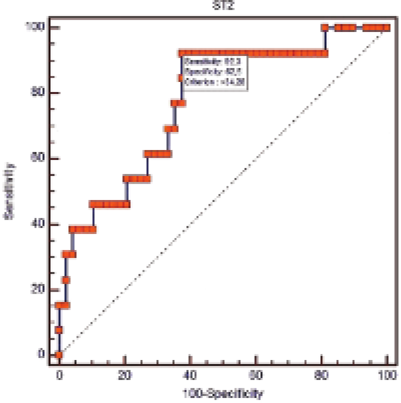

ROC-analysis of predictable power of ST2

Coronary Artery Disease — Treatment

P2122

The predictors of progression of myocardial dysfunction in patients with nSTEMI within 6 months of follow-up

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Introduction: the quality of life and prognosis of the patients undergoing acute coronary catastrophes in many cases determined by the development and progression of myocardial dysfunction (MD).

Purpose: to determine independent predictors of MD progression in patients with nSTEMI within 6 months of follow-up.

Methods: 77 patients (63.6% of men) with nSTEMI aged from 50 to 79 (mean 64.1 ± 1.0) years were examined. Hospital management tactics and subsequent outpatient therapy have been designed in accordance with current nSTEMI guidelines (ESC, 2015). Coronary angiography followed by percutaneous coronary interventions was performed in 40 (51.9%) patients. 62.5% of patients received implantation of 1 stent system, 32.5% - 2 stent systems and 5.0% - 3 stent systems. The main criterion of MD progression was the dynamics of the global ejection fraction, determined by echocardiography by the Simpsons method at the 6th month of observation.

Results: The independent predictors of MD progression were determined by linear multiple regression. They are: presence of previous angina (p = 0.02); surgical revascularization at 1 day (p <0.00001); using of eplerenone from 2nd days till 3rd months (p = 0.04); dynamics of the size of the left atrium (p = 0.004) and end-systolic size of the left ventricle (p = 0.001) at the 3rd month and the dynamics of the association of the level of biochemical markers characterizing the state of myocardial injury (troponin I) and myocardial mechanical stress (NT-proBNP)) at 6th month.

Conclusion: surgical revascularization at 1st day and dynamics of the association of markers of troponin I + NT-proBNP at 6th month are the most potent predictors of progression of MD in patients with nSTEMI for 6 months of follow-up.

P2123

Mean platelet volume in the prediction of in-hospital complications in acute coronary syndromes

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Funding Acknowledgements: None

Background: Mean Platelet Volume (MPV) is an indicator of platelet activation, with higher volumes being associated with increased prothrombotic potential. Some studies have related increased MPV with poor outcomes in acute coronary syndromes (ACS). Global Registry of Acute Coronary Events (GRACE) Score is the most used tool in risk stratification in ACS. This study aims to evaluate MPV as a predictor of in-hospital complications in ACS and compare it with the GRACE Score (Gs).

Methods: All patients (P) admitted for ACS in a Cardiology Department for 8 years were included. MPV and Gs were obtained at admission. MPV was considered elevated if superior to its median (8.9fL). Primary outcome was in-hospital complications: death, cardiogenic shock, ventricular arrhythmias, mechanical complications, stroke, bleeding or worsening of renal function. Statistical analysis used Chi-square and Mann-Whitney U tests, logistic regression analysis and receiver operating characteristic (ROC) curves.

Results: 1003 P were studied (mean age 67.8±12.7years, 71.2% male). Mean MPV was 9.1±1.1 fL, and 47.8% P had high MPV. Primary outcome occurred in 268 (26.7%) P: 22.7% with low MPV vs. 31.1% with high MPV (p=0.003).

Higher MPV was associated with older age (p<0.001); type 2 diabetes mellitus (p=0.017) and previous coronary artery bypass graft (p=0.048). At admission, P with high MPV had lower levels of platelets (p<0.001) and hemoglobin (p=0.004); higher levels of urea (p=0.009) and BNP (p<0.001); lower left ventricle ejection fraction (p=0.02) and higher Gs (p<0.001). There was no difference in antithrombotic therapy or revascularization strategy between the groups.

Univariate logistic regression analysis showed that high MPV was a predictor of in-hospital complications (OR 1.537; 95% CI 1.160-2.036; p=0.03). In multivariate analysis, high MPV was a predictor of the primary outcome (OR 1.398; 95% CI 1.034-1.892; p=0.03) independent from Gs>140 or admission levels of platelets and hemoglobin. The addition of high MPV to Gs was superior (AUC 0.582) in the prediction of in-hospital complications than the sole use of either MPV (AUC 0.551, p=0.06 for comparison) or Gs (AUC 0.561, p=0.03 for comparison).

Conclusions: In this study, MPV was a predictor of in-hospital complications in P with ACS, and was independent of Gs>140 and of hemoglobin and platelets levels at admission. The combination of MPV with Gs allowed better risk prediction, so in the future this readily available value might be used in risk stratification.

Coronary Artery Disease: Treatment, Revascularization

P2124

Prognostic value of Killip classification in acute coronary syndrome 50 years later.

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Funding Acknowledgements: The authors declare no conflict of interest.

Introduction: In 1967, Killip and Kimball published their renowned prognostic classification, which stratified patients with acute coronary syndrome were classified according to their risk of death. Today, it is still a system used in the daily clinical practice, but given the advances in this field, it should be revised and adjusted to current therapies and population. Here we review our results and prognostic value of the classification in a single centre in the past 25 years.

Methods: This is a retrospective analysis of patients admitted to a cardiac intensive care unit (CICU) in the past 25 years presenting ACS in Killip class III or IV. 170 variables were analysed. In order to enable adequate comparison between different treatment strategies, only patients from two specific time periods were analysed:

Phase A (1993-1996): thrombolysis, a less invasive management of the patient.

Phase B (2015-2018): primary percutaneous coronary intervention, advanced mechanical circulatory support.

Results: 687 patients were included in the analysis. Prevalence of cardiovascular risk factors significantly increased throughout the periods of study, with the exception of diabetes mellitus. Management has evolved towards a more invasive approach, with a significant increase of percutaneous coronary intervention and use of circulatory and respiratory support devices. A statistically significant increase of in-hospital survival is also observed, with an absolute risk reduction in mortality of 19.4 % and of 46.1 % in patients with Killip class III and IV, respectively. This was accompanied by a higher frequency of presumably related complications: infections, major bleeding and acute renal injury (p < 0.0001).

Conclusions: Significant changes have taken place in the context of acute coronary syndrome since the publication of Killip classification. Patients' characteristics and management have significantly evolved, with a higher prevalence of cardiovascular risk factors and a more invasive approach. Albeit these changes, Killip classification is still of great value in current clinical practice, as it allows to identify which patients are at a higher risk of death, particularly those in Killip class IV.

Table

	A=1993-1996	B=2015-2018	Significance
Age	74.5 (SD = 9)	71.2 (SD = 13)	N.S.
Hypertension	45.6 %	60.3 %	<0.001
Dyslipidemia	16.4 %	49.6 %	< 0.001
Diabetes mellitus	28.1 %	31.9 %	N.S.
Smokers	37.4 %	50.7 %	<0.01

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