P.054: RELATIONSHIP BETWEEN, BLOOD VISCOSITY, SHEAR STRESS AND ARTERIAL STIFFNESS IN PATIENTS WITH ARTERIAL HYPERTENSION

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Conclusions: Patients with HCV have impaired aortic elastic properties, whereas HBV does not influence aortic stiffness. These findings are important to further characterize the increase of cardiovascular risk in patients with hepatitis C virus seropositivity and to specify the linking role of the adipose tissue-related hormones.

P.052
AN INTERLEUKIN-6 POLYMORPHISM DETERMINES CHANGES IN ARTERIAL STIFFNESS CAUSED BY ACUTE INFLAMMATION
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Purpose: A promoter polymorphism (-174G>C) of interleukin-6 has been linked with increased cardiovascular risk. Arterial stiffness is an important predictor of cardiovascular risk. Recent data suggest that acute inflammation leads to an increase of aortic stiffness. The effect of this polymorphism on arterial stiffness has not been defined yet.

Methods: Nineteen healthy adults (mean age 34.7 ± 2.2 years old, 11 men) participated in the study (randomised, double-blind design). Salmonella Typhi vaccine was used as an inflammatory stimulus.RLFPS were performed by standard methods for IL-6 and three genotypes were determined, GG, GC and CC. Pulse wave velocity (CF-PWV) was measured as an index of aortic stiffness using a non-invasive device (Compilron®). Arterial stiffness expressed by wave reflection was studied using a validated system (SphygmoCor®). Augmentation index (Aix) was measured as an index of wave reflection.

Results: Arterial stiffness was assessed before and 8 hours after vaccination as well as in 11 non-vaccinated matched volunteers.

Conclusions: Acute inflammation results in changes of arterial stiffness to a different degree, depending on interleukin-6 genotype. These findings underscore the genetic significance of IL-6 gene on the pathophysiology of cardiovascular system.

P.053
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Purpose: Arterial stiffness is an important predictor of cardiovascular events. A polymorphism in the promoter region of IL-6 (-174G>C) has been associated with cardiovascular risk. However, the relationship between this polymorphism and arterial stiffness has not been investigated yet.

Methods: Two hundred and forty-five individuals participated in the study (mean age 40.8 ± 0.5 years old, 164 males). RFLP was performed and three genotypes were determined, GG, GC and CC. Arterial stiffness as expressed by wave reflection was studied using a validated system (SphygmoCor®) that employs high-fidelity arterial tonometry and appropriate computer software for pulse wave analysis. Augmentation index (Aix) was measured as an index of wave reflection. Higher values of augmentation index indicate increased wave reflection and arterial stiffness.

Results: The distribution of genotype was GG/GC/CC: 125/107/13, respectively. After adjustment for age and sex, multinomial logistic regression analysis revealed that GC genotype is associated with higher values of Aix compared to GG homozygosity (22.56% versus 19.6%, p<0.1). Moreover, further analysis showed that the presence of C allele (GC or CC genotype) was linked to increased Aix compared to GG genotype (22.37% versus 19.6%, p<0.1), which indicates impaired elastic properties. The values of aortic and peripheral blood pressures did not differ among three groups (p>NS).

Conclusions: In healthy individuals, a polymorphism of the promoter region of interleukin-6 gene is associated with wave reflection and impaired arterial elastic properties. This finding provides evidence of a possible genetic link between the inflammatory cascade, arterial stiffness and the cardiovascular system.