

TCTAP A-008
Single Center Experience of Acute Coronary Syndrome Due to Stent Thrombosis



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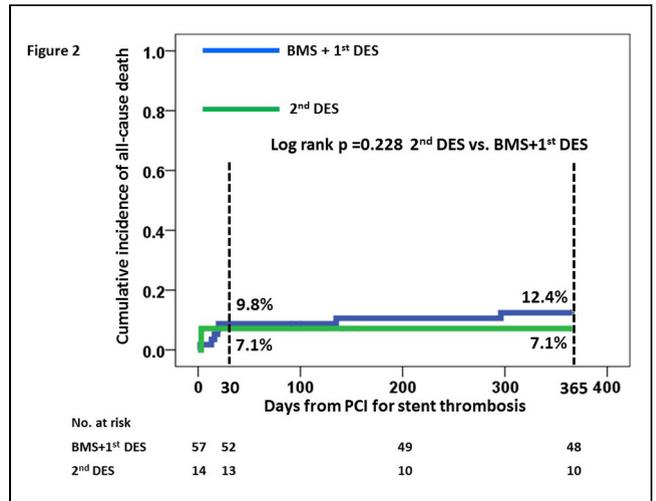
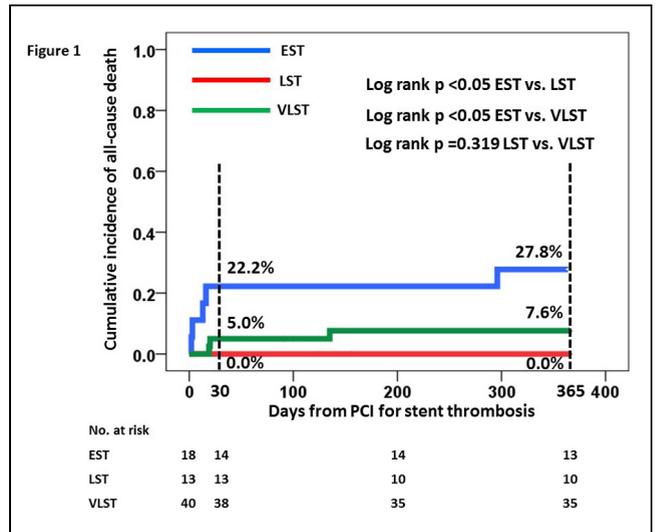
BACKGROUND Little is known regarding the outcome of stent thrombosis-related acute coronary syndrome (ST-related ACS) undergoing primary percutaneous coronary intervention. We investigated the clinical characteristics and outcome of ST-related ACS.

METHODS Consecutive 79 ST-related ACS (71 patients) among a total of 2,117 ACS (1,993 patients, 69.6 ± 12.3 years old, male 72.1%) from January 2008 to June 2016 in our hospital were enrolled.

RESULTS In-hospital mortality of ST-related ACS and Non-ST-related ACS was 7.0% and 4.2%, respectively (P=0.25). Clinical characteristics according to the timing of ST are shown in the table. Cumulative incidence of all-cause death according to the timing of ST and according to implanted stent type is shown (Figure 1 and 2).

| Table | EST (≤30days) n= 21, 26.6% | LST (≤1yr) n=15, 19.0% | VLST (>1 yr) n=43, 54.4% | P value |
|---|-------------------------------|---------------------------|-----------------------------|---------|
| Time from PCI (days) | 7.6 ± 5.7 | 137.3 ± 103.8 | 2295.4 ± 1193.7 | |
| Age (y.o.) | 69.3 ± 13.4 | 66.7 ± 12.8 | 69.0 ± 13.7 | 0.96 |
| Male, n | 19 (90.5%) | 13 (86.7%) | 38 (88.4%) | 0.94 |
| STEMI, n | 20 (95.2%) | 9 (60.0%) | 29 (67.4%) | <0.05 |
| Peak CK (IU/L) | 1554(631-2573) | 1094(327-3338) | 1979(192-3451) | 0.18 |
| LVEF (%) | 44.5 ± 11.8 | 52.9 ± 10.0 | 49.7 ± 11.4 | 0.99 |
| Previous stent indication ACS | 17 (81.0%) | 9 (60.0%) | 14 (32.6%) | <0.01 |
| Type of stent BMS/1 st DES/2 nd DES | 15/1/5 | 6/1/8 | 13/28/2 | <0.01 |
| DAPT discontinuation | 2 (9.5%) | 5 (33.3%) | 9 (20.9%) | 0.2 |
| PCI success rate | 85.7% | 100% | 100% | <0.05 |
| In-hospital mortality | 19.0% | 0.0% | 4.7% | 0.058 |

EST: early stent thrombosis, LST: late stent thrombosis, VLST: very late stent thrombosis



CONCLUSION These results demonstrated early ST-related ACS exhibits worse outcome with more prior ACS, frequent ST-elevation myocardial infarction and low PCI success rate.

TCTAP A-009
The Pattern of Myocardial Perfusion Defects in Patients with Acute Coronary Syndrome Detected by Non-gated High-pitch CT Angiography of Aorta at Emergency Department



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BACKGROUND We intended to investigate the pattern of myocardial perfusion defects (PDs) in cases of acute coronary syndrome visualized by non-gated high-pitch Contrast-enhanced computed tomography angiography (CTA) in patients admitted to emergency department (ED) for suspected aortic dissection.

METHODS From April 2013 to October 2016, 899 patients underwent high-pitch aortic CTA for suspected aortic dissection at ER. Thirty-eight patients who were finally diagnosed as acute coronary syndrome (ACS) and received subsequent coronary catheterization within one month were recruited. The study subjects were grouped into ST-elevation myocardial infarct (STEMI) in 9, Non-ST-elevation myocardial infarct (NSTEMI) in 18, and unstable angina (UA) in 11, based on the clinical diagnosis.

Visual patterns of PDs were classified to transmural, non-transmural, and subendocardial.

Quantitative categorizations of PD based on thickness were grouped to more or less than 50% involvement. The infarct/ischemia related artery (IRA) was confirmed via coronary angiography. The PD severity score was calculated by diseased segment (17 segments adapted from AHA) multiplying the severity (PD thickness: 3 for transmural, 2 for >50%, 1 for <50% and 0 for normal).

RESULTS PD was identified in 32 of the 38 patients with ACS. The predominant pattern of PDs was transmural in STEMI (89%), non-transmural in NSTEMI (61%), and subendocardial in UA (45%). The sensitivity and specificity of PD for predicting IRA were 91% and 100%. Besides, the sensitivity and specificity of more than 50% thickness of PD involvement for detecting MI were 85% and 91%. A significant difference exists in waiting time for catheterization ($p < 0.00001$) and PD severity score ($p < 0.001$) between these three groups.

CONCLUSION In patients with ACS, myocardial PDs detected on non-gated high-pitch aortic CTA provides high sensitivity and specificity with IRA related territory. Furthermore, PD with more than 50% thickness involvement contributes well sensitivity and specificity for myocardial infarct detection especially in patients with ACS.

TCTAP A-010

Prognostic Value of Clinical SYNTAX Score on 2-year Outcomes in Patients with Acute Coronary Syndrome After Percutaneous Coronary Intervention



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BACKGROUND The anatomical SYNTAX score is a scoring system based on the complexity and severity of coronary lesions and is thought to be a prognostic tool to predict long-term outcomes. One of the major limitations of using the SYNTAX score in clinical practice was SYNTAX score don't contain the clinical characteristics. There are few researches about the prognostic value of clinical SYNTAX score in patients with acute coronary syndrome after percutaneous coronary intervention. This prospective, single-center, observational study evaluated the prognostic value of clinical SYNTAX score on 2-year outcomes in patients with acute coronary syndrome after percutaneous coronary intervention.

METHODS Between January 2013 and December 2013, 6,099 consecutive acute coronary syndrome patients admitted to Fuwai hospital and underwent PCI were enrolled in this study. Accordingly with clinical syntax score, patients were divided in low CSS group ($CSS \leq 6.5$, 2,012 patients), mid CSS group ($6.5 < CSS < 13.8$, 2,056 patients) and high CSS group ($CSS \geq 13.8$, 2031 patients).

RESULTS At 2-years follow-up, rates of cardiac death and MACCE were significantly higher in the high CSS group. CSS was superior to the baseline SS in predicting 2-years cardiac death (AUC 0.738 vs 0.615, $P < 0.001$), but wasn't superior in predicting 2-years MACE (AUC 0.597 vs 0.592, $P = 0.285$). On Cox regression analysis, CSS ($p = 0.000$), PCI history ($p = 0.002$), and hypertension ($p < 0.000$) were independent predictors of cardiac death. CSS ($p = 0.000$), IABP support ($p = 0.000$), diabetes mellitus ($p = 0.004$), and successful PCI ($p = 0.000$) were independent predictors of MACE.

