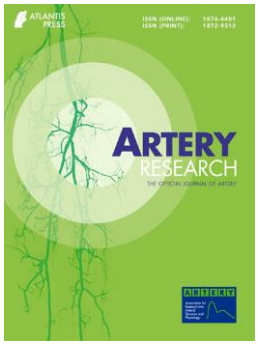

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P10.03: ACTIONS OF VERAPAMIL IN PRODUCING VASCULAR RELAXATIONS

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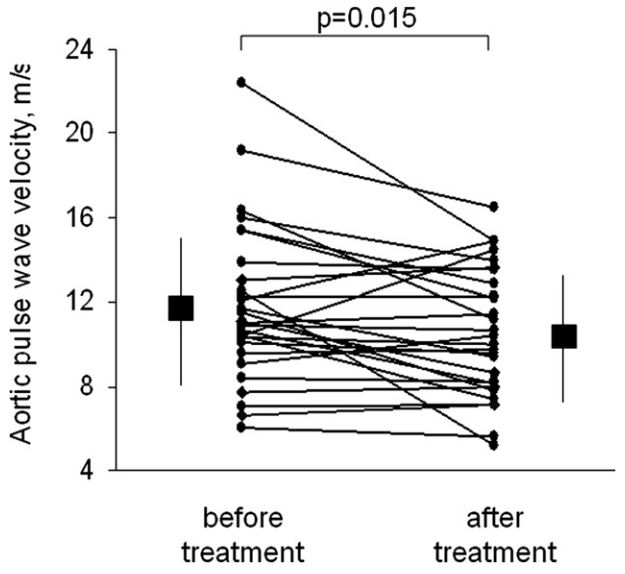
corrected for a heart rate of 75 bpm decreased from 0.34±0.07 to 0.29±0.08 ($p<0.01$).
Conclusions: Polymyalgia rheumatica is associated with increased aortic stiffness, which may improve upon reduction of systemic inflammation determined by treatment with corticosteroids.



P10.02
EFFECT OF ANTIHYPERTENSIVE TREATMENT ON AORTIC STIFFNESS IN A GENERAL POPULATION

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Objective: Aortic stiffness, an independent cardiovascular risk factor, is strongly related to age and mean arterial pressure (MAP). In a general population, we investigated effect of antihypertensive treatment on aortic pulse wave velocity (aPWV) with respect to age and MAP.
Design and Methods: In a Czech post-MONICA study, we measured aPWV in 1007 subjects, mean age 54.5 years , 55.0% women, 33.8% on antihypertensive medication). We used linear regression analyses to assess effect of antihypertensive treatment on aPWV. As independent covariates we considered: sex, age (MAP), heart rate, body mass index, smoking, and observer.
Results: Subjects using antihypertensive treatment were older, had higher SBP, BMI and aPWV ($P<0.0001$). In analysis adjusted for MAP, but not in unadjusted analysis, use of antihypertensive medication diminished effect of age on aPWV (regression equations, untreated subjects (TRT-0): 5.74 + 0.032*age vs. treated patients (TRT-1) 9.24 − 0.004*age; difference of slope, $F=28.9$; $P<0.0001$). In both unadjusted (regression equations -1.80 + 0.096*MAP vs. 6.38 + 0.026*MAP; difference of slopes, $F=28.7$; $P<0.0001$) and analysis adjusted for age (3.81 + 0.037*MAP vs. 9.55 - 0.0056*MAP; difference of slopes, $F=38.9$: $P<0.0001$), use of antihypertensive treatment was associated with smaller increase of aPWV with MAP.
Conclusions: In a general population, we observed that use of antihypertensive medication reduce an increase of aPWV with age. The increase of aPWV with blood pressure was also smaller in treated patients compared to untreated subjects. Antihypertensive drugs prevent aortic stiffening even in subjects whose blood pressure is not well controlled.

P10.03
ACTIONS OF VERAPAMIL IN PRODUCING VASCULAR RELAXATIONS

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We have investigated the vascular relaxant actions of verapamil in comparison with the L-type calcium antagonist nifedipine and the putative selective T-type calcium antagonists NNC 55-0396, mibefradil and thalidomide. Male Wistar rats (250g) were killed by CO2 overdose, the aorta and vas deferens were removed for organ bath studies and rings of tail artery were set up in small vessel myographs. In rat aorta, verapamil (100 uM) significantly reduced the maximum contraction to noradrenaline to a similar degree as nifedipine or mibefradil, but thalidomide had no effect. In rat tail artery, verapamil (1-10 uM) inhibited contractions to calcium restoration both in the presence of phenylephrine and KCl, but the T-type calcium channel blocker NNC 55-0396 (100 uM) inhibited contractions to calcium restoration only in the presence of phenylephrine, and the L-type blocker nifedipine (10 uM) nhibited contractions to calcium restoration only in the presence of KCl. Verapamil inhibited nerve-evoked contractions of epididymal, but not prostatic, portions of rat vas deferens, an action shared with the T-type calcium channel blocker NNC 55-0396 and by thalidomide. In contrast, nifedipine inhibited contractions of prostatic portions of rat vas deferens. It is concluded that verapamil produces vascular relaxations by a mechanism that involves aspects of both L-type and T-type calcium channel block.

P10.04
VACCINATION AGAINST INFLUENZA A/H1N1 VIRUS ADVERSELY AFFECTS ENDOTHELIAL FUNCTION, BUT NOT ARTERIAL STIFFNESS, IN HIV INFECTED PATIENTS

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Purpose: Vaccines have been shown to induce a transient impairment of endothelial function and arterial elastic properties. Newly developed vaccines against the pandemic influenza A/H1N1 virus have been reported to have a safe cardiovascular profile; however, their impact on endothelial function and arterial stiffness has not been established.
Methods: We recruited 25 HIV infected patients (all male, 3 naïve to antiretroviral therapy, mean age 35±10 years) with a good functional status (mean CD4 count: 719±273). All were free from overt cardiovascular disease; 14 patients were vaccinated with a single dose of a monovalent, adjuvanted vaccine against influenza A/H1N1.11 patients were subjected to a sham procedure (controls). Measurements were taken prior to, 8 and 48 hours post vaccination. FMD of the brachial artery was used as an index of endothelial function; carotid-femoral PWV as a measure of arterial stiffness. ADMA, IL-6 and sICAM-1 were measured in blood samples. Comparisons were performed by repeated measures ANOVA.
Results: Vaccination led to a significant impairment of endothelial function, denoting a diminished bioavailability of nitric oxide that persisted even after 48h (baseline: 6.5±4.8 %, 8h: 2.3±4.9%, 48h: 1.8±4.8 %; $p=0.05$). However, arterial stiffness, as assessed by cfPWV, was not significantly altered (baseline: 7.2±1.2 m/sec, 8h: 7.0±1.2 m/sec, 48h:6.8±0.9 m/sec; p=ns). ADMA, IL-6 and sICAM-1 levels did not change.
Conclusion: Vaccination against influenza A/H1N1 with a monovalent, adjuvanted vaccine leads to endothelial dysfunction in HIV patients, which lasts for at least 48 hours. Given the increased cardiovascular risk of these patients, these findings warrant further research.

P10.05
CALCIUM CHANNEL BLOCKERS USE IS ASSOCIATED WITH A BETTER COGNITIVE PERFORMANCE IN OLDER HYPERTENSIVE PATIENTS WITH SUBJECTIVE MEMORY COMPLAINTS

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Background: Hypertension is strongly associated with cognitive decline and a promising target for dementia prevention. Our aim was to investigate the association between different antihypertensive treatments and cognitive performance in elderly hypertensive patients presenting with subjective memory complaints (SMC).