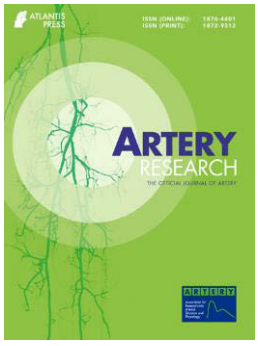

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P161: RELATIONSHIP OF FIBRINOGEN WITH ARTERIAL STIFFNESS IS DIFFERENT ACCORDING TO GENDER. EVA STUDY

Leticia Gomez-Sanchez, Marta Gomez-Sanchez, Natalia Sanchez-Aguadero, Cristina Lugones-Sanchez, Maria C. Patino-Alonso, Sara Mora-Simon, Jose A. Maderuelo-Fernandez, Emiliano Rodriguez-Sanchez

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Introduction: Ankylosing spondylitis (AS) is an inflammatory rheumatic disease associated with accelerated atherosclerosis and increased cardiovascular morbidity and mortality.
Objectives: To assess the local arterial stiffness in carotid artery in subjects with AS compared with controls evaluated by carotid artery pulse wave velocity (carPWV).
Methods: Ultrasound examinations were conducted with a Mylab One color Doppler ultrasound diagnostic system (Esaote, Firenze, Italy), the right common carotid artery (RCCA) was scanned, using a 5-12 MHz vascular probe with built-in quality arterial stiffness (QAS) which calculate carPWV.
Results: Forty-seven male subjects (20 with Ankylosing Spondylitis and 27 controls) aged between 20 and 75 (mean age 41.17 ± 11) were evaluated. AS patients have not Hypertension, history of cardiovascular risk factors or smoking). Higher carPWV was observed in patients with AS (6.27 ± 0.72 vs 5.56 ± 1.02 m/s; p = 0.0123) compared with controls, respectively.
Conclusions: AS subjects showed higher carPWV compared with controls, this novel assessment for local arterial stiffness could be useful in the future to calculate cardiovascular risk, more studies should be developed with this method in this pathology in our population.

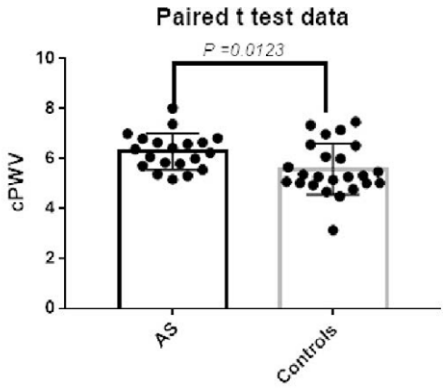

Figure 1. AS, ankylosing spondylitis; cPWV, carotid artery pulse wave velocity; SD: standard deviation. Continuous variables are shown as median with analysis by t-test.

Poster Session II — Other

P161

RELATIONSHIP OF FIBRINOGEN WITH ARTERIAL STIFFNESS IS DIFFERENT ACCORDING TO GENDER. EVA STUDY

Leticia Gomez-Sanchez [1], Marta Gomez-Sanchez [1], Natalia Sanchez-Aguadero [2], Cristina Lugones-Sanchez [2], Maria C. Patino-Alonso [1], Sara Mora-Simon [1], Jose A. Maderuelo-Fernandez [2], Emiliano Rodriguez-Sanchez [2]
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Objectives: To analyze the association of arterial stiffness with the fibrinogen in general population without previous cardiovascular diseases. Differences by gender.
Methods: A cross-sectional study. Study population: From the population assigned to the participating healthcare centres, a cluster random sampling stratified by age and gender was performed to obtain 501 participants aged between 35 and 75, 100 per decade, (50% women) without cardio or cerebrovascular disease. Measurements: pulse wave velocity femoral carotid (cfPWV) was determined using the SphygmoCor System and Cardio Anckle Vascular Index (CAVI) using the VaSera. Plasma fibrinogen was measured in blood.
Results: Mean values: age 55.9 ± 14.2 years (Males = 65.9 ± 14.3 years, Females = 55.8 ± 14.2 years, p = 0.935); CAVI:8.0 ± 1.4 (Males = 8.1 ± 1.5, Females = 7.9 ± 1.4, p = 0.043); cfPWV: 6.5 ± 2.0 m/sec (Males=6.8 ± 2.2 m/sec, Females=6.2 ± 1.8m/sec, p < 0.001) and fibrinogen: 314 ± 70 mg/Dl (Males = 198 ± 65 mg/Dl, Females = 330 ± 71 mg/Dl, p < 0.001). CAVI and CfPWV showed positive correlation with fibrinogen (r = 0.248 and r = 0.147 in males p < 005 in both cases), but not in the females (r = 0.126 and r = 0.101 p > 0.05 in both cases). In the multiple regression analysis after adjusting for age, cardiovascular risk factors, drugs and lifestyles, the association of CAVI with fibrinogen was β = 0.249 (95% CI 0.033to0.464) p = 0.024, and of the cfPWV with fibrinogen was β = 0.01 (95% CI -0.031 to 0.042) p = 0.684 in males, without finding association between CAVI, cfPWV with fibrinogen in the case of females (p = 0.144 and p = 0.825 respectively).
Conclusions:CAVI and cfPWV showed a positive correlation to fibrinogen in males in general population without previous cardiovascular diseases, but not in females. However, after adjusting for confounding factors, the association only remains with CAVI in males.

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ARTERIAL STIFFNESS AND BODY COMPOSITION IN CHILDREN AND ADOLESCENTS

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Objectives: Carotid-femoral pulse wave velocity (cfPWV) is a validated non-invasive measure of aortic stiffness. Risk factors for cfPWV are well described in adulthood, and furthermore cfPWV is associated with incident cardiovascular disease in adults (1). However, risk factors for arterial stiffness in childhood are poorly described (2). Accordingly, we sought to determine the risk factors for cfPWV in childhood and adolescence and hypothesized that cfPWV would be higher amongst those with greater adiposity.
Methods: We prospectively recruited 88 healthy children (mean age = 11.0 ± 5.3 years old). Age, weight, height, and blood pressure were measured. cfPWV was assessed using a semi-automated cuff-based device (Sphygmocor XCEL; AtCor Medical, Australia), and body composition using air displacement plethysmography (BOD POD; Cosmed, Italy) (3). Associations with cfPWV were determined by multivariable linear regression, with subsequent mediation analyses to inform likely causal pathways.
Results: After adjusting for age and sex, cfPWV was significantly associated with weight, body mass index (BMI), systolic blood pressure, mean blood pressure, heart rate, and lean body mass (LBM), while LBM was significantly associated with height, weight, BMI and fat mass (Table 1). After further adjusting for weight, mean blood pressure and heart rate, LBM remained significantly associated with cfPWV (ß = 0.68; p = 0.007). Mediation analyses indicate that weight mediates the association between age and cfPWV (PM = 76%), and that LBM mediates the relationship between weight and cfPWV (Figure 1).
Conclusion: Higher cfPWV in healthy children and adolescents is a function of growth, and this association may be in turn mediated by higher LBM rather than adiposity.

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REGIONAL DIFFERENCES IN GEOMETRICAL FEATURES AND LAYER-SPECIFIC RESIDUAL STRESSES IN THE BOVINE DESCENDING THORACIC AORTA

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Background: The Opening Angle (OA) is widely used as an index of the residual stresses and strains present in the arterial wall not subjected to internal