P4.10: PULSE WAVE VELOCITY UNDER THE CUT-OFF VALUE OF 10 M/S AND AORTIC AUGMENTATION INDEX CORRECTED TO HEART RATE MAY SIGNAL HIGHER EARLY CVD RISK IN MIDDLE-AGED MEN

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RESULTS: The correlation (p < 0.05) between FRS and CV biomarkers was the highest for WS, cPP, and PWV (r = 0.50, 0.49, 0.51), lower for LVMi, IMT and RWT (r = 0.41, 0.41, 0.21). Age was main independent determinant of WS, PWV and cPP. PWV and PWV were also independently related to systolic BP and DM, and cPP to HBP therapy. Main determinant of IMT was DM, followed by age and HBP therapy, and independent determinants of LVMi and RWT were SBP and HBP therapy, respectively. Lipids and smoking were not independently related to any tissue biomarker.

Conclusions: Our data indicate that arterial stiffness and local carotid PP reflect mainly the ageing process, and are more tightly related to FRS than structural carotid and LV indices. Carotid IMT or LV mass and geometry are predominantly influenced by the presence of DM or HBP, respectively. Different tissue biomarkers may contribute to a personalized estimate of CV risk.

P4.8

ARTERIAL STIFFNESS IS ASSOCIATED WITH DEPRESSIVE SYMPTOMS AND THIS ASSOCIATION IS PARTLY MEDIATED BY CEREBRAL SMALL VESSEL DISEASE: THE AGES-REYKJAVIK STUDY

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This association is partly mediated by cerebral small vessel disease biomarkers may contribute to a personalized estimate of CV risk. It reflects mainly the ageing process, and are more tightly related to Framingham risk score than structural carotid and LV indices. Carotid IMT or LV mass and geometry are predominantly influenced by the presence of DM or HBP, respectively. Different tissue biomarkers may contribute to a personalized estimate of CV risk.

Conclusions: Our data indicate that arterial stiffness and local carotid PP reflect mainly the ageing process, and are more tightly related to FRS than structural carotid and LV indices. Carotid IMT or LV mass and geometry are predominantly influenced by the presence of DM or HBP, respectively. Different tissue biomarkers may contribute to a personalized estimate of CV risk.

P4.9

ASSOCIATION BETWEEN ARTERIAL STIFFNESS AND SKIN MICROVASCULAR FUNCTION IN INDIVIDUALS WITHOUT AND WITH TYPE 2 DIABETES: COMBINED REPORT OF THE SUVIMAX2 STUDY AND THE MAASTRICHT STUDY

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Purpose: Arterial stiffening underlies the association between type 2 diabetes mellitus (T2DM) and arterial stiffness. Remodeling may also affect the pressure-velocity relationship. Studies in individuals without T2DM have shown that arterial stiffness is higher in men with metabolic syndrome (MetS) compared to men without MetS. However, in individuals with T2DM, the association between arterial stiffness and MetS is less clearconstantly significant. Formal mediation tests indicated that the mediating effects of white matter hyperintensity volume, subcortical infarcts, cerebral microbleeds, and cerebral atrophy did not mediate the association between arterial stiffness and depression. Higher arterial stiffness is associated with depression via cerebral microvascular dysfunction alone.

Conclusions: Arterial stiffness may have an added value in cardiovascular risk stratification. We aimed to examine the association of arterial stiffness and arterial stiffness in middle-aged subjects.

Methods: 238 Caucasian subjects (men 42.4%, mean age 48 years) free of known cardiovascular disease (CVD) were enrolled in a prospective cohort study in 1997. During the last evaluation in 2012-2013, arterial stiffness (carotid-femoral pulse wave velocity [cfPWV]) and aortic augmentation index [Aix]) were measured by applanation tonometry.

Results: cfPWV was significantly higher in men than in women (8.1 vs 7.5; p = 0.035). CF-PWV was higher in subjects with MetS (8.8 vs 7.5; p = 0.003), but was not associated with individual CV risk factors. Increased cfPWV of >10 m/s was found in 10% of subjects with no significant difference between genders (p = 0.22), and was not related to age or any of the individual CV risk factors. Aix (27.1 ± 10.9%) was not associated with any of the CV risk factors or MetS, and did not differ between genders. However, when corrected to heart rate Aix (Alx@75) was significantly higher in men with MetS, compared to men without MetS (21.7 vs 16.7%; p = 0.02), but not women, and was associated with hypertension (p = 0.003) and central adiposity (p = 0.02).

Conclusions: PWV was significantly higher in men than women, and in subjects with MetS, Alx@75, and not Alx, was related to worse cardiovascular risk profile. These findings suggest that higher PWV and Alx@75 values, although lower than currently established cut-off values, may signal of increased risk of early CVD in men.

P4.10

PULSE WAVE VELOCITY UNDER THE CUT-OFF VALUE OF 10 M/S AND AORTIC AUGMENTATION INDEX CORRECTED TO HEART RATE MAY SIGNAL HIGHER EARLY CVD RISK IN MIDDLE-AGED MEN

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Purpose: Arterial stiffness may have an added value in cardiovascular (CV) risk stratification. We aimed to examine the association of arterial stiffness and arterial stiffness in middle-aged subjects.

Methods: 238 Caucasian subjects (men 42.4%, mean age 48 years) free of known cardiovascular disease (CVD) were enrolled in a prospective cohort study in 1997. During the last evaluation in 2012-2013, arterial stiffness (carotid-femoral pulse wave velocity [cfPWV]) and aortic augmentation index [Aix]) were measured by applanation tonometry.

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Conclusions: PWV was significantly higher in men than women, and in subjects with MetS, Alx@75, and not Alx, was related to worse cardiovascular risk profile. These findings suggest that higher PWV and Alx@75 values, although lower than currently established cut-off values, may signal of increased risk of early CVD in men.

P4.11

TYPE 2 DIABETES IS ASSOCIATED WITH GREATER CAROTID STIFFNESS AND GREATER PRESSURE-DEPENDENCY OF CAROTID STIFFNESS—THE MAASTRICHT STUDY

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Background: It has been hypothesized that arterial stiffness leads to depressive symptoms; this association is partly mediated by white matter hyperintensity volume, subcortical infarcts, cerebral microbleeds, Virchow-Robin spaces, and lower total brain parenchyma volume.

Results: Higher cfPWV was associated with a higher GDS-15 score, after adjustment for age, sex, education level, smoking, digit symbol substitution test score, gait speed, mean arterial pressure, heart rate and cardiovascular risk factors. Additional adjustment for white matter hyperintensity volume or subcortical infarcts attenuated the association between cfPWV and the GDS-15 score, which became statistically not significant. Formal mediation tests indicated that the mediating effects of white matter hyperintensity volume, subcortical infarcts and cerebral atrophy did not mediate the association between cfPWV and depressive symptoms.

Conclusions: Higher arterial stiffness is associated with depression via cerebral microvascular dysfunction alone.