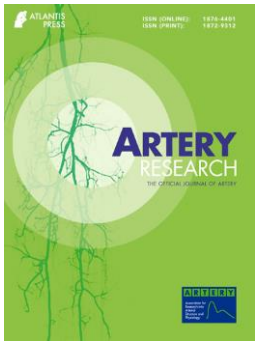

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P8.04: ARTERIAL FUNCTION AND INSULIN SENSITIVITY: THEIR INTERPLAY IN EUGLYCAEMIC, NEVER-TREATED HYPERTENSIVES

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P8.02
IMPACT OF TRIGLYCERIDES AND INSULIN LEVELS ON WHOLE AND SURFACE CAROTID PLAQUE COMPOSITION IN PATIENTS WITH METABOLIC SYNDROME

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Introduction: Metabolic syndrome (MetS) is a cluster of metabolic abnormalities strongly associated with atherosclerosis and increased risk of CV events. Atherosclerotic plaques (**AP**) and its echolucency (**ECL**) can be detected using ultrasound (US) and evaluated by grey scale median analysis (**GSM**). **ECL** is associated with a higher plaque lipid content and vulnerability to rupture.
Aim: To assess the association between carotid plaques **ECL** and plasma markers of vascular inflammation, and disarray of lipid and glucose metabolism in patients (p.) with MetS.
Methods: After evaluating plasma lipids, glucose and insulin levels, blood pressure, and waist circumference in 700 p., 390 (56%) presented MetS (ATP III). Carotid US evaluation revealed AP in 185 (47%) of them (age 54.2 ± 11.1, 33.3% females). **AP** were evaluated by **GSM** analysis, and divided in tertiles of ECL of the whole **AP** (whole plaque GSM, **WGSM**) and for the luminal first millimeter of the plaque (surface GSM, **SGSM**). The relation between tertiles of **WGSM** and **SGSM** and plasma lipids, glucose, insulin, CRP us, and HOMA were evaluated by multivariate regression analysis.
Results: Plasma triglycerides, insulin and HOMA were negatively related with **WGSM** and **SGSM** tertiles meaning a higher plaque lipid content and vulnerability. In multivariate analysis, triglycerides were significantly associated to low **WGSM** ($p < 0.003$) and **SGSM** ($p < 0.018$), whereas insulin only to low **SGSM** ($p < 0.012$).
Conclusion: The elevation in plasmatic triglycerides and insulin levels in patients with MetS are directly related with carotid plaques **ECL**, lipid content and vulnerability.

P8.03
INCREASED ARTERIAL STIFFNESS IN WOMEN WITH RHEUMATOID ARTHRITIS AND SYSTEMIC LUPUS ERYTHEMATOSUS IS NOT ASSOCIATED WITH LEVEL OF C-REACTIVE PROTEIN

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Introduction: The elevated level of C reactive protein (CRP) is associated with increased arterial stiffness in general population. However, it is uncertain whether CRP is related to arterial stiffness in rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE).
Methods: We studied 63 RA women (aged 41.48 ± 10.77 years) with disease activity (DAS28) 5.43 ± 0.93, 31 SLE (aged 37.23 ± 9.09 years), disease activity index (SLEDAI) 18.40 ± 8.17, organ damage index (SLICC) 1.0 (IQR 2.0) and 72 controls (aged 37.42 ± 9.15). Blood tests included serum lipid profile, glucose and high-sensitivity CRP (hsCRP) measurement. The augmentation index (AIx), the measure of systemic arterial stiffness, was assessed by applanation tonometry (Sphygmocor v.7.01, AtCor Medical).
Results: In RA patients CRP (mg/l) was significantly higher as compared to SLE and controls (31.89 ± 40.44 vs. 5.80 ± 5.56 vs. 1.64 ± 3.18; $p < 0.001$), but it was not related to AIx. AIx was 24.71 ± 11.52% in RA vs. 20.81 ± 12.29% in SLE and 13.24 ± 10.44% in controls; $p < 0.001$. Significant influence of mean blood pressure (MBP) on arterial stiffness (AIx) was observed in RA patients (r2adj. = 0.365; $p < 0.001$). In SLE patients MBP, SLICC and age were significant predictors of AIx (r2adj. = 0.508; $p < 0.001$).
Conclusion: Elevated CRP is present in RA and SLE, but it is not related to increased systemic arterial stiffness. Significant influence of MBP on arterial stiffness (AIx) was observed in RA patients. In SLE patients MBP, SLICC and age were related to increased AIx.

P8.04
ARTERIAL FUNCTION AND INSULIN SENSITIVITY: THEIR INTERPLAY IN EUGLYCAEMIC, NEVER-TREATED HYPERTENSIVES

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Background: Insulin resistance is a feature of essential hypertension. The interrelationships of indices of insulin resistance and arterial function in euglycaemic, never-treated hypertensives has not been addressed. To this end, we investigated the correlations of two insulin resistance indices (HOMA: homeostasis model assessment index; QUICKI: quantitative insulin sensitivity check index) and two arterial function indices (cfPWV: carotid-femoral pulse wave velocity; AIx: augmentation index) in a cohort of non-diabetic, never-treated hypertensives.
Methods: 998 patients with a new diagnosis of essential hypertension for which they had never received treatment were enrolled in the study (mean age 53 years, 600 men). HOMA and QUICKI were calculated from fasting glucose and insulin values. cfPWV and AIx were measured using validated devices.
Results: In univariable analysis, only cfPWV correlated with insulin resistance indices ($r = 0.245$, $P < 0.01$ for HOMA; $r = -0.245$, $P < 0.01$ for QUICKI). No statistically significant correlation was observed for AIx ($r = 0.015$, P = NS for HOMA; $r = -0.015$, P = NS for QUICKI). QUICKI is directly proportional to 1/logHOMA, thus explaining its negative correlation with cfPWV.
Conclusion: Aortic stiffness, as estimated by cfPWV correlates with insulin sensitivity in non-diabetic, newly diagnosed, never-treated hypertensives. A choice of an antihypertensive drug which improves arterial elasticity and insulin sensitivity could be of benefit in this setting.

P8.05
DIABETES CONTROL QUALITY IS AN INDEPENDENT FACTOR OF ARTERIAL WALL RIGIDIFICATION

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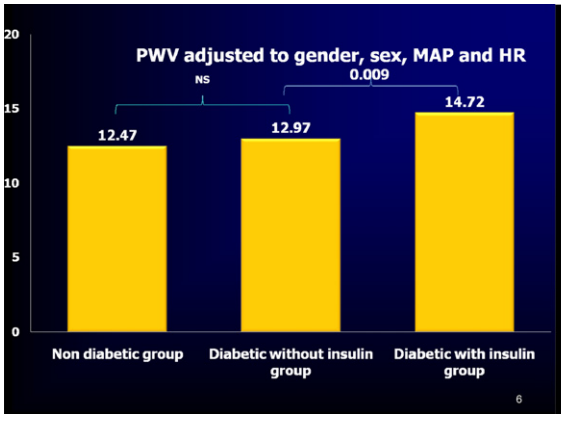
Introduction: Arterial tree alteration is the cornerstone of diabetes complications and its mechanical parameters are impaired.



FACTORS INFLUENCING PWV IN THE DIABETIC POPULATION (n=150)

parameter	estimate	p
Intercept	-18.51	0.0257
Age	0.15	<.0001
log(HR)	4.49	0.0153
MBP	0.02	0.2123
Gender	-0.72	0.2346
Insulin treatment	1.58	0.0131
HbA1c	0.28	*0.3292*
Glycaemia	-0.04	*0.7244*