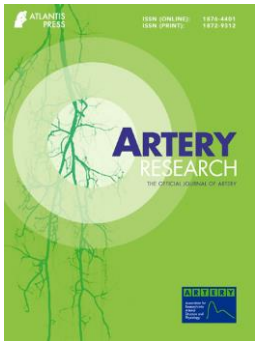

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P1.09: RELATION OF CENTRAL AND BRACHIAL BLOOD PRESSURE TO ECG LEFT VENTRICULAR HYPERTROPHY. THE CZECH POST-MONICA STUDY

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P1.08
THE ROLE OF PULSE PRESSURE FOR COGNITIVE DECLINE IN HYPERTENSION

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Objective: Pulse pressure (PP), as a marker of large artery stiffness, is a risk factor for target organ damage in hypertension (HT). We hypothesized that elevated PP, as a marker of enhanced arterial stiffness, may be correlated with specific early target organ damage (TOD) of the brain - mild cognitive impairment (MCI).
Design and methods: 148 treated HT patients (Pts) - males 51 (34.5%), females 97 (65.5%) with mean age 64.16±11.18 years and mean hypertension history 13.1±11.05 years were included. Full medical history, esp. HT history, physical examination and laboratory screening were gathered. Only Pts in sinus rhythm were included. We screened the Pts for MCI with a battery of neuropsychological tests (NPTs): Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA). Ambulatory Blood Pressure Monitoring was conducted: mean day PP was 56.85±12.02 mmHg and mean night PP - 55.15±16.13 mmHg.
Results: Regression analysis found correlation between day and night PP and NPTs' results. With Mann-Whitney Test ($\alpha<0.05$) we found that there is a significant difference (sig. 0.023 for MMSE) in the mean values of the NPTs' results between the groups with PP>50 and PP≤50 mmHg. Again with Mann-Whitney Test we assessed the significance of the difference between mean values of day-PP (sig. 0.01) and night-PP (sig. 0.02) between Pts with MCI and those without (resp.>55 and <55 mmHg).
Conclusion: Elevated PP in treated HT is a risk factor for MCI. We should screen Pts with HT for specific TOD - MCI.

P1.09
RELATION OF CENTRAL AND BRACHIAL BLOOD PRESSURE TO ECG LEFT VENTRICULAR HYPERTROPHY. THE CZECH POST-MONICA STUDY

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Objective: Central blood pressure (BP) has been shown to be a better predictor of target organ damage and cardiovascular events than brachial BP. Whether central BP is a better predictor of left ventricular hypertrophy (LVH) determined by electrocardiography is not known.
Methods: Radial applanation tonometry and ECG were performed in 728 subjects from the Czech post-MONICA study (a randomly selected 1% population sample). LVH was determined using the Sokolow-Lyon index and Cornell product; central pressure was derived from radial pulse.
Results: Of 657 subjects included in the analysis, 17 (9.4%) below 45 years and 43 (9%) over 45 years had LVH. In multiple linear regression analysis, the Sokolow-Lyon index in younger individuals was only associated with male sex and low BMI, with no association with BP found. In older individuals, LVH was associated with higher central and brachial BP. In separate binary logistic regression analyses adjusted for covariates, the odds ratios for central systolic pressure was higher than those for brachial systolic and pulse pressure in LVH prediction.
Conclusion: Noninvasively determined central pressure in subjects over 45 years is more strongly related to ECG LVH than brachial pressure. This further supports a closer association of central pressure with target organ damage. Neither central nor brachial blood pressure is associated with Sokolow-Lyon voltage criteria in younger individuals.

P1.10
PREVALENCE OF RESISTANT HYPERTENSION IN A GENERAL POPULATION IN NORTHERN ITALY: ASSOCIATED CARDIOVASCULAR RISK FACTORS AND TARGET ORGAN DAMAGE

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Background: Resistant hypertension (RH) is defined by most guidelines as blood pressure that remains above goal despite use of at least 3 antihypertensive agents of different classes, including a diuretic, prescribed at optimal doses. Few data are available on the clinical characteristics and on the prevalence of different forms of organ damage in these patients. Aim of the study was to evaluate the prevalence of RH and the presence of associated cardiovascular (CV) risk factors and target organ damage (TOD) in a group of hypertensive patients selected from a general population sample in Northern Italy (Vobarno Study). Methods: 478 subjects (mean age 58±3 yrs, 44% males, 66% hypertensives) underwent laboratory examinations and both clinic and 24 hours BP measurement (Spacelabs 90207). Left ventricular (LV) and carotid artery structure were assessed by ultrasound and carotid-femoral PWV was measured using Complior SP (Artech, Pantin, France). Results: among treated hypertensive patients 9.5% were defined as resistant. Patients with RH were older (mean age 69±4 vs 60±9 yrs, p<0.01), had higher glucose values (115±47 vs 103±24 mg/dl, p<0.05) and were more often of female gender (female 73% vs male 27%, p<0.05); no difference in BMI and lipid levels was observed. Estimated glomerular filtration rate (MDRD) was lower in RH (72±17 mL/min/1,73 m2 vs 82±16, p<0.01). Patients with RH had greater LV mass index (47.7±10.5 vs 40.7±10.0 gr/m2.7, p <0.001), LV relative wall thickness (0.42±0.08 vs 0.38±0.05 p <0.001), intima media thickness (Meanmax 1.47±0.42 vs 1.18±0.30 mm, p =0.01) and PWV (13.3±2.8 vs 11.8±2.8 m/sec, p<0.05).
Conclusions: in a group of hypertensive patients selected from a general population in Northern Italy the prevalence of RH was relatively high. Patients with RH were older, had higher glucose values and a higher prevalence of cardiac, vascular and renal organ damage.

P1.11
INCREASED AGE, BODY MASS INDEX AND LOW HDL-C LEVELS RELATE TO AN ECHOLUCENT STRUCTURE OF THE CAROTID INTIMA—MEDIA THICKNESS: THE METEOR STUDY

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Introduction: Echolucent plaques have high lipid contents and are related to a higher cardiovascular risk. Studies relating echolucency to cardiovascular risk in early stages of atherosclerosis are limited. We studied the relation between cardiovascular risk factors and the echolucency of the carotid intima—media thickness (CIMT) in low-risk individuals.
Methods: Data were used from the METEOR (Measuring Effects on Intima-Media Thickness: an Evaluation of Rosuvastatin) study. In this post-hoc analysis, duplicate baseline ultrasound images from the far wall of the left and right common carotid arteries were used for evaluation of the echolucency of the CIMT, measured by grey-scale median (GSM), scale: 0-256. Low GSM values reflect echolucent, lipid-rich structures, whereas high values reflect echogenic structures. The relations between GSM and cardiovascular risk factors were evaluated with linear regression models.
Results: Baseline GSM was 83.96 (standard deviation: 29.40). Lower GSM of the CIMT was associated with older age, high body mass index (BMI), and low levels of high-density lipoprotein cholesterol (HDL-C) (beta, 95% confidence interval [CI]: -4.49 [-6.50;-2.49], -4.51 [-6.43;-2.60], and 2.45, [0.47;4.42], respectively). Thickness of the common CIMT was inversely related to GSM of the CIMT (beta -3.94 [-1.98;-5.89]).
Conclusion: Older age, high BMI, and low levels of HDL-C are related to echolucency of the CIMT, reflecting high lipid levels in the arterial wall. Hence, echolucency of the CIMT may be used as marker for cardiovascular risk profile that covers more than thickness alone.

P1.12
B-PROOF: IS ARTERIAL STIFFENING ASSOCIATED WITH HOMOCYSTEINE?

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Introduction: Recently in elderly, homocysteine alone has been shown to be a better predictor of cardiovascular mortality than models based on classical risk factors. The pathophysiological pathway is however still unclear. Current view is that increased thrombogenicity, increased oxidative stress and over-activation of redox-sensitive inflammatory pathways, leads to impaired endothelial function.