P187: IN SEVERE AORTIC STENOSIS, DECREASED SYSTEMIC VASCULAR RESISTANCE IS ASSOCIATED WITH A LARGER, THICKER WALLED VENTRICLE EXCEPT FOR THE SEPTUM

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Abstracts

(CAVI) and heart-ankle pulse wave velocity (haPWV) using Vasera 1500N. Circulating levels of leptin, adiponectin, insulin and C-reactive protein (CRP) were measured by ELISA.

Results: Compared to non-SLE controls, SLE patients had higher levels of CAVI (7.3 ± 1.1 vs 6.1 ± 1, p < 0.001), haPWV (7.7 ± 1.3 vs 6.5 ± 0.8 m/s, p < 0.001), insulin [76.8 (45.9–184.8) vs 39.8 (22.9–86.3) pmol/ml, p = 0.007], leptin [856.1 (364.8–1509.3) vs 426.7 (426.8–1178.7) ng/mL, p = 0.039], adiponectin [1.1 (0.8–2.3) vs 1.6 (1.3–2.6) ng/mL, p = 0.039] and CRP [1.6 (0.8–2.2) vs 0.9 (0.6–1.2) mg/mL, p = 0.021].

In a partial correlation analysis with adjustment for age and BMI, CAVI was associated with leptin (r = 0.21, p = 0.031), CRP (r = 0.29, p < 0.001) and insulin (r = 0.18, p = 0.045), but not adiponectin (r = −0.15, p = 0.068).

Conclusion: In our study population, SLE patients have higher arterial stiffness, associated with low-grade inflammation and deranged circulating adipokine levels.

References

P186 IMPACT OF OBESITY ON VASCULAR STRUCTURE AND FUNCTION IN INDIVIDUALS WITH MULTIPLE SCLEROSIS
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Background: Cardiovascular disease is a leading cause of disease progression and death in multiple sclerosis (MS). Obesity has a negative impact on vascular structure and function, but whether this contributes to worse vascular function similarly in individuals with MS and controls is unknown.

Aim: To investigate the impact of obesity on vascular function and structure in a group with MS.

Methods: In a sample of n = 133 participants (MS: n = 89, control n = 44), height and weight were measured to calculate BMI. After a 10-minute rest in the supine position, resting heart rate (HR) and brachial blood pressure (BP) were collected. Augmentation index (AIx), HR normalized AIx (AIx@HR75) and pulse wave velocity (PVW) and subendarcidual vascular ratio (SEVR) were measured with applanation tonometry.

Carotid intima-media thickness (IMT) and beta-stiffness (beta) were measured with carotid ultrasound, and Forearm Blood Flow (FBF Baseline, Peak and AUC) plasma levels of adipokines in systemic lupus erythematosus patients. Cytokine 2016, 86:15-20.

Conclusion: In severe AS there is an association between lower SVR and a larger, thicker walled ventricle except for the septum. The use of a cardiac atlas in aortic stenosis may offer new insights into regional LV remodeling.

References

Figure 1 Mass-univariate 3D regression maps relating wall thickness and systemic vascular resistance over the left ventricle, adjusted forage, sex and height. Yellow line encloses areas with p values < 0.05. There is a negative correlation between SVR and wall thickness, sparing the septum (B). SVR = (80 * Mean Arterial Pressure (MAP))/Cardiac Output.

Outcome variables Standardized beta1 Adjusted R2
Group Sex BMI Grp x BMI
HR rest 1.081* 0.005 0.520* −0.944 0.11
AIX −0.019 −0.523* 0.040 0.045 0.26
AIx@HR75 0.341 −0.536* 0.235 0.270 0.32
SEVR −1.292* 0.175* −0.565* 1.090* 0.22
PVWc 0.001 −0.003 0.321* 0.120 0.12
PVWC/MAP 0.324 −0.126 0.278 −0.122 0.11
IMT 0.715 0.164 0.385 −0.511 0.12
FBF Baseline 0.432 0.070 0.326* −1.090* 0.33
FBF Peak 0.580 0.318* 0.152 −1.035* 0.35
FBF AUC 0.746 0.230* 0.316 −1.17* 0.21

1Group (0 = control, 1 = multiple sclerosis), Sex (1 = Female, 2 = Male), * (p < 0.05).