P5.13: THE RELATIONSHIP BETWEEN APOLIPOPROTEIN B/ APOLIPOPROTEIN A1 RATIO, HIGH SENSITIVITY C - REACTIVE PROTEIN AND SOME COMPONENTS OF METABOLIC SYNDROME IN BULGARIAN POPULATION

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Background: Obesity blunts the association of cfPWV with BP, at least in youth. We assessed the impact of BMI in the relationship between carotid artery function (CAF) and central BP.

Methods: Stiffness index ($\beta$), Elastica modulus (Ep), Arterial Compliance (AC) and local PWV (PWVl) were measured at the common carotid arteries by echo-tracking (Aloka Prosound Alpha 10), and central BP was assessed with the SphygmoCor device. Patients were classified into 3 groups according to BMI (<25 normal weight; >25–30; obesity; >30 obesity). Linear regression models, Pearson’s correlation coefficient and ANCOVA models (age, gender, heart rate and central PP as covariates) were performed.

Results: 222 patients (mean age 42.8 ± 14.2 years; 93 (42%) women; mean BMI 26.4 ± 4.4; 139 (62.6%) hypertensives, 104 (74.8%) under treatment). BMI categories: 85 (38.3%) normal weight, 88 (39.6) obesity, 49 (22.1%): obesity. Age, HR, central PP showed significant positive association with CAF parameters. BMI categories and gender were not significantly associated with CAF parameters, except for overweight with PWVl (p-value 0.02).

There was no significant difference in $\beta$, Ep, AC and PWVl between BMI groups after adjusting by covariates. Pearson’s correlation coefficient between central SBP and CAF parameters was significantly lower if BMI: $25 < Z < 0.024). LVM $r < -0.024). Bland Altman plot for bPWV showed good agreement between the two methods, with a mean difference of -0.001 (SD 0.06). The odds of MetS increase by 4.75% for an increase of Apo B level with 1 mg/dl.

The analysis shows that the odds of MetS for men increase by 1.08% for an increase of Apo B level with 1 mg/dl. When the level of hsCRP rises with 0.05 mg/l the odds of MetS for women increase with 1.9%. The odds of MetS for men increase by 4.75% for an increase of Apo B level with 1 mg/dl.

Conclusions: BMI categories and age are closely related to CAF. BMI might blunt the increment of CAF parameters with rising central BP.

P5.12 CAROTID-FEMORAL AND BRACHIAL PULSE WAVE VELOCITY IN PERIPHERAL ARTERIAL DISEASE

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Introduction: Peripheral arterial disease (PAD) is associated through its extensive atherosclerotic burden with both increased arterial stiffness and cardiovascular events. Recently, different non-invasive assessment devices that measure carotid-femoral or brachial pulse wave velocity (PWV) have become commercially available.

Aim: To compare PWV derived from carotid-femoral (cfPWV) or brachial (bpPWV) assessments in patients with PAD.

Material and methods: Measurements of PWV with the two different non-invasive methods were performed as part of standard-of-care assessment in outpatients with PAD. Pulse wave velocities were assessed as bpPWV by Mobil-O-Graph (ABPM by IEM, Stolberg, Germany), which is a brachial cuff-based method and as cfPWV by Vicorder (SMT Medical, Würzburg, Germany) an oscillographic technique for carotid and femoral pulse wave assessment. Differences between the two methods were compared by Mann Whitney U test and Bland Altman plot. Spearman rank correlation was performed to test for age dependency.

Results: In 67 Patients (35.8% female, mean age 69, range 39–91 years) bpPWV (mean 10.5 ± 2.4 m/s) was significantly higher than cfPWV (mean 9.2 ± 2.1 m/s; p < 0.0013). Brachial PWV was related to age (r = −0.935, p < 0.0001) whereas cfPWV did not (r = 0.311, p = 0.116). Bland Altman plot for bpPWV and cfPWV resulted in a mean difference of -10.4 (+2 SD (4.31), -2 SD (-6.38)).

Conclusion: In patients with peripheral arterial disease, the gold standard assessment (cfPWV) differs from brachial PWV and lacks correlation with age. Aorto-femoral atherosclerotic burden may in part explain this finding since these arterial segments impact the difference in transit time in the femoral segment.

P5.13 THE RELATIONSHIP BETWEEN APOLIPOPROTEIN B/ APOLIPOPROTEIN A1 RATIO, HIGH SENSITIVITY C- REACTIVE PROTEIN AND SOME COMPONENTS OF METABOLIC SYNDROME IN BULGARIAN POPULATION

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The purpose of this study is to investigate the relations between apolipoprotein B (Apo B), apolipoprotein A1 (Apo A1), high sensitivity C- reactive protein (hsCRP) and the metabolic syndrome (MetS). This study includes 500 clinically healthy people from Bulgaria - 201 (40.2%) men and 299 (59.8%) women. The following biomarkers are tested: apo B, apo A1, hsCRP, blood glucose, HDL-cholesterol, serum triglycerides (TG), LDL-cholesterol. One way ANOVA test, multiple comparison test of means and multiple logistic regression analyses are used.

The analysis shows that the odds of MetS for women increase by 1.08% for an increase of Apo B level with 1 mg/dl. When the level of hsCRP rises with 0.05 mg/l the odds of MetS for women increase with 1.9%. The odds of MetS for men increase by 7.9% for an increase of Apo B level with 1 mg/dl.

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