P6239

The A body shape index and type 2 diabetes are mutually independent predictors of cardiovascular events in patients with peripheral artery disease

A. Vonbank[1], C.H. Saely[2], C. Heinzle[3], D. Zanolin[3], B. Larcher[1], A. Mader[1], A. Leiherer[4], A. Muendlein[3], H. Drexel[5]. *[1]Academic Teaching Hospital, Department of Medicine and Cardiology, Feldkirch, Austria; [2]Bern University Hospital, Division of Angiology, Swiss Cardiovascular Center, Bern, Switzerland; [3]VIVIT Institute, Feldkirch, Austria; [4]Private University of the Principality of Liechtenstein, Triesen, Liechtenstein; [5]Drexel University College of Medicine, Philadelphia, United States of America*

Background: The A Body Shape index (ABSI) is calculated based on waist circumference, height and BMI and is a validated measure of visceral adiposity. In the general population, the ABSI has been shown to be an independent risk factor for premature mortality.
Purpose: The purpose of this study was to investigate the power of ABSI to predict cardiovascular events in patients with peripheral artery disease (PAD).
Methods: We prospectively recorded cardiovascular events in 319 patients with sonographically verified PAD over a mean follow-up time of 7.2±2.1 years.
Results: At baseline, the ABSI was significantly higher in patients with type 2 diabetes (T2DM) than in those who did not have diabetes (19.5±1.9 vs. 14.0±1.1; $p<0.001$). Prospectively, the ABSI significantly predicted the incidence of cardiovascular events (n=57) both univariately (standardized HR 1.36 [1.20–1.52]; $p<0.001$) and after adjustment for age, gender, smoking, LDL cholesterol, HDL cholesterol, hypertension and T2DM (standardized adjusted HR 1.17 [1.08–1.29]; p=0.010); also T2DM significantly predicted cardiovascular events in this fully adjusted model (adjusted HR 1.48 [1.25–1.74]; $p<0.001$).
Conclusion: We conclude that the ABSI and T2DM are mutually independent of cardiovascular events in patients with PAD.

P6240

Long term cardiovascular risk prediction in Real-World atrial fibrillation patients: Validation of the 2MACE score in the FANTASIIA registry

M.A. Esteve Pastor[1], J.M. Rivera-Caravaca[2], V. Roldan[2], I. Roldan-Rabadan[3], J. Muniz[4], A. Cequier[5], V. Bertomeu-Martinez[6], L. Badimon[7], P. Rana-Miguez[8], M. Ruiz-Ortiz[9], M. Anguita[9], G.Y.H. Lip[10], F. Marin[1]. *[1]Hospital Clínico Univeristario Virgen de la Arrixaca, Deparment of Cardiology, IMIB-Arrixaca, CIBER-CV, Murcia, [2]University Hospital Morales Meseguer, Department of Hematology and Clinical Oncology, Murcia, [3]University Hospital La Paz, Department of Cardiology, Madrid, [4]Instituto Universitario de Ciencias de la Salud, CIBER-CV, A Coruna, [5]University Hospital of Bellvitge, Department of Cardiology, CIBER-CV, Barcelona, [6]University Hospital San Juan de Alicante, Department of Cardiology, CIBER-CV, Alicante, [7]Cardiovascular Research Center (CSIC-ICCC), CIBER-CV, Barcelona, [8]ODDS.SL, A Coruna, [9]University Hospital Reina Sofia, Department of Cardiology, Cordoba, Spain; [10]Birmingham City Hospital, Institute of Cardiovascular Sciences, Birmingham, United Kingdom*. On behalf of FANTASIIA

Background: Atrial Fibrillation (AF) patients have higher risk of cardiovascular events. Recently, the 2MACE score (2 points for metabolic syndrome and age ≥75, and 1 point for myocardial infarction [MI], congestive heart failure and thromboembolism has been proposed to stratify cardiovascular risk in AF patients. However, a long-term validation has not been performed yet.
Purpose: To investigate the incidence of non-embolic adverse events and to validate the 2MACE score as predictor of major adverse cardiovascular events (MACEs) in a long-term follow-up of AF patients.
Methods: We analyzed anticoagulated AF patients who were prospectively recruited into the multicentre FANTASIIA registry. We analyzed baseline characteristics, focusing on the cardiovascular profile. After 3 years follow-up, all thromboembolic, all-cause mortality, cardiovascular mortality and MACE (composite of nonfatal MI/revascularization, HF and cardiovascular death) were recorded.
Results: We analyzed 1,956 patients (56% male, mean 73.8±9.4 years). Patients with 2MACE score≥3 had higher cardiovascular risks at baseline eg. hypertension (89.9% vs 76.1%; $p<0.001$), diabetes (51.2% vs 19.1%; $p<0.001$) or peripheral artery disease (8.72% vs 4.79%; $p<0.001$) than patients with 2MACE score<3. After 1,077 (IQR 766–1113) days of follow-up, 45 (0.78%/year) patients had a stroke, 146 (2.53%/year)major bleeding, 168 (2.91%/year) had MACE, 107 (1.85%/year) died by cardiovascular cause and 255 (4.42%/year) by all-cause mortality. Patients with 2MACE score≥3 had more adverse events than those with score <3. A 2MACE score ≥3 was significantly associated with MACE [HR 2.90, (95% CI 2.10–3.99; $p<0.001$)]. The predictive performance of 2MACE using ROC curve (c-statistic) was 0.66 (95% CI 0.62–0.71; $p<0.001$). A 2MACE score≥3 had the best combination of sensitivity (54.76%) and specificity (70.53%) to predict MACE.

	2MACE <3 (n=1,337)	2MACE ≥3 (n=619)	p-value
Stroke	24 (0.61)	21 (1.15)	0.003
Major Bleeding	85 (2.16)	61 (3.34)	0.086
Acute Myocardial Infarction	23 (0.58)	30 (1.64)	0.110
Cardiovascular Mortality	45 (1.14)	62 (3.39)	<0.001
All cause Mortality	119 (3.02)	136 (7.45)	<0.001
MACE	76 (1.92)	92 (5.04)	<0.001

Conclusion: In a real-world AF patients from the FANTASIIA registry, the 2MACE score is a good predictor of long-term cardiovascular events, MACE and all-cause mortality. A 2MACE score≥3 categorizes patients at "high-risk" of MACE during long-term follow-up.
Funding Acknowledgements: This work was supported by an unrestricted investigational grant from Pfizer/ Bristol-Myers-Squibb and by grants from ISCIII FEDER

P6241

Correlation between genetic stratification of cardiovascular risk and traditional scale SCORE in patients with arterial hypertension

V. Bondar, K. Chernyshova, S. Kolomiets, H. Kryzhanovskay, E. Dehtyar. *Odessa National Medical University, Department of internal medicine, Odessa, Ukraine*

Prognosis of cardiovascular risk (CVR) in patients with arterial hypertension (AH) is an important component of long-term management. The accumulated data of polymorphisms of candidate genes in AH form a reasonable prospect of using of genetic risk scores. The purposes of the research were to form a model of genetic stratification of CVR based on the evaluation of polymorphisms of candidate genes and calculation of gene modification index (GMI), to compare this model with existing scale SCORE and to evaluate the possibility of its use with prognostic purpose in patients with AH in Ukrainian population.
Materials and methods: 240 patients with AH were examined (age 50,8 [28,2–72,6], male/female 112/128) and stratificated according to traditional scale SCORE (ESC 2016). The patients were divided into 4 groups: with low, moderate, high or very high CVR. Then the analysis of polymorphisms of the following candidate genes (ADD1:1378, AGT:704, AGT: 521, AGTR1:1166, AGTR2: 1675,CYP11B2:-344, GNB3:825, NOS3:-786, NOS3:894) was performed by PCR. We formed GMI, in which the proportion of "pathological" homozygous polymorphism of one gene was 1.5 points, the heterozygous polymorphism – 1 point, "normal" genotype – 0 points. Then points were summed up and formed the GMI as proportion of the "pathological" genotypes, expressed as a percentage. GMI is calculated by the formula: GMI = (N / 13,5) × 100, where N is the sum of points of present genetic polymorphisms; N = n1 + n2 + n3 + n4 + n5 + n6 + n7 + n8 + n9; 13,5 - the maximum number of points of present genetic polymorphisms. We offered the genetic risk score, in which GMI from 0 to 20% was considered as low genetic risk, from 21 to 40% - moderate risk, from 41 to 70% - high risk, from 71 to 100% - very high risk. The statistical analysis of correlations was made between the traditional scale SCORE and genetic stratification score using the Spearman method; $p<0,05$ was considered significant.
Results: As a result of traditional stratification by SCORE in group with low CVR were 28 patients, while in 20 patients (71,4%) was similar low genetic risk according to the GMI ($r=0,71$, $p<0,01$). In group with moderate CVR were 92 patients, of which 69 patients (75%) had moderate genetic risk ($r=0,74$, $p<0,01$). In group with high CVR were 78 patients, 56 (71,8%) of them had high genetic risk ($r=0,72$, $p<0,01$). In group with very high were 42 patients, 28 (66,7%) of them had same very high genetic risk ($r=0,69$, $p<0,05$). Analyzing obtained data of research, it is shown that proposed genetic risk stratification score has a significantly high correlation with traditional scale SCORE.
Conclusions: Proposed genetic stratification of cardiovascular risk based on evaluation of genotypes of candidate genes, has a significantly high correlation with traditional scale SCORE and can be used with prognostic purpose in patients with AH. Genetic risk score can have obvious benefits for the purposes of primary prevention of AH.

P6242

Simple risk score for predicting secondary cardiovascular events in ACS patients undergoing contemporary aggressive lipid-lowering management for dyslipidaemia: a sub-analysis of the HIJ-PROPER study

H. Sekiguchi, A. Yoshimura, T. Fukushima, K. Suzuki, M. Ogiso, E. Kawada-Watanabe, H. Arashi, J. Yamaguchi, H. Ogawa, N. Hagiwara. *Tokyo Women's Medical University, Department of Cardiology, Tokyo, Japan*. On behalf of investigators of the HIJ-PROPER study

Background: Lipid-lowering therapy is essential for secondary prevention in patients with coronary artery disease (CAD), especially those with acute coronary syndrome (ACS). However, no simple risk score has been developed for the ACS patients undergoing contemporary aggressive lipid-lowering management in this acute coronary revascularization era. Thus, additional tools for the prediction of cardiovascular disease are needed to accurately assess the risk of secondary adverse events in ACS patients. Our preliminary data from HIJ-PROPER study confirmed that diabetes mellitus, smoking, and chronic kidney disease (CKD) were the predictor of major cardiovascular adverse events (MACEs; a composite of all-cause death, non-fatal myocardial infarction, non-fatal stroke, unstable angina, or any coronary revascularizations; Figure 1).
Purpose: The purpose of the present study was to develop new coronary prediction algorithms for ACS patients.
Methods: This is a sub-analysis of HIJ-PROPER that assessed the impact of aggressive low-density lipoprotein cholesterol lowering treatment with statin+ezetimibe in ACS patients with dyslipidemia, enrolling 1,734 patients. In the present study, we evaluated a multiple Cox proportional hazard model through