0504

Isolated elevation of cardiac troponin is associated with better prognosis of non-ST segment elevation myocardial infarction

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Purpose: We sought to evaluate the effect of isolated elevation of cTn on short-term outcomes of NSTE-MI

Methods: From Oct 2010 to Oct 2013, 3799 patients with NSTE-MI were enrolled on a national multicenter registry. These patients were divided in 2 groups: BM+: elevation of cTn and other biomarkers of myocardial injury (n=2445); BM-: elevation of cTn without rise in the other biomarkers (n=948).The endpoints included in-hospital all-cause mortality and a composite endpoint of death, re-infarction, heart failure (Killip class >2) and resuscitated cardiac arrest during hospitalization. Logistic regression modelling was used to compute adjusted odds ratio of death and of the composite endpoint.

Results: The BM- patients were younger (66±12 vs. 68±13, p<0.001), more likely to have undergone previous percutaneous coronary intervention (18.6% vs. 15.1%, p=0.013) and had higher baseline values of low-density lipoprotein-cholesterol (114±39 vs. 111±39, p=0.03). Multivessel disease was more frequent in BM+ patients (58.1% vs. 53.5%, p=0.026). Patients with BM- had lower incidence of heart failure (8.4% vs. 20.8% with Killip class >1, p<0.001), left ventricular dysfunction (10.4% vs. 18.4% with left ventricular ejection fraction <40%, p<0.001) and the composite endpoint (5.1% vs. 11.9%, p<0.001). In-hospital all-cause mortality was more common in those BM+ (3.0% vs. 0.7%, p<0.001). In a multivariable model, no significant association was found between BM- and in-hospital all-cause mortality (OR: 0.568, 95% CI: 0.127-2.549, p=0.461). Isolated elevation of cTn was associated with lower incidence of the composite endpoint (OR: 0.474, 95% CI: 0.312-0.722, p=0.001).

Conclusion: In this observational nationwide study, patients with isolated cTn elevation showed a better short-term prognosis than those with elevation of all biomarkers of myocardial injury. The higher sensitivity of cTn might be associated with less myocardial damage and therefore fewer complications.

0026

Uselessness of high-sensitivity cardiac troponins to improve diagnostic accuracy of dobutamine stress echocardiography in high-risk diabetic patients

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Background and aim: Dobutamine stress echocardiography (DSE) is a well-established noninvasive stress modality for the detection and evaluation of coronary artery disease in diabetic patients. High-sensitivity cardiac troponin T recently emerged as a highly sensitive dosage for the detection of ischemia. The aim of the study was to examine whether high-sensitivity cardiac troponin T may improve the diagnostic accuracy of silent ischemia by DSE in high-risk diabetic patients.

Methods and results: 21 patients with long-standing (>10 years) and/or complicated type II DM but no established CAD were included. In addition to DSE, venous blood samples for measurement of hs-cTnT and were collected prior to DSE, 6H and 24 hours after the test. Troponins were deemed positive if >1.5 upper limit for normality. Patients with positive troponins underwent coronary angiography or CT scan regardless of the result of DSE. Among the 21 patients, 7 had positive troponins measured 6 hours after stress, (mean peak troponin=44.5). DSE were negative in all of them. Mean age was 64 years significantly higher than patients with negative troponins. No differences were noted between the groups in terms of epidemiological, clinical or echocardiographic characteristics. Patients with positive cardiac troponins were evaluated for the presence of coronary lesions but none of them had significant disease. After a 18 month mean follow-up, no adverse cardiac events were noted in either groups.

Conclusion: In high risk diabetic patients, the measurement of hs-cTnT during DSE does not improve the sensitivity at least in those with negative DSE tests

0109

Is there a differential expression of selected microRNAs depending on stent's type and length one month after coronary angioplasty?

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Stent thrombosis is a serious, although rare, complication of percutaneous coronary intervention (PCI). Some data from randomized trials indicate a higher risk for drug- eluting stents (DES) thrombosis. Furthermore, it has been shown that the most powerful histological predictor of stent thrombosis was endothelial coverage and that reendothelialization was delayed after implantation of first-generation DES compared with bare-metal stents (BMS) as from the first month after PCI. We do not have yet simple blood test biomarkers that could reflect the ongoing process of stent reendothelialization. MicroRNAs are small, endogenous, noncoding RNAs, easily detectable in plasma, involved in a variety of cellular processes via suppression of specific target mRNAs and could be such biomarkers. Some of them have been linked to endothelial function and reendothelialization in animal or *in vitro* studies. We hypothesized that the expression of certain microRNAs was informative of stent endothelialization. We therefore sought beforehand to determine wether stent type and stent length could influence the expression of candidate microRNAs in human peripheral blood. Between July 2008 and December 2013, all patients who underwent coronary angioplasty in our centre were asked to attend a systematic consultation one month after revascularization for blood sampling. Sixty patients with a single-vessel disease meeting over twenty clinical, biological, echocardiographic and angiographic criteria were selected: 30 with a BMS and 30 with a DES, with a balanced ratio of short (≤15mm) and long (>15mm) stents in each group. Twenty eight microRNAs were chosen based on a review of literature. Their expression was measured using qRT-PCR in plasma samples collected at one month. Levels were normalized to cel-miR-39 and compared between the two groups of patients. The results are currently under analysis (table next page).

0363

Acute coronary syndrome complicated with left ventricular diastolic dysfunction: what is the contribution of brain natriuretic peptid?

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Background: The utility of Brain Natriuretic Peptide (BNP) for detecting leftventricular (LV) diastolic dysfunction in patients presenting an acute coronary syndrome without heart failure symptoms is unclear. In this study, we investigated the relation between BNP plasma levels and LV diastolic dysfunction in patients with postmyocardial infarction without systolic dysfunction.

Methods: We studied 81 patients (12 women, mean age 55±11.79) admitted in our center for myocardial infarction with or without ST segment elevation. Patients with heart failure symptoms or abnormal systolic function were excluded. LV diastolic function was assessed with conventional Doppler, by means of mitral inflow and with tissue Doppler echocardiography by means of mitral annulus. The ratio of early diastolic transmitral E wave velocities to tissue Doppler mitral annulus early diastolic E' wave velocities (E/E'), was used to detect LV filling pressures. Patients were divided in three groups according to E/E' ratios < 10 (group I), E/E' ratios between 10 and 15 (group II) and E/E' ratios > 15 (group III).

Abstract 0109 – Table: Patients' baseline characteristics

Patients'baseline characteristics			
	BMS (n=30)	**DES (n=300)**	***p***
Sex, M/F	30/0	30/0	1
Age, y	52,03±6,35	50,2±8,45	0,34
Body mass index*, kg/m^2	25,79±2,56	25,00±2,97	0,28
Hypertension, %	16,66	1,66	1
Dyslipidemia, %	33,33	33,33	1
Diabetes mellitus, %	0	0	1
Family history, %	26,66	6,66	0,07
Cigarette smoking, %	73,33	60	0,41
Previous CAD, Stroke, PAOD, %	0	0	1
Indication of coronary angiography			
AMI (STEMI/NSTEMI, %	86,66	76,66	0,5
UA, %	13,33	16,66	1
SCAD, %	0	6,66	0,49
Time interval between PCI and blood sampling, d	39,16±7,68	38,73±6,76	0,81
Stent length, mm	16,3±4,24	17,56±5,71	0,33
LVEF, %	58,66±7,30	61,13±6,18	0,16
*Drug therapies**			
Statin, %	100	100	1
ASA, %	100	100	1
Second anti-platelet drug			
Clopidogrel, %	46,66	43,33	1
Prasugrel, %	53,33	50	1
Ticagrelor, %	0	6,66	0,49
β-blocker, %	85,71 (n=28)	60 (n=25)	0,059
ACE inhibitor, %	89,28 (n=28)	80,76 (n=26)	0,46
AT-RB, %	0 (n=28)	0 (n=26)	1
OAC, %	0	0	1
*Blood tests**			
LDL cholesterol, g/L	0,75±0,18	0,68±0,19	0,19
HDL cholesterol, g/L	0,39±0,10	0,43±0,11	0,19
Triglyceride, g/L	0,96±0,32	0,93±0,29	0,72
Hemoblogin, g/dl	14,34±0,97	14,4±0,83	0,82
Platelets, G/L	242,93±55,90	239,56±49,61	0,8
Serum creatinine, µmol/L	88,6±14,60	82,73±14,59	0,12
CRP, mg/L	2,07±2,02	1,39±1,30	0,12
Fasted glycaemia, g/L	0,97±0,11	1,01±0,09	0,14
HbA1c, %	5,74±0,39	5,73±0,40	0,92

Continuous variables are presented as sample mean and standard deviation. P-values reflect comparisons between patients with a BMS and patients with DES and are derived from Student's t-tests for continuous variables whereas qualitative data were compared with Fisher's exact test.
The characteristics marked with an asterisk were collected on the same day that blood was sampled (one month after PCI).

Results: The BNP blood levels were positively correlated significantly with E/E' ratio ($p < 0.02$). Patients with elevated LV end diastolic pressure (LVEDP), defined as E/E' > 15 (n = 27) had highest BNP (302±68 pg/ml) levels. E/E' 10 to 15 group (n = 24) had a mean BNP level of 136.4±27 pg/ml, and those with E/E' < 10 (n = 29) had 82±20 pg/ml. A BNP value of 107.8 pg/ml had a sensitivity of 89%, a specificity of 61% for predicting E/E' >15. The area under the ROC curve for BNP to detect any diastolic dysfunction was 0.757. A BNP value of 72.7 pg/ml had a sensitivity of 82.2% and a specificity of 66.7% for detecting a diastolic dysfunction.

Conclusions: A rapid assay for BNP can detect the presence of diastolic abnormalities on echocardiography. In patients with preserved systolic function post myocardial infarction, elevated BNP levels might help to reinforce the diagnosis of LV diastolic dysfunction.

0466

Point-of-care genetic profiling in acute coronary syndrome

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Background: Our aim was to examine the hypothesis that the sequential use of the Verigene® rapid CYP2C19 test for genetic profiling and the VerifynowTM bedside test for platelet function measurement in ACS patients may improve $P2Y_{12}$ inhibition.

Methods and results: "Rapid" (CYP2C19*1/*1 or CYP2C19*17 carriers, n=211) and "slow" metabolizers (CYP2C19*2 carriers, n=58) were first put on clopidogrel and prasugrel MD for ≥2 weeks, respectively. Patients with low inhibition >80% on prasugrel or high inhibition <30% on clopidogrel were then switched to clopidogrel and prasugrel, respectively. Our objectives were to demonstrate that the proportion of "rapid" metabolizers on 75mg MD of clopidogrel within 30%-80% of $P2Y_{12}$ inhibition is non-inferior to "slow" metabolizers on prasugrel 10mg MD and (ii) to evaluate the same end-point after switching drugs. The proportion of "rapid" and "slow" metabolizers within 30%-80% of $P2Y_{12}$ inhibition was 58.5% and 44.8%, respectively, an absolute difference of +13.6% (95% CI (confidence interval), –0.8% to 28.1%) with a non-inferiority margin greater than the predefined margin of –10%. Among patients out of target, all but one "slow" metabolizers displayed low-on prasugrel platelet reactivity while the majority of "rapid" metabolizers (70%) displayed high-on clopidogrel platelet reactivity. After switching, the proportion of patients within 30%-80% of $P2Y_{12}$ inhibition was 74.4% and 65.5% in "rapid" and "slow" metabolizers, respectively (+8.9%, 95% CI –4.7% to 22.5%).

Conclusions: This study demonstrates a loose relationship between genotype and platelet function phenotype approaches but that they are complementary to select prasugrel or clopidogrel MD in stented ACS patients.