P.029: LONG-TERM SILDENAFIL ADMINISTRATION IMPROVES AORTIC ELASTIC PROPERTIES AND WAVE REFLECTIONS IN PATIENTS WITH ERECTILE DYSFUNCTION OF VASCULAR ORIGIN

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AORTIC STIFFNESS IS INCREASED IN PATIENTS WITH HEPATITIS C VIRUS SEROPOSITIVITY

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Background: Recent data suggest that chronic systemic inflammation impairs vascular function and plays a critical role in cardiovascular disease. Aortic stiffness and wave reflections are independent markers and prognosticators of cardiovascular risk. The present study was undertaken to assess whether chronic infection with hepatitis B virus (HBV) or hepatitis C virus (HCV) affects aortic stiffness and wave reflections.

Methods: We determined aortic stiffness and wave reflections in 26 consecutive patients (mean age: 49 ± 16 years, 9M/17F) positive for HCV infection and 14 patients (mean age: 52 ± 11 years, 9M/5F) with HBV infection, who had never been treated with interferon. 40 healthy individuals were recruited to compare each of the two subgroups and they were matched for age, sex, and blood pressure between patients with hepatitis and controls.

Results: Patients with HCV infection had higher carotid-femoral PWV than controls, indicating increased aortic stiffness (7.5 ± 1.3 vs. 6.7 ± 1.3 m/s, P < 0.05), while Aix did not differ (25 ± 15 vs. 27 ± 15%, P = NS). Carotid-femoral PWV and Aix in the subjects with HBV infection were similar to those in the control subjects. There were no differences as regard systolic, diastolic pressures and heart rate between patients with hepatitis and controls.

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.

AORTIC STIFFNESS AND CAROTID INTIMA MEDIA THICKNESS IN PATIENTS WITH NAFLD

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Background: Non-alcoholic fatty liver disease (NAFLD) is closely correlated to metabolic syndrome, which is a marker of increased cardiovascular risk. Aortic stiffness and intima media thickness (IMT) are independent prognostic factors of cardiovascular risk. We investigated whether NAFLD is associated with increased atherosclerotic damage.

Methods: 46 patients (mean age 55 ± 13 years, 24M/22F) with increased serum alanine aminotransferase levels and abdominal ultrasound and/or biopsy evidence of NAFLD, and 40 age, gender, body-mass index, and cardiovascular risk factors adjusted controls were studied. Carotid-femoral pulse wave velocity (PWV), an established index of aortic stiffness, was evaluated with carotid-femoral pulse wave velocity (PWV) and wave reflections with augmentation index (Aix) of the aortic pressure waveform.

Results: NAFLD subjects had significantly increased carotid-femoral PWV (8.5 ± 1.7 vs 7.9 ± 1.5 m/s, p < 0.05) and mean value of carotid IMT (0.98 ± 0.3 vs. 0.77 ± 0.2 mm, p < 0.05) compared to controls. Systolic, diastolic and pulse pressure did not differ among the two groups. Interestingly, enough, patients with increasing fibrosis stage (ALT/AST ratio of greater than 1, n = 21) had increased carotid-femoral PWV and mean carotid IMT compared to patients with ratio lower than 1, after adjusting for age and systolic blood pressure (9.2 ± 1.6 vs. 8.2 ± 1.5 m/s, p = 0.01 and 1.08 ± 0.27 vs 0.83 ± 0.21 mm, p < 0.05, respectively).

Conclusions: Patients with NAFLD have increased aortic stiffness and IMT, indicating both functional and structural changes in large arteries. These findings are important to further characterize the increase of cardiovascular risk in such patients.