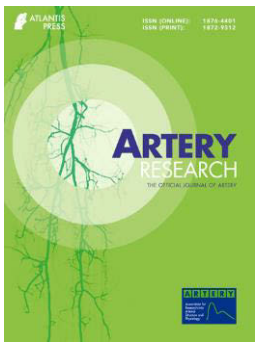

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P.029: LONG-TERM SILDENAFIL ADMINISTRATION IMPROVES AORTIC ELASTIC PROPERTIES AND WAVE REFLECTIONS IN PATIENTS WITH ERECTILE DYSFUNCTION OF VASCULAR ORIGIN

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P.027
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 yrs, 9M/17F) positive for HCV infection and 14 patients (mean age: 52±11 yrs, 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, gender, body-mass index and risk factors. Aortic stiffness was evaluated with carotid-femoral pulse wave velocity (PWV) and wave reflections with augmentation index (AIx) of the aortic pressure waveform.
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 not 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.

P.028
NON-ALCOHOLIC FATTY LIVER DISEASE IS ASSOCIATED WITH INCREASED AORTIC STIFFNESS AND CAROTID INTIMA MEDIA THICKNESS

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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 yrs, 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 calculated using a validated noninvasive device (Complior®). Higher values of PWV indicate stiffer aorta and vice versa. Mean IMT of common carotid arteries was determined as a marker of generalized early atherosclerosis using B-mode ultrasound imaging.
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 were not different 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±0.37 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.

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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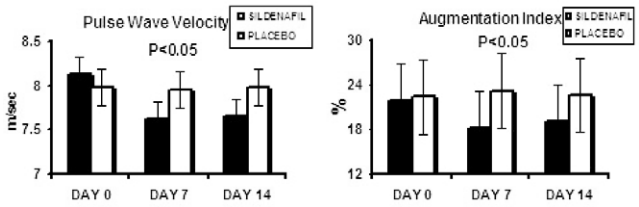
Background: Aortic stiffness and wave reflections are independent prognosticators of cardiovascular risk and may be impaired in men with erectile dysfunction (ED) considered as the first clinical manifestation of a generalized vascular disease. We investigated the chronic effect of a long-term daily sildenafil administration on aortic elastic properties and wave reflections.
Methods: The chronic effect of a 2-week long treatment with sildenafil on aortic stiffness and wave reflections were studied in 11 men (age 58±15 years) with non-hormonal and non-psychogenic ED. The study was carried out on two separate arms, one with sildenafil (100 mg) and one with placebo according to a randomized, placebo-controlled, double-blind, cross over design. All measurements were performed 24 hours after the last sildenafil or placebo intake. Aortic stiffness was evaluated with carotid-femoral pulse wave velocity (PWV) and wave reflections with augmentation index (AIx) of the aortic pressure waveform using high-fidelity pulse wave analysis.
Results: Daily sildenafil intake led to a significant sustained decrease in PWV and AIx, indicating a decrease in aortic stiffness and wave reflections ($p < 0.05$, figure). There were no significant changes in systolic and pulse pressure.



Conclusions: The present study shows for the first time that chronic treatment with sildenafil has a favourable effect on aortic stiffness and wave reflections in patients with ED. This finding may have important implications in patients with increased cardiovascular risk.

P.030
COFFEE HAS A MORE POTENT UNFAVORABLE ACUTE EFFECT ON WAVE REFLECTIONS THAN CAFFEINE IN NONHABITUAL COMPARED WITH HABITUAL DRINKERS.

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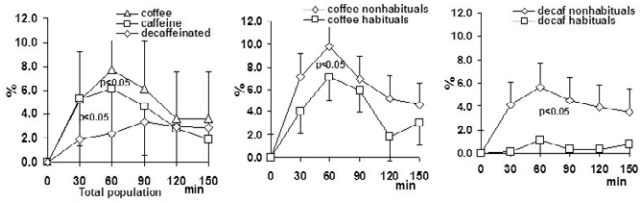
Background: Arterial wave reflections (WR) are determinants of cardiovascular performance and predictors of the corresponding risk. The aim of this study was to assess whether there is a differential effect of coffee and caffeine on WR and whether this effect is related to habitual coffee consumption.
Methods: We studied 24 healthy volunteers (11 habitual-13 nonhabitual coffee consumers) on 4 separate occasions receiving: (a) triple espresso, (b) decaffeinated triple espresso, (c) 240 mg of caffeine alone (amount contained in a triple espresso) and (d) placebo. Augmentation index (AIx) was measured as an index of WR using a validated system (Sphygmocor®). Higher AIx values indicate increased WR and vice versa.



Results: The effect of coffee and caffeine on WR is described as response of each variable, where response is defined as net coffee or caffeine minus placebo values at each time point. In the whole population, coffee and caffeine increased AIx, however the effect of coffee was more pronounced