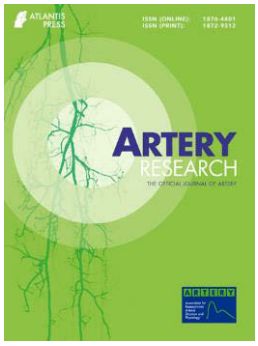

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P156: DURATION OF DIABETES MELLITUS IS A SIGNIFICANT PREDICTOR OF ARTERIAL STIFFNESS IN PATIENTS WITH ARTERIAL HYPERTENSION AND TYPE 2 DIABETES MELLITUS

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Table 2. Correlation of sRAGE with metabolic, hemodynamic and arterial stiffening variables.

Variables	r Spearman	p-value
T2DM time evolution	−0.203	0.309
HbA1c	−0.082	0.780
Creatinine	0.724	0.000*
Systolic Blood pressure	−0.487	0.029*
Diastolic Blood pressure	−0.456	0.043*
Pulse pressure	−0.476	0.034*
Arterial Mean Pressure	−0.437	0.054*
Central Systolic Blood Pressure	−0.452	0.045*
Central Diastolic Blood pressure	−0.448	0.047*
Aortic Pulse Wave velocity	−0.361	0.118
Central pulse pressure	−0.035	0.041*
Aortic Augmentation Index	−0.469	0.037*

Abreviation: sRAGE, soluble receptor for advanced glycation end products; T2DM, type 2 diabetes mellitus

Conclusion: This study shows a significant correlation of serum sRAGE and S100-A1 on peripheral and central hemodynamics in non-hypertensive diabetic patients.

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P156
DURATION OF DIABETES MELLITUS IS A SIGNIFICANT PREDICTOR OF ARTERIAL STIFFNESS IN PATIENTS WITH ARTERIAL HYPERTENSION AND TYPE 2 DIABETES MELLITUS

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Background: Diabetic complications increase with disease duration but little is known about the relationships between aortic stiffness and diabetes duration.
Aim: to assess associations of diabetes mellitus (DM) duration and parameters of arterial stiffness in patients with arterial hypertension (AH) and T2DM.
Methods: 90 patients with AH and T2DM were included (39%males, mean age63,8 ± 11,6 years, 44%smokers). Mean office BP was 146 ± 23/86 ± 10 mmHg. All patients received combined AHT, target BP < 140/85 mmHg was achieved in 52,7% of patients. Median duration of DM was 8,5 years (IQR 2; 13 years), mean glucose was 8,0 ± 2,4 mmol/l, mean HbA1c 9,2 ± 2,0%. BP was measured with a validated oscillometric device. Parameters of arterial stiffness were assessed by applanation tonometry, cardio- ankle vascular index (CAVI) and vascular age were measured (VaSera 1500). p < 0,05 was considered significant.
Results: Mean central BP was 132 ± 18/79 ± 12 mmHg, mean cfPWV—10,5 ± 2,4 m/s, mean R- CAVI-8,8 ± 1,9, L-CAVI-8,9 ± 1,8. Further analysis was performed in subgroups according to tertiles of DM duration (G1 < 4 years (n = 31), G2—4-10 years (n = 30), G3 > 10 years (n = 29)). Patients in G3 were older (69,5 ± 11,1 vs 62,1 ± 11,2 vs 60,0 ± 10,8 years), had higher vascular age (73,8 ± 9,0 vs 68,6 ± 11,8 vs 64,5 ± 13,4 years) and R-CAVI (9,3 ± 1,9 vs 9,0 ± 1,8 vs 8,1 ± 1,9); p < 0,05 for trend. Patients from G3 and G2 had the highest level of cfPWV compared to G1 (11,0 ± 2,0 and 11,4 ± 2,4 vs 9,1 ± 2,4 m/s, p = 0,0009). There were significant correlations between duration of DM and age (r = 0,35), vascular age (r = 0,30), creatinine (r = 0,23), cfPWV (r = 0,34), and R-CAVI (r = 0,3). Only age and DM duration were predictors of PWV increase (β = 0,3, p = 0,02 and β = 0,2, p = 0,04, respectively).
Conclusions: In diabetic patients, aortic stiffness is strictly correlated with diabetes duration, independently of blood pressure level and diabetes control.

P157
RETINAL ARTERIOLAR FUNCTION, ENDOTHELIAL DYSFUNCTION AND ARTERIAL STIFFNESS IN PATIENTS WITH TYPE 2 DIABETES

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Background: Crosstalk between large and small arteries has been suggested to partake in the microvascular complication development in patients with type 2 diabetes mellitus (T2DM). Yet, data are scarce.
In the present study, we aimed to elucidate the crosstalk between large and small arteries in T2DM.
Methods: Twenty patients with T2DM and 20 sex- and age matched controls were included. Arterial stiffness was assessed by carotid-femoral Pulse Wave Velocity (cfPWV) using the SphygmoCor. Endothelial function was assessed using EndoPAT. Retinal blood supply regulation was examined by retinal arteriolar diameter change during i) exposure to flickering lights, ii) isometric exercise (hand-weight lifting), and iii) a combined stimulus of i) + ii) using the Retinal Vessel Analyzer (RVA).
Results: T2DM patients had higher cfPWV than controls (9.3 ± 1.8 m/s vs. 8.3 ± 2.2 m/s, *p* = .049). No group difference was observed in endothelial function (0.71 ± 0.30 vs. 0.81 ± 0.30, p = .32) or in response to intervention with flicker, exercise or the combination (all p > 0.05). Endothelial function was associated with mean arteriolar diameter change for the combination intervention (Beta = 0.033 [0.0013; 0.064], p = .042) in patients and controls. No association was observed between cfPWV and retinal arteriolar %-diameter change in patients or controls.
Conclusion: Peripheral endothelial function was associated with retinal arteriolar diameter change. Our findings may indicate a contribution of macro-microvascular crosstalk in diabetes complication development.

P158
ASSOCIATION BETWEEN AMBULATORY ARTERIAL STIFFNESS INDEX, MARKERS OF BLOOD PRESSURE VARIABILITY AND INDICES OF SUBCLINICAL VASCULAR DAMAGE IN OBESE CHILDREN

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Objective: Ambulatory Arterial Stiffness Index (AASI) and symmetric AASI (sAASI) have been proposed as indices of arterial stiffness obtained by 24-hour ambulatory blood pressure monitoring (ABPM). ABPM allows the analysis of indices of BP variability like day and night SD, BP dipping, weighted 24-h SD (wSD), average real variability (ARV). Aim of the present study was to address the relationship between these indices and other markers of vascular subclinical damage in children.
Design and Method: 45 obese children were included. Children underwent vascular measurements, including: (i) office and 24-hour ambulatory BP; (ii) brachial flow-mediated dilatation (FMD), carotid intima media thickness (cIMT), and distensibility (cDC); (iii) systemic arterial stiffness (SIDVP). From ABPM we calculate AASI, sAASI, ARV, SD, SD, systolic and diastolic dipping and wSD.
Results: ARV showed a significant correlation with SIDVP (r = 0.379; p = 0.023). AASI but not sAASI correlated with FMD (r = 0.361; p = 0.031). In the population divided in hypertensive (n = 11)/normotensive (n = 34), ARV was associated with SIDVP only in normotensive (r = 0.446; p = 0.015). In normotensive, z score-BMI was correlated with both sAASI and wSD (respectively 0.340; p = 0.049 and 0.423; p = 0.014), wSD correlated with FMD (r = 0.384; p = 0.048); in hypertensive children, ARV