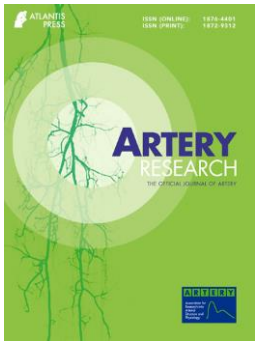

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P11.25: DETERMINANTS OF ARTERIAL STIFFNESS IN YOUNG INDIVIDUALS AT LOW CARDIOVASCULAR RISK: THE ROLE OF AUTONOMIC NERVOUS SYSTEM

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with history of cardiovascular events had higher: number of swollen and tender joints, disease activity score (DAS28), body mass index (BMI), level of ESR, CRP, total cholesterol, triglyceride, augmentation index, aortic pulse pressure. Cases with cardiovascular event were also more likely to have taken higher doses of corticosteroids compared to controls. In statistical analysis, only triglyceride level and aortic pulse pressure were significant risk factor for the development of cardiovascular events ($p<0,05$). The other mentioned factors have drawn near but haven't crossed the level of statistical significance.

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P11.25
DETERMINANTS OF ARTERIAL STIFFNESS IN YOUNG INDIVIDUALS AT LOW CARDIOVASCULAR RISK: THE ROLE OF AUTONOMIC NERVOUS SYSTEM

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Our aim was to study the influence of autonomic nervous system and other factors on arterial stiffness in young individuals at low cardiovascular risk. The study involved 136 healthy individuals (mean age 23.5±6.7 years, 89 men and 47 women). The examination included: cardiovascular risk factors screening, heart rate variability (HRV), vascular stiffness, and endothelial function evaluation. Stiffness index was measured at baseline (SI_{bl}) and after 500 mcg of sublingual trinitroglycerin (SI_{tng}). Endothelial function was determined as the change of resistance index after inhalation of 400 mcg of salbutamol (EF). Vascular responses were calculated from digital pulse waves (DPW) registered using photoplethysmography. Vascular parameters did not differ between men and women. On multivariate analysis age and diastolic blood pressure were the only determinants of SI_{bl} among the conventional risk factors ($R=0.37$, $R^2=0.14$, $p<0.001$). Age, systolic blood pressure, and EF were independent predictors of SI_{tng} ($R=0.57$, $R^2=0.33$, $p<0.001$). Among HRV parameters added to the above models low parasympathetic activity and elevated sympathetic activity evaluated by pNN50 and low frequency waves spectrum (LF), respectively, were independent predictors of higher levels of SI_{bl} ($p<0.00001$ for each parameter). The model explained nearly 40% of SI_{bl} variability ($R=0.62$, $R^2=0.38$, $p<0.00001$). Only pNN50 was independently related to SI_{tng} in multivariate model ($p<0,01$) marginally increasing its predictive value ($R=0.64$, $R^2=0.41$, $p<0.00001$). Thus, autonomic nervous system significantly affected baseline arterial stiffness evaluated by DPW analysis in young individuals. Whereas SI_{tng} is minimally influenced only by parasympathetic tone and more precisely reflects cardiovascular risk factors effects on arterial wall.

P11.26
CARDIOVASCULAR RISK IN THE VIEW OF INDIVIDUAL RISK FACTORS IN PATIENTS WITH MORE THAN 1 RISK FACTOR PRESENT

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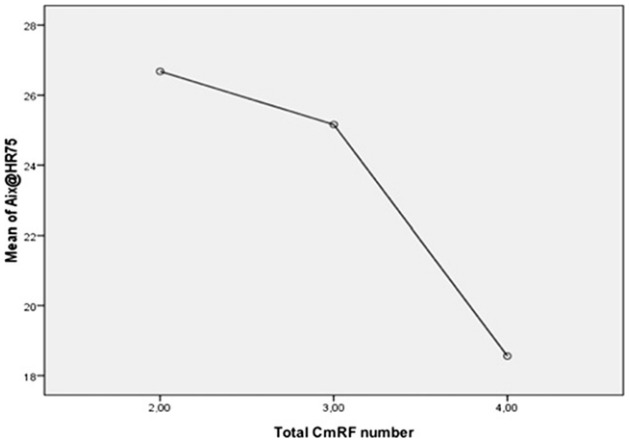
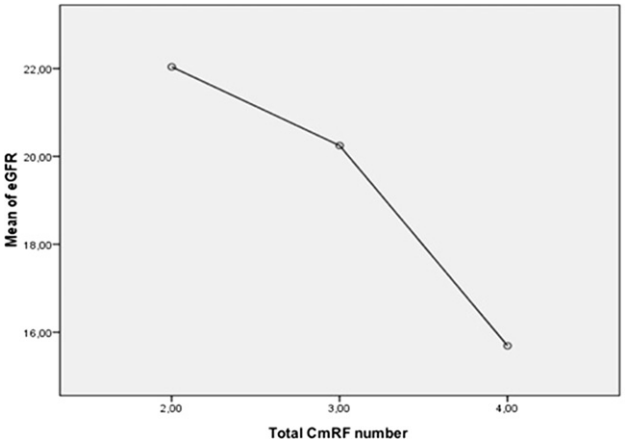
Context and objective: It is known that patients, with a diagnosis of metabolic syndrome (MetS) having three or more cardiometabolic risk factors (CmRF) are associated with an increased cardiovascular risk. The study aimed at evaluating the increase of the risk depending on a number of individual CmRF while evaluating early subclinical atherosclerosis indicators measuring arterial markers, such as PWV and Aix, as well as eGFR.
Results: A total of 530 patients with at least two CmRF according to the NCEP ATP III metabolic syndrome definition were screened for the assessment of subclinical atherosclerosis (measuring PWVradial, PWVfemoral, Aix@HR75), as well as eGFR (using the MDRD formula). A correlation between Aix@HR75 and eGFR (Pearson Correlation Coef. 0.435, $p<0.01$) was found. Between the groups with two, three or four CmRF, increasing PWVradial (ANOVA, $p=0.032$) (Figure 1), decreasing Aix@HR75 ($p<0.01$) and deteriorating eGFR ($p<0.01$) (Figure 2) with an increasing number of CmRF were noted. The difference in PWVfemoral between the groups was not statistically significant.
Conclusion: For CVD risk prediction, every individual trait and a number of traits of CmRF must be considered. While Aix increases, eGFR decreases with an increasing number of CmRF. Affected arterial markers were detected in patents with just two CmRF and further worsening was observed with each additional factor, suggesting that individual CmRF is important when defining the CVD risk for patients with or without MetS.





P11.29
THE COMPARISON OF ENOS MUTATION T786C AND ITS RELATIONSHIP WITH ARTERIAL STIFFNESS

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Background: Arterial stiffness represents a strong predictor of the cardiovascular events and mortality, but seems to be influenced by eNOS mutations (responsible for alteration of NO release).
Purpose: to investigate the relationship between T786C mutation and arterial rigidity. **Material and method** 70 patients were investigated (63.4% females), mean age 59.81±11.01 years, without significant differences between genders. Genetic polymorphism of T786C (using PCR method), and arterial rigidity (using a TensioMed™Arteriograph) were determined.
Results: The distribution according to the presence of genotypes was: 49.3% were negative (TT), 33.8% heterozygous (CT) and 16.9% homozygous (CC). Globally, there was significant difference of the PWVAo values between homozygous and heterozygous or negative patients: 11.65±1.87m/sec in CC patients vs 9.86 ±1.56m/sec in CT patients vs 9.75±1.75m/sec in TT patients ($p=0.005$). Even though statistical significance was not reached for the rest of the parameters, an ascending trend can still be noticed, CC (in comparison with CT, respectively TT) patients showing higher levels of AixAo (42.71±15.24% vs 37.97±17.24% vs 34.46±18.11%, p=NS) , Aixb (15.68±31.33% vs 1.3± 26.85% vs -2.07±31.96%, p=NS). In the same time, the relationship was also present in women (for PWVAo, CC genotype women