ACUTE CORONARY SYNDROME: STEMI, NSTE-ACS (TCTAP A-125 TO TCTAP A-134)

TCTAP A-125
Leukocyte Post Primary Percutaneous Coronary Intervention as Predictor of Left Ventricle Systolic Function in Patient with ST Elevation Myocardial Infarction

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BACKGROUND The dynamic of coronary microcirculation post primary percutaneous coronary intervention (PPCI), which achieves steady state after 12-48 hours, is influenced by many factors, one of them is inflammation, and this condition has been correlated with clinical outcome. The aim of this study was to see the correlation between total leukocytes count 48 hours post PPCI with short term improvement of left ventricle (LV) function.

METHODS Of total 103 STEMI subjects whom underwent PPCI, 62 subjects were included completely from Jan to Apr 2013, and followed until 30 days. Total leukocyte count was measured during admission and 48 hours post PPCI. Subjects divided in two groups, group with total leukocyte count 48 hours post PPCI >12,020/uL and group with total leukocyte count 48 hours post PPCI <12,020/uL. TIMI flow and myocardial blush grade were measure immediately post PPCI. LV systolic function was measured using regional wall motion index (RWMI) focusing on infarct related artery (IRA) by echocardiography, soon after PPCI and at 30 days. Intracardiac and interobserver variability were analyzed. Logistic regression was used to correlate variables using software Stata ver 12.

RESULTS Patients with total leukocyte count 48 hours post PPCI >12,020/uL, had OR 4.4 (95% CI:0.98-19.85; p=0.05) to have irreversible segmental LV function in IRA territory at 30 days. Multivariate analysis consistently shown leukocyte post PPCI as strong predictor of RWMI irreversibility, with OR 4.4 (95% CI:0.98-19.85; p=0.05).

CONCLUSION High total leukocyte counts 48 hours post PPCI >12,020/uL, and 48 hours post PPCI. Subjects divided in two groups, group with total leukocyte count 48 hours post PPCI >12,020/uL and group with total leukocyte count 48 hours post PPCI <12,020/uL. TIMI flow and myocardial blush grade were measure immediately post PPCI. LV systolic function was measured using regional wall motion index (RWMI) focusing on infarct related artery (IRA) by echocardiography, soon after PPCI and at 30 days. Intracardiac and interobserver variability were analyzed. Logistic regression was used to correlate variables using software Stata ver 12.

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CONCLUSION High total leukocyte counts 48 hours post PPCI >12,020/uL, can predict irreversible recovery of segmental LV function in IRA territory at 30 days.

TCTAP A-126
ST-Segment Elevation in Lead aVR as the Predictive Value in Acute Coronary Syndromes
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BACKGROUND This study aimed to analyze the prognostic value of the presence of ST elevation in lead aVR in initial standard electrocardiogram (ECG) performed on admission in combination with clinical variables for acute coronary syndromes (ACS).

METHODS In 446 consecutive patients with ACS, we evaluated admission ECG for aVR and divided patients into two groups: group A (254 patients with non-ST elevation in aVR) and group B (192 patients with ST elevation). The clinical and the coronary angiographic data were compared.

RESULTS 1) There was no significant difference in age, gender, smoking, hypertension, hyperlipidemia and diabetes between two groups. 2) There were more patients with left main lesion and triple vessel lesion in group B (24/192 and 36/192) than group A (11/254,31/354, p value =0.01 for left main lesion and 0.055 for triple vessel lesion). 3) Survival analysis: The death in group A and group B was 25/192 and 36/192 (p value =0.031) at 30 days. However, the incidence of bleeding was lower in TRI group than TFI group (0% vs. 7.0%, p=0.002). In binary logistic regression analysis, TRI for acute STEMI was not independent predictor of mortality but left main and triple vessel disease was only independent predictor for mortality (10.73, 95% CI, 3.78-30.41).

CONCLUSION Our study shows that TRI for acute STEMI did not reduced mortality at 48 hours and 30 days after admission but decreased bleeding complications. In experienced operator for both access sites, the TRI for acute STEMI is the one of the option for reduction of access site and bleeding complication.

TCTAP A-127
Transradial Versus Transfemoral Primary Percutaneous Coronary Intervention for Acute ST-Segment Elevation Myocardial Infarction
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BACKGROUND Recent several studies suggest better clinical outcome of the transradial intervention (TRI) for primary percutaneous coronary intervention (PPCI) for acute ST-segment elevation myocardial infarction (acute STEMI). The purpose of this study was to determine whether TRI for acute STEMI is associated with better outcome and safety compared with transfemoral artery intervention (TFI) in real-world practice.

METHODS We analyzed 271 consecutive acute STEMI patients (age 63.5±13.1, 73.4% of male) underwent PPCI in Dongguk University Gyeongju hospital and the patients with cardiogenic shock were also included in this study. The number of patients of TRI was 113 (61.6±13.7 years, 84.1% of male) and TFI was 158 (64.9±12.4 years, 65.8% of male). We compared between TRI and TFI in terms of death in 48 hours after admission and bleeding (hemoglobin decreased more than 4 g/dl and RBC transfusion).

RESULTS There were no differences of catheterization laboratory to needle time (8.0±5.3 min vs. 9.2±5.3 min, p=0.058) and procedure success rate (92% vs. 96%, p=0.114) between TRI group and TFI group. Mortality in the TRI group and TFI group was 8.0% versus 6.7% (p=0.387) at 48 hours after admission and 8.0% versus 11.4% (p=0.236) at 30 days. However, the incidence of bleeding was lower in TRI group than TFI group (0% vs. 7.0%, p=0.002). In binary logistic regression analysis, TRI for acute STEMI was not independent predictor of mortality but left main and triple vessel disease was only independent predictor for mortality (10.73, 95% CI, 3.78-30.41).

CONCLUSION Our study shows that TRI for acute STEMI did not reduced mortality at 48 hours and 30 days after admission but decreased bleeding complications. In experienced operator for both access sites, the TRI for acute STEMI is the one of the option for reduction of access site and bleeding complication.

TCTAP A-128
Impact of Regional Differences on Cardiovascular Outcome in Patients Undergoing Coronary Angiography or Intervention in Acute Coronary Syndrome: A Population-Based Study from NHIRD of Taiwan
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BACKGROUND Patients with acute coronary syndromes (ACS) undergoing coronary angiography (CAG) or percutaneous coronary intervention (PCI) are shown to have better outcome. Although the
nation-wide accreditation of ACS is needed in Taiwan, the regional differences (RD) on ACS subjects’ outcomes are unclear in the real world practice.

**METHODS** Data were analyzed from the 2005-2008 National Health Insurance Research Database (NHIRD) in Taiwan. ACS subjects undergoing CAG or PCI with intent to revascularization during the same admission were enrolled. The major adverse cardiac events (MACE) were cardiovascular death, myocardial infarction (MI) and stroke. Other exploratory endpoint is heart failure (HF). RD was defined as cardiovascular outcomes between two geographic locations.

**RESULTS** 2481 patients with ACS were enrolled and the mean age was 65.0±12.9 years old. We found RD including admission charge, length of hospital stay, and the percentage of hyperlipidemia, beta-blockers use, angiotensin-converting-enzyme inhibitors (ACEI) use, and CAG. Cox regression analysis showed that RD was associated with MACE (P<0.006) and MI (P=0.002), but not HF (P=0.094), cardiovascular death (P =0.551) or stroke (P =0.733). Kaplan-Meier curves showed two locations had significant difference among MACE and MI (both log-rank test p < 0.02). In the multivariate analysis, RD was associated with MACE (P =0.006) and MI (P =0.002).

**CONCLUSION** In the real-world practice, RD might be an outcome predictor of MACE and MI in ACS subjects.

Key words: acute coronary syndrome, regional difference, coronary angiography, MACE, PCI

**TCTAP A-129**

**Time of Onset of Acute Myocardial Infarction to First Balloon Dilatation and T Wave Alternans**

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**BACKGROUND** T-wave alternans (TWA) is a heart rate dependent repolarization measurement and correlates with arrhythmia vulnerability in animal and human studies. TWA is one of established marker and can predict individuals at high risk of developing a potentially lethal cardiac arrhythmia. We evaluate the association of onset of myocardial infarction and increased of TWA in patients with acute ST-segment elevation myocardial infarction (STEMI).

**METHODS** All patients with acute STEMI who underwent primary percutaneous coronary intervention (PPCI) at Bina Waluya Cardiac Center in periods of January 2011 to October 2011 were enrolled. Those were having previous myocardial infarction was excluded. TWA was measured using Treadmill test after 1 to 2 weeks after discharge.

**RESULTS** A total of consecutive 27 patients were included in the study. There were 25 man and 2 women, with the mean age 58.8±9.9years. The median onset of STEMI and first medical contact was 5.2 hours (0.5 to 11 hours) and the mean door to balloon was 149.5±97.8 minutes (62 to 432 minutes). The time between onsets of myocardial infarction to the first balloon dilatation was so-called pre-revascularization time. No complication occurred. The mean LV EF was 59±13.2% and End Diastolic Diameter (EDD) was 49±9.5 mm, and the End Systolic Diameter (ESD) was 32±9.7 mm. There was significant correlation between pre-revascularization time and the TWA (r=-0.51, p<0.01). The longer the pre-revascularization time, the longer the TWA.

**CONCLUSION** The longer the pre-revascularization times the more probability of having higher results of TWA and may influence occurring of ventricular arrhythmia.

**TCTAP A-130**

**Very Long-Term Outcomes After Stenting Using Sirolimus- and Paclitaxel-Eluting Stents for Patients with First STEMI: A Propensity-Score Matched Analysis**

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**BACKGROUND** We conducted a retrospective examination of very long-term clinical outcomes after stenting using sirolimus (SES) and paclitaxel (PES)-eluting stents for patients with STEMI presented within 48hrs from the onset.

**METHODS** The present study was a non-randomized, retrospective, and single center study, recruiting 872 first STEMI patients after successful either SES (n=547) or PES placement during from November 2004 to April 2012.

**RESULTS** The incidence of severe cardiac events comprising of cardiac death, nonfatal recurrent MI, and definite stent thrombosis in the SES group (8.6%) during the follow-up duration of 2173±786 (days) was not significantly different from that in the PES group (6.2%, 1921±696 days). However, the incidence of very late definite stent thrombosis (VLST) in the SES group (1.5%) was significantly greater than that in the PES group (0, p=0.041). However, after adjusting the 29 baselines by a propensity-score matched analysis produced 231 patients in each arm, the incidence of severe cardiac events including VLST (0.4%) in the SES group (5.6%) was not significantly different from that in the PES group (6.1%). Cox proportional hazard model showed that patients with LMCA disease (hazard ratio=11.6, 95% CI: 1.98-68.1, p=0.007) and final TIMI-grade flow 2-3 (0.145, 95% CI: 0.025-0.83, p=0.030) were the predictors of severe cardiac events.

**CONCLUSION** Thus, very long-term clinical outcomes of the first-generation DESs (SES vs. PES) for first STEMI patients were favorable and statistically equivalent in Japan.