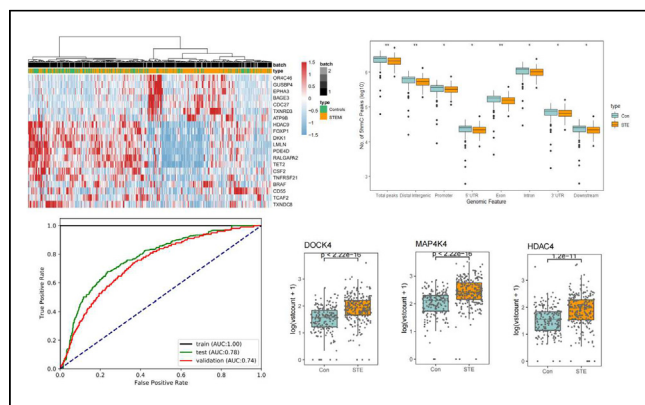


RESULTS We detected a significant difference of 5hmC enrichment in gene bodies from STEMI patients compared with NCA individuals including *DOCK4*, *MAP4K4*, *HDAC4*, *PDE4D*, *PDE8B*, and *BCL6*. Particularly, our results showed that patients of STEMI can be well separated from NCA individuals by 5hmC markers. The prediction performance of the model established by differentially regulated 5hmC modified genes achieved an AUC of 0.78 and 0.74 in validation cohorts.



CONCLUSION Our results demonstrated that patients of STEMI and NCA individuals had distinct differences in 5hmC enrichment. 5hmC markers derived from plasma cfDNA may potentially serve as a clinical-applicable, minimally invasive, and liquid biopsy-based approach to diagnose CAD, particularly used to predict the occurrence of fetal STEMI.

OTHERS (UNCLASSIFIED) (TCTAP A-008)

TCTAP A-008

Clinical Features, Prognosis and Lessons Among Patients With Acute Total Occlusion of the Left Main Coronary Artery, Never Too Late to Learn

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BACKGROUND Survival from acute total occlusion of left main coronary artery (LMCA) is difficult. It's never too late to learn from these tragedies. This study aims to investigate the clinical features of patients with acute LMCA occlusion, tries to determine the predictors of in-hospital mortality and long-term outcomes for clinical reference.

METHODS Thirty patients suffering from acute total occlusion of LMCA were enrolled. Available main anthropometric parameters including history of hypertension, diabetes, dyslipidemia, smoking status, total ischemia duration, time of door to balloon (DTB), coronary angiography (CAG) findings, coronary collateral circulation, plasma levels of blood sugar, main lipids parameters, renal function, cTnI/T, pro-BNP, UCG parameters, in-hospital, one- and three-year outcomes were collected and analyzed.

RESULTS Twenty-nine patients underwent urgent percutaneous coronary intervention (PCI) and mean time from onset to hospital is 7.6±6.5 hours. 9 died in hospital and 21 cases discharged and the mean DTB time was comparable between these two groups. Cardiogenic shock was present in 23.3% of patients before CAG and 56.6% after PCI. During hospitalization, a total of 88.9% (8/9) patients in the in-hospital mortality group presented TIMI III or IV grade flow (TIMI 3/4 flow), which was significantly higher in the survival and discharge group (88.9% vs. 38.1%, P=0.011). Multivariate analysis showed that usage of intra-aortic balloon pump (IABP) (P=0.048) and final TIMI 3/4 flow (P=0.03) were the predictors of in-hospital mortality. With regards to one- and three-year all-cause mortality, however, use of IABP did not reduce 12-month and 36-month mortality. While final

TIMI 3/4 flow after emergency PCI presented better 36-month survival (P=0.035).

CONCLUSION The present study showed that patients with acute total occlusion of LMCA are facing higher in-hospital mortality and poor long-term prognosis. Use of IABP and final TIMI 3/4 flow after urgent PCI were convenient predictors of in-hospital mortality. Only final TIMI 3/4 flow after PCI is the independent predictor of long-term outcomes. Active primary prevention and timely medical contact and treatment could delay the onset of cardiac attack and save more lives. (ChiCTR-DDD-17013908)

ACUTE CORONARY SYNDROMES (STEMI, NSTEMI-ACS) (TCTAP A-009 TO TCTAP A-014)

TCTAP A-009

Coronary Stent Thrombosis Prediction in Patients With Acute Coronary Syndrome

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BACKGROUND On the basis of instrumental and laboratory methods, to determine the prognosis of the development of coronary stent thrombosis in acute coronary syndrome.

METHODS To achieve the aim of the study, we analyzed the treatment of 4028 patients who underwent urgent coronary stenting. In 4028 patients who underwent percutaneous stenting of coronary vessels, postoperative complications occurred in 285 (7%), including 59 cases (20.7%) - coronary stent thrombosis in the early postoperative period, in 226 cases (79.3%) - restenosis in the coronary stent in the late postoperative period.

RESULTS A preliminary correlation analysis revealed the relationship between the risk of coronary stent thrombosis in acute coronary syndrome and echocardiographic data, as well as laboratory parameters (Tables 1, 2).

Based on the results of logistic regression of continuous signs, a prognostic model of the development of coronary stent thrombosis in the early postoperative period after emergency stenting of coronary vessels was constructed.

The probability (p) of coronary stent thrombosis in the early postoperative period based on this prognosis model is:

$$p = 1 / (1 + e^{FV * 0.024 + APTT * 0.071 + 0.603}),$$

Where "e" is the base of the natural logarithm, a mathematical constant of approximately 2.718. The correctness of the forecast model is 98.7%.

The closer the value is to 1, the higher the risk of this postoperative complication. For convenience, the result can be multiplied by 100%. So, for example, with EF = 65% and APTT = 35 sec, the risk of coronary stent thrombosis in the early postoperative period after emergency stenting of coronary vessels is 0.95%, with a decrease in EF to 46% and APTT up to 29 sec, the risk increases to 2, 3%, and with a pronounced drop in EF to 40% and APTT up to 25 sec - up to 3.3%.

Table 1. Results of the correlation analysis of the risk of thrombosis in the coronary stent and echocardiography data (the values of the Gamma (G) coefficient are presented at p < 0.05).

	Index Coronary stent thrombosis (n = 59)
Asynergy of the LV lower wall	NS
Enlargement of the chambers of the heart	0.64
Mitral regurgitation	0.30
LV contractile function	0.59
Atherosclerosis BCA	NS
Intimal seal	0.63
Ascending aortic diameter	NS
Intima-media complex	NS
LV end systolic dimension	NS
Ejection fraction	0.23

CONCLUSION Echocardiography is less informative in terms of predicting the risk of coronary stent thrombosis in the early postoperative period than laboratory parameters. The developed model for predicting the likelihood of coronary stent thrombosis in the early postoperative period with a prediction accuracy of 98.7% can be recommended for use in clinical practice.