types of sterols such as plant sterols or oxyphytosterols on the cardiovascular system are not fully understood.
Objective: We prospectively analyzed the association of plasma oxyphytosterols (oxidized plant sterols) with vascular events in patients admitted for coronary angiography without concomitant lipid-lowering medication.
Methods: Plasma cholesterol was analyzed by gas chromatography-flame ionization detection. Plasma non-cholesterol sterols and the oxygenated metabolites of plant sterols (campesterol and sitosterol) were quantified by highly specific and sensitive gas chromatography-mass selective detection. Data were log-transformed, corrected for age and gender, and analyzed by cox proportional hazard regression. The primary composite endpoint was: cardiovascular deaths, ischemic strokes and myocardial infarctions. The correlation between plant sterols and their respective oxidized metabolites was examined using the two-tailed Spearman's rho test.
Results: A total of 367 patients were included in the final analysis. Mean age was 64.6±10.6 years and 63.7% of the patients were male. All Patients were followed for occurrence of fatal and non-fatal cardiovascular events over a period of 4.9±1.7 years. Twenty-four patients suffered a cardiovascular death, five patients an acute myocardial infarction and eleven patients an ischemic stroke. Plasma campesterol and sitosterol correlated significantly with their oxidized metabolites. Oxyphytosterols did not increase the risk of a cardiovascular death (Figure 1A and B), nor did oxyphytosterol levels increase any of the specific cardiovascular events (data not shown).
Conclusions: In this small prospective cohort study there was no association between human plasma levels of the selected oxygenated metabolites of campesterol and sitosterol and cardiovascular events. We carefully conclude that potential atherogenic effects of plant sterols are not mediated by these oxygenated metabolites.
Funding Acknowledgements: The study was supported by UNILEVER, The Netherlands

P1545
The correlation of syntax score by coronary angiography with breast arterial calcification by digital mammography

D. Ruzicic[1], M. Dobric[2], M. Vukovic[1], D. Hrncic[3], S. Djordjevic[1], M. Ruzicic[1], A. Srdjan[2], A. Djordjevic Dikic[2], B. Beleslin[2]. *[1]General Hospital Valjevo, Department of cardiology, Valjevo, Serbia; [2]Clinical center of Serbia, Belgrade, Serbia; [3]University Belgrade Medical School, Belgrade, Serbia*

Background: The previous data linked the correlation between breast arterial calcification (BAC) and coronary artery disease (CAD), but limited data examined correlation between severity of CAD and BAC after angiography. Therefore, we evaluated the hypothesis that BAC may predict the CAD severity in this study.
Methods: Study included total of 102 women older then 45 years (mean age 62±8) referred for digital mammography after coronary angiography. We assessed BAC by Likert scale and CAD severity by Syntax score.
Results: In comparation to low SYNTAX score group ($\leq$22) patients with intermediate-to-high Syntax score (>22) were older (p=0.001), they more often had hipercholesterolemia (p<0.001), diabetes (p=0.021), and smoking history (p=0.048). They also had a statistically higher level of blood fasting glucose (p<0.001), glycated hemoglobin (HbA1C) (p<0.001), triglycerides (p=0.002), fibrinogen (p=0.001), whereas high density lipoprotein (HDLc) was lower than in the group with Syntax score$\leq$22, (p=0.005). BAC was significantly higher in patients with Syntax score>22 (p<0.001). By multivaribale analysis, BAC (OR 34.236, CI 8.045–145.697, p<0.001), hypercholesterolemia (OR 22.650, CI 4.178–122.805, p<0.001) and fibrinogen (OR 2.551, CI 1.283–5.074, p=0.008) were independent predictive factors for patients with intermediate-to-high SYNTAX score.
Conclusions: In women older then 45 years, there was a significant correlation between the severity of CAD as evaluated by SYNTAX score and BAC as evaluated by Likert scale. BAC, hypercholesterolemia and fibrinogen may be used as an additional diagnostic tool to predict the presence and severity of CAD.

P1546
The investigation of central arterial stifness and central blood pressure parameters in various cardiovascular diseases

A. Cziraki, R. Husznai, A. Nemeth, Z. Lenkey, R. Bocskei, B. Gaszner, M. Illyes. *Heart Institute, University of Pecs, Pecs, Hungary*

Introduction: Among the central arterial stiffness parameters, large-scale clinical studies (Rotterdam, CAFE - study) emphasize primarily the role of aortic pulse wave velocity (PWVao), central systolic blood pressure (SBPao) and central pulse pressure (PPao) in judging cardiovascular (CV) risk.
Purpose: The aim of our clinical examinations was to study the accuracy of this statement in various CV patient groups using a noninvasive, oscillometric measurement method.
Methods: We measured PWVao and central augmentaion index (AIXao) using a noninvasive, oscillometric device. Using the same device, we contemporaneously also measured SBPao and PPao. In the group of patients with high CV risk, we compared the PVW and AIx values, measured centrally and in the brachial artery (br), of 338 patients with known coronary artery disease (CAD) and type-2 diabetes mellitus (DM2). In addition, we examined and compared the changes in the local (a. carotis) and central (aorta) stiffness parameters in 125 (CAD) patients. Our research group is the first to have measured stiffness parameters continuously, using a 24-hour outpatient monitoring method in 55 patients with hypertension and 23 patients with obstructive sleep apnea (OSAS). In our screening examinations, we used a sample of 4,146 individuals who did not have CV to examine the predictive power of PWVao, AIXao.
Results: In contrast to the blood pressure and stiffness parameters measured in the brachial artery, the PWVao and AIxao values were significantly higher in CAD patients compared to the control group (10.2±2.3 vs. 9.3±1.5 m/s; p<0.01 and 34.9±14.6 vs. 31.9±12.8%; p<0.05). In the group of T2DM patients PWVao was also higher than that of the control group (9.7±1.7 vs. 9.3±1.5 m/s; p<0.05). Similar to the central stiffness PWVao parameters, the stiffness parameters measured on the carotis were also significantly higher for the CAD group relative to the control group (7.4±1.3 m/s vs. 6.5±1.1 m/s; p<0.01). In the OSAS group also showed a significant increase in PWVao relative to the control group (9.87±1.7 m/s vs. 7.84±1.2 m/s; p<0.01). In the group of patients with hypertension, similarly, we found that the central stiffness PWVao parameter was significantly higher relative to the control group (9.43±1.3 m/s vs. 8.41±1.2 m/s; p<0.01). Further, central AIxao was significantly and pathologically higher in patients with hypertension relative to the control group (35.5±7.4 vs. 28.0±6.9; p<0.01). We find that parameters measured centrally (PWVao, AIxao, SBPao és a PPao) are statistically significant predictors of risks in terms of primary composite endpoints.
Conclusion: Our examinations show that it is primarily the central blood pressure and central stiffness parameters that play a paramount role in predicting CV risk.

P1547
The impact of high baseline lipoprotein(a) level on coronary artery calcification progression determined with CT: sub-analysis of a prospective multicenter trial

K. Ichikawa, T. Miyoshi, K. Nakamura, H. Ito. *Okayama University Hospital, Department of Cardiovascular Medicine, Okayama, Japan.* On behalf of PEACH investigators

Introduction: Lipoprotein(a), or Lp(a), is a low-density lipoprotein (LDL)-like particle. Apolipoprotein B is covalently linked to apolipoprotein(a) by a single disulfide bond. Lp(a) is independent of known risk factors for, and predictive of, cardiovascular disease (CVD). Coronary artery calcification (CAC), which is determined by CT, is an excellent marker for the clinical measurement of the burden of CVD risk. In addition, after serial assessments, the progression of CAC scores has been proposed as a useful predictor of cardiac outcome. We recently reported the results of a prospective multicenter study that examined the effects of intensive and standard pitavastatin treatment with or without eicosapentaenoic acid on the annual progression of CAC we found that the overall CAC progression rate over 1 year was 40% and that the CAC progression in each patient group was not affected by the allocated treatments. A determination of the factors involved in CAC progression is of interest.
Purpose: We investigated the association between baseline Lp(a) levels and the progression of CAC in patients with hypercholesterolemia undergoing statin therapy in data from the multicenter randomized controlled study.
Methods: The principal study evaluated the annual progression of CAC in patients with an Agatston score of 1 to 999, and hypercholesterolemia treated with statins. Serum concentration of Lp(a) was measured using an enzyme-linked immunosorbent assay
Results: A total of 147 patients (mean age, 67 years; men, 54%) were analyzed. The median baseline Lp(a) level was 10.2 mg/dL, and 9.5% of participants (n=14) had an Lp(a) level >30 mg/dL. Linear regression analysis showed that the baseline Lp(a) level was positively correlated with age (r=0.28, p<0.01) and negatively correlated with triglyceride (r = -0.22, p<0.01) When patients were classified into three groups according to CAC progression, the proportion of patients with Lp(a) >30 mg/dL significantly increased as CAC progressed (non-progression; 5.4%, 0100; 26.3%). Logistic regression analysis showed that Lp(a) >30 mg/dL was an independent predictor of the annual change in Agatston score >100 (OR: 5.51; 95% CI: 1.28–23.68; p=0.02), even after adjusting for age, sex, hypertension, diabetes mellitus, current smoking, body mass index, and lipid-lowering medications.
Conclusion: Baseline Lp(a) >30 mg/dL was a predictor of CAC progression in this population of patients with hypercholesterolemia undergoing statin therapy. Our findings suggest that measuring Lp(a) levels will help in the risk assessment for CVD events as well as treatment options.
Funding Acknowledgements: Japan Heart Foundation

P1548
Forehead Wrinkles and risk of all-cause and cardiovascular mortality over 20- year follow-up in working population: VISAT study

Y. Esquirol[1], J. Ferrieres[2], J.C. Marquie[3], S. Huo Yung Kai[4], M. Niezborala[5], E. Berard[6], V. Bongard[6], J.B. Ruidavets[6]. *[1]UMR 1027 Paul Sabatier University -Inserm -CHU Occcupational Health, Toulouse, France; [2]UMR 1027 Paul Sabatier University, Cardiology, Toulouse, France; [3]CLLE, University of Toulouse, CNRS, UT2J, Toulouse, France; [4]UMR 1027, INSERM, Université Toulouse 3, Toulouse, France; [5]ASTIA, Occupational health Centre, Toulouse, France; [6]UMR 1027, Paul Sabatier University -Inserm-CHU, Epidemiology, Toulouse, France.* On behalf of VISAT group

Background: Scarcely ever studied, only one prospective cohort study recently