than the patients without coronary disease or with single/double vessel diseases ($p < 0.01$). Furthermore, the rRI significantly associated with IMT ($p = 0.02$) but not with PWV ($p = 0.74$).

Conclusions: In the present study, we found that the rRI significantly associated with not only clinical feature and parameters but also IMT. These results revealed that the rRI had close relationships with coronary risk factors.

LEFT ATRIAL SIZE : DETERMINANTS USING NON-CONSTRAST ENHANCED CARDIAC COMPUTED TOMOGRAPHY

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Objective: Left atrial (LA) size is a marker of diastolic dysfonction and is associated with cardio-vascular outcomes. A new method using a non contrast-enhanced cardiac computed tomography realised for the quantification of coronary artery calcium (CAC) allows to mesure left atrial volume. The aim of this study was to determine the cardio-vascular risks factors associated with left atrial enlargement.

Design and method: 458 participants (mean age 59,4 years, 45,4%of women) at intermediate cardio-vascular risk benefited from a non contrast-enhaced cardiac computed tomography. Left atrial volume was performed by countouring the inner edges of LA in three shots of space.

Results: Mean LA volume was 76,7 ± 18,6 mL and 41,6 ± 10 mL/m2 after adjustement with body area. Women had significatively largest LA volume ($p < 0,0001$). LA volume was strongly associated with body mass index and body area (bêta coefficient = 0,27 et $p < 0,0001$ for both). Obesity (BMI > 30 kg/m2) was correleted with largest LA volume ($p < 0,0001$). Systolic blood pressure was associated with LA volume and adjusted LA volume (p respectively < 0,01 et 0,01) but the association with hypertension was only found with non adjusted LA volume ($p = 0,003$). Dyslipidemia was correleted with smaller LA ($p < 0,01$). Smoking, diabetes and CAC was not associated with LA size. In a fully adjusted model, hypertension, female sex and dyslipidemia was still associated with adjusted LA volume.

Conclusions: LA volume determined using non contrast-enhanced computed tomography is associated with BMI, hypertension, female sex and dyslipidemia. This new technique allows to mesure left atrial volume on a cardiac computed tomography used for the assessment of CAC to better predict the cardiovascular risk.

CHARACTERISTICS OF PATIENTS WITH ATRIAL FIBRILLATION. ESH-FA PROJECT – DATA ON CROATIAN COHORT

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Objective: The aim of the study was to analyze clinical characteristics of the consecutive sample of patients with atrial fibrillation (AFib) who were admitted to the UHC Zagreb Cardiology Clinic, part of the ESH Excellence centre of hypertension. This cohort is part of the ESH –FA project.

Design and method: Consecutive sample of 201 patients with AFib (115 M, 86 F; averaged age 71.6) was enrolled in period 2014–2016. Data were collected from medical records. BP was measured following the ESH/ESC guidelines. Hypertension (HT) was defined as BP > = 140/90 mmHg and/or antihypertensive drugs treatment, chronic kidney disease (CKD) was defined as eGFR (CKD Epi < 60 ml/min).

Results: Average BP values and heart rate were 133.5/80.2 mmHg, 82.2 bpm, and BMI was 31.1 kg/m2, there were 19.6% and 11.5% smokers and ex-smokers, respectively. CHD, cerebrovascular disease, heart failure, valvular disease, PAD, hypothyreosis, and CKD were established in 52.7%, 17.9%, 49.3%, 29.3%, 13.9%, 14.4% and 52.5%, respectively. Family history for CVD was positive in 43.2% patients. Prevalence of HT was 83.5%, and 63.7% were treated, while 20% were newly diagnosed. Only 30.2% HT had BP < 140/90 mmHg. Most frequently used antihypertensive drugs were beta blockers (67.6%), loopD (54.7%), ACEi (50.7%), potassium-sparingD (22.8%) and thiazide-likeD (17.9%). LoopD were prescribed more frequently in patients with CKD than in non-CKD as well as in HF than in non-HF patients. Hypokalemia was noticed in 18.9% patients and was mostly reported in non-HF patients (41.1%); it was associated with overuse of loopD and underuse of potassium-sparingD. First diagnosed, paroxysmal, permanent and persistent AFib were diagnosed in 5.4%, 33.3%, 51.2% and 10.4%, respectively. CHADVASC > 2 was determined in 78.9%; varfarin and NOAC were administered in 64.4% and 35.6% patients, respectively. In patients treated with varfarin INR > 2 was achieved in only 35.4%.

Conclusions: Better BP control and anticoagulation with more frequent use of NOACs is needed. Physicians must be aware of high prevalence of CKD in AFib patients and consequent drug dose adjustments.

COPEPTIN AS A RESEARCH MARKER IN CARDIOVASCULAR DISEASE

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Objective: Arginine vasopressin (ADH) is released from the neurohypophysis and regulates intravascular volume status. ADH activity is reflected by copeptin, the C-terminal peptide of pro-vasopressin. Elevated copeptin levels are associated with increased cardiovascular and all-cause mortality. The aim of this study is to compare copeptin levels in patients with different cardiovascular diseases.

Design and method: In this cross-sectional analysis we measured copeptin concentrations in 69 patients with diabetes mellitus type 2 (T2DM), 30 patients with primary hypertension stage 1 or 2 (HT1–2), 34 patients with treatment resistant hypertension (TRH) (21 of them with T2DM), and 28 healthy individuals, who participated in clinical trials. In 2 study groups we analyzed changes after therapeutic interventions. Patients with T2DM received 6 weeks of treatment with 25 mg empagliflozin or placebo. Patients with TRH underwent full four quadrant renal denervation (RDN) by an experienced interventionalist. Copeptin concentrations were measured before and after treatment using Time Resolved Amplified Cryptate Emision method.

Results: Patients with TRH showed higher copeptin levels than patients with HT1–2 (median 8.4 [interquartile range 3.6–14] vs. 4.2 [2.8–6.3]pmol/l, $p = 0.039$), patients with T2DM (4.5 [3.3–7.2]pmol/l, $p = 0.020$) and healthy individuals (5.7 [2.9–9.2]pmol/l, $p = 0.024$). There was no significant change in copeptin levels in patients with TRH before and 6 month after RDN (8.4 [3.6–14] vs 8.5 [4.5–13]pmol/l, $p = 0.334$), even though 24 h ambulatory blood pressure decreased from 154 ± 15/ 87 ± 12 mmHg ($p = 0.001$) to 146 ± 13/ 83 ± 7.9 mmHg ($p = 0.034$). In patients with T2DM (double blind randomized cross-over trial), no significant change in copeptin levels was observed in the placebo group compared to baseline (5.08 ± 2.83 vs 5.76 ± 4.05 pmol/l, $p = 0.09$), whereas treatment with empagliflozin increased copeptin levels compared to baseline (6.87 ± 3.89 pmol/l, $p = 0.001$). Patients receiving empagliflozin showed higher copeptin levels ($p < 0.001$) compared to placebo.

Conclusions: Patients with TRH showed higher copeptin levels than patients with HT1–2, T2DM and healthy individuals. RDN did not lead to any change of copeptin levels in patients with TRH, but empagliflozin, as expected induced an increase in copeptin levels due to volume contraction in patients with T2DM. Copeptin emerged as a valuable research marker in cardiovascular disease.

RELATIONSHIP BETWEEN SMOKING, ANGIOGRAPHIC SUBTYPES AND VASCULAR INVOLVEMENT IN PATIENTS WITH FIBROMUSCULAR DYSPLASIA - THE ARCADIA-POL STUDY

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