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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Results: the correlation (p<0.05) between FRS and CV biomarkers was the highest for WSS, 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 WSS, PWV and cPP; WS 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. Lpids 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 PARTIALLY MEDIATED BY CEREBRAL SMALL VESSEL DISEASE: THE AGES-REYKJAVIK STUDY


ARTERIAL STIFFNESS IS ASSOCIATED WITH DEPRESSIVE SYMPTOMS AND 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.

Results: In both individuals without and with T2DM, cfPWV was not associated with baseline capillary density or capillary recruitment during reactive hyperemia or venous congestion. In addition, cfPWV was not associated with acetylcholine- or local heating-induced vasoactivity, or microvascular flowmotion.

Conclusions:Arterial stiffness is not associated with skin microvascular function, irrespective of the presence of T2DM. This suggests that the association between arterial stiffness and different diseases cannot be explained by generalized microvascular dysfunction alone.

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 evaluate association of CV risk factors 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 1977. During the last evaluation in 2012-2013, arterial stiffness (carotid-femoral pulse wave velocity [cf-PWV] and aortic augmentation index [Aix]) were measured by applanation tonometry.

Results: cf-PWV was significantly higher in men than in women (8.1±2.5 vs 7.5±2.1 m/s; p=0.035). cf-PWV was higher in subjects with MetS (8.8±2.4 vs 7.5±2.2 m/s; p=0.0003), but was not associated with individual CV risk factors. Increased cf-PWV of >10 m/s was found in 10% of subjects with no significant differences between genders (p=0.22), and was not related to 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 (Aix@75) was significantly higher in men with MetS, compared to men without MetS (21.7 ± 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, Aix@75, and not Aix, was related to worse cardiovascular risk profile. These findings suggest that higher PWV and Aix@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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Results: This cross-sectional study included 2,058 participants (mean age 79.6 years; 59.0% women) of the AGES-Reykjavik study. Arterial stiffness (cf-PWV) was significantly higher in men than in women (8.1±2.5 vs 7.5±2.1 m/s; p=0.035). cf-PWV was higher in subjects with MetS (8.8±2.4 vs 7.5±2.2 m/s; p=0.0003), but was not associated with individual CV risk factors. Increased cf-PWV of >10 m/s was found in 10% of subjects with no significant differences between genders (p=0.22), and was not related to 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 (Aix@75) was significantly higher in men with MetS, compared to men without MetS (21.7 ± 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, Aix@75, and not Aix, was related to worse cardiovascular risk profile. These findings suggest that higher PWV and Aix@75 values, although lower than currently established cut-off values, may signal of increased risk of early CVD in men.