012 to October 2013, 23 patients were found to have No/Slow Reflow and allocated as No/Slow Reflow Group and another 23 high risk patients were also randomized and allocated as Control group. Platelet and Plasma Factors, Inflammatory Factors, Uric Acid, Cholesterol Factors, Symptom Onset to Balloon Interval (Days) and Syntax Score for each patient were collected and compared between two groups.

Results: Uric Acid (p = 0.031, r = 0.318), Total Cholesterol (p = 0.010, r = 0.374) and LDL (p = 0.014, r = 0.360) were the only correlation factors with No/Slow Reflow group. However, Neutrophil to Lymphocyte Ratio (p = 0.017, CI = 2.135-1969.758) and Total Cholesterol (p=0.003, CI=1.483-7758.262) were left as the only independent factors of No/Slow Reflow after multivariable logistic regression. After ROC curve analysis, Total Cholesterol got the highest Area Under Curve (AUC=0.703) with the best cut off point of 3.779 mmol/L (Sensitivity=65%, Specificity=65%) followed by Neutrophil to Lymphocyte Ratio.

Conclusion: Total Cholesterol and Neutrophil to Lymphocyte Ratio (New Inflammation Marker) was significantly increased in No/Slow Reflow Patients. Therefore, Hypercholesterolemia and Inflammation may be possible mechanisms of No/Slow Reflow during Elective PCI.

TCTAP A-135
Coronary-pulmonary Artery Fistula Complicated with Coronary Artery Aneurysm Treated with Transcatheter Coil Embolization

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Background: Recently, coronary-pulmonary artery fistulas are frequent diseases among congenital coronary deformity, and detected in 0.1 to 0.2% of patients who underwent coronary angiography (CAG). However, it is rare to be complicated with a coronary artery aneurysm in coronary-pulmonary artery fistula. We report three cases of coronary-pulmonary artery fistula complicated with coronary artery aneurysm treated with transcatheter coil embolization.

Methods: A representative case was 76-year-old woman who had been referred to our center with chest pain on exertion since 5 years before. Electrocardiography showed ST-T depression on inferior myocardium. CAG revealed 50% stenosis in mid right coronary artery (RCA), and high-flow coronary artery fistula arising from the proximal RCA to main pulmonary artery with coronary artery aneurysm.

Results: We successfully treated coronary-pulmonary artery fistula and coronary artery aneurysm by transcatheter coil embolization. The patient has been free of symptoms during 9 months follow up.

Conclusion: Surgical repair for coronary-pulmonary artery fistula complicated with coronary artery aneurysm is outstanding in Japan, but it is suggested that transcatheter coil embolization is another option as effective and safe treatment.

TCTAP A-136
Primary Versus Tenecteplase-facilitated Percutaneous Coronary Intervention with Routine Thrombus Aspiration and Closing Device in Patients with STEMI

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Background: In current guidelines for patients with ST elevated Myocardial Infarction (STEMI), primary percutaneous coronary intervention (PCI) suggests as the preferred reperfusion strategy. In previous study, facilitated PCI had similar preprocedural TIMI flow to 0-2 flow. We compared 12 months clinical outcomes including mortality, reinfarction, target lesion revascularization (TLR), and major adverse cardiac event (MACE) between two groups.

Results: Baseline clinical characteristics were similar between two groups. Anglo- graphic characteristics showed that Pre TIMI 0-2 flow (89% vs 68.4%, p<0.001), Visible thrombus (77.7% vs 48.7%, p=0.001), and the use of GP Ib/IIIa inhibitor (34.7% vs 15.4%, p=0.022) were higher in Primary PCI group. Thrombus aspiration was similar between two groups (27.1% vs 30.8%, p=0.472). However, after PCI, TIMI 3 flow was similar between two groups (85.6% vs 17.1%, p=0.940), and there were no difference of 12 months clinical outcomes including mortality (12.9% vs 7.7%, p=0.452), TLR (7.0% vs 5.1%, p=0.750), and MACE (14.9% vs 17.9%, p=0.618). It was also noted that the cumulative incidence of MACE was similar between two groups (Log rank=0.521).

Conclusion: In the present study, Primary PCI group had more visible thrombus, and frequently used GP Ib/IIIa inhibitor as compared with Tenecteplase-Facilitated PCI. However, after PCI, post TIMI 3 flow and cumulative incidence of MACE up to 12 months were similar between two groups. Therefore, in new era, Tenecteplase-Facilitated PCI can be considered as alternative to Primary PCI.

TCTAP A-137
Very Long-term Clinical Outcomes After Primary Stenting Using Sirolimus and Paclitaxel-eluting Stents for Patients with STEMI

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Background: We sought to provide the retrospective comparison of very long-term clinical outcomes after primary stenting using sirolimus (SES, Cypher Bx Velocity) and paclitaxel (PES, TAXUS Express)-eluting stents for patients with STEMI.

Methods: The present study was a non-randomized, retrospective, and single center study, recruiting 596 first STEMI patients after successful either SES or PES placement during from August 2004 to February 2007. Primary endpoint was the incidence of severe cardiac events comprising of cardiac death, nonfatal recurrent MI, and definite stent thrombosis.

Results: Except the clinical observation interval in the SES and PES groups (2173 ± 786 vs. 1828 ± 416 days, p < 0.001), baseline 25 variables were not significantly different. The incidence of severe cardiac events including 7 cases of very late definite stent thrombosis, and 37 cases of very late total ST (3.1% in the SES group and 6.5% in the PES group) was significantly higher than that in the PES group without VLST (3.1% vs 0.01). Cumulative primary endpoint-free ratio in the SES group was not significantly, but in trend, different from that in the PES group (p = 0.062).

Conclusion: Thus, the present study necessitated to evaluate the very long clinical observation after DES placement for primary stenting for STEMI patients.

TCTAP A-138
Mode of Presentation of Patients with ST-segment Elevation Myocardial Infarction in Singapore and Its Impact on Door-to-balloons Time and Clinical Outcome

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Background: In the management of patients with ST-segment elevation myocardial infarction (STEMI), the timeliness of reperfusion via primary percutaneous coronary intervention (PCI) is critical in determining the morbidity and mortality. The timeliness of PCI is estimated by the door-to-ballot time (D2B) time which has become a key performance measure. Current guidelines recommend a D2B of < 90 minutes. Given that most STEMs occur out of hospital, the mode of presentation, whether by emergency medical service (EMS) or by self-presentation (SP) is an important factor influencing the timeliness of treatment and possibly clinical outcomes.

Methods: From January 2009 to December 2011, 957 patients (80 % male, mean age of 58 ± 12 years) presented to our hospital for STEMI and underwent PCI. We evaluated the relationship between the 2 different modes of presentation with median door-to-ballot (D2B) time and in-hospital mortality. Data were collected retrospectively. We then compared the median D2B time between patients presenting by EMS or SP, and analyzed the difference by use of the pearson correlation test.

Results: The majority of STEMI patients (64%) utilized the EMS with the remaining 36% being SP. The percentage of patients achieving D2B < 90 minutes was 84%. The median D2B time was significantly shorter in patients presenting via EMS (57 minutes vs 66 minutes in the SP group, p < 0.0001). Despite shorter D2B time, the EMS group had a significantly higher in-hospital mortality rate than the SP group (6.4% vs 2.9%, p=0.02).

Patients in the EMS group had a higher incidence of hypertension and hyperlipidemia, which were significantly more prevalent vs. the SP group. Mortality reduction does not impact mortality in STEMI. Patients with sicker features were more likely to use EMS in our study which was associated with increased mortality.