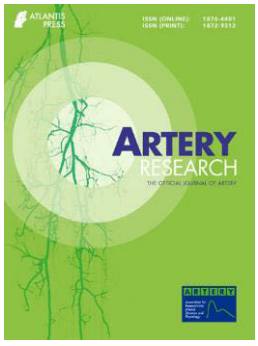

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P13: VASCULAR AND MUSCLE DETERIORATION IN OLDER OUTPATIENTS

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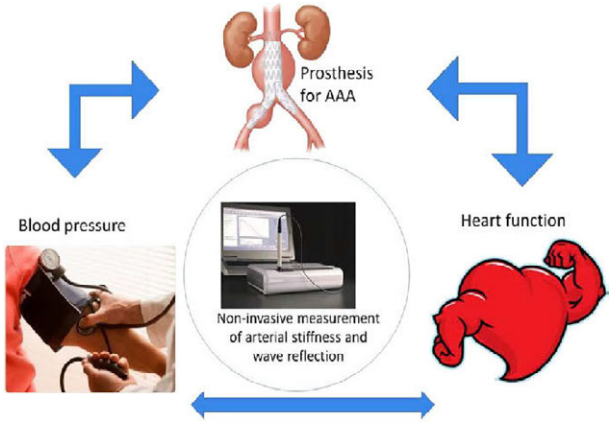
Methods: Non-invasive and invasive waveform recordings and CP- and stiffness-calculations were performed simultaneously before and after EVAR. Non-invasive radial artery waveforms were recorded, from which CP was estimated by SphymoCor (Atcor Medical, Sydney, Australia). Invasive pressure measurements were performed with a fluid-filled catheter in the infrarenal aorta. A generalized ascending-to-abdominal aorta transfer function (GTFAA) was used to estimate CP from the invasively measured abdominal aorta pressure-waveform, which served as reference for the non-invasively estimated CP. From the CP waves, systolic pressure and AIX were computed.
Results: The difference between the invasive and non-invasive peak CP showed a bias of 23.9 mmHg (limits-of— agreement: -37.2:85.0) before and a bias of 0.4 (-32.6:33.4) after implant. Mean AIX (SD) was -30.7(11.2) and -38.9(31.2) before and after implant, respectively.
Conclusion: Synthesizing CP with non-invasive measurements in combination with the use of a GTF in patients with AAA is feasible especially after EVAR. Differences in CP and AIX could be explained by differences in AAA-morphology or an error in phase unwrapping, which are currently investigated in-vitro and in-vivo (NCT01220245).



P13
VASCULAR AND MUSCLE DETERIORATION IN OLDER OUTPATIENTS

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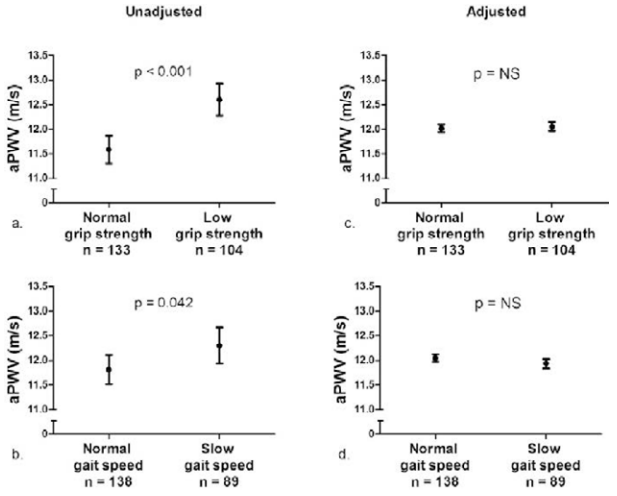
Background: Vascular and muscle deterioration are age-related processes, which both have a major impact on health and might share common predisposing factors and mechanisms. We investigated the possible association between aortic stiffness and physical performance in older outpatients.
Methods: Aortic stiffness was non-invasively measured as aortic pulse wave velocity (aPWV) by the Mobil-o-Graph. Physical performance was assessed by the (a) hand grip strength and (b) usual gait speed on 5-meter course. Low grip strength was $<$20 kg for women and $<$30 kg for men. Slow gait speed was defined as $\leq$0.8 m/s. Mean values of aPWV were investigated in patients according to their physical performance.
Results: We included 240 consecutive outpatients. Mean age was 77.6 ($\pm$7.1) years, mean aPWV was 12.0 ($\pm$1.7)m/s. Low hand grip strength was found in 43.3%, slow gait speed in 37.1%. Compared to the normal physical performance group, patients with low grip strength were 5.3 years older ($p < 0.001$) and patients with slow gait speed were 2.9 years older ($p = 0.002$). Patients with normal grip strength had lower aPWV than patients with low grip strength (11.58 vs 12.6, $p < 0.001$). Patients with normal gait speed had lower aPWV than patients with slow gait speed (11.81 vs 12.3, $p = 0.042$). After adjustments for age, sex and mean arterial pressure, no differences were found in aPWV between patients with a normal and low physical performance.
Conclusion: Higher aortic stiffness is associated with lower physical performance in older outpatients. However, age plays a crucial role in this relationship.



P14
REFERENCE VALUES OF THE WEST SPANISH POPULATION OF THE HEMODYNAMIC INDICES EVALUATED WITH A NEW WRIST WORN DEVICE

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Objective: To describe the reference value of arterial stiffness parameter measurement by wrist worn device (Microsoft) in west Spanish population.
Methods: Cross-sectional study. Study population: From the population assigned to the participating healthcare centres, a cluster random sampling stratified by age and gender was performed to obtain 501 participants aged between 35 and 75, 100 per decade, (50% women) without cardio or cerebrovascular disease. Measurements: Central (CAIx) and peripheral (PAIx) augmentation index, Heart rate (HR) and heart rate variability (HRV) by a new wrist worn device developed by Microsoft.
Results: Mean age was: 55.9 $\pm$ 14.2y. Mean PAIx was 91.22 $\pm$ 16.05, in women 95.34 $\pm$ 16.17 and in men 87.08 $\pm$ 14.86 (p0.05). The PAIx and CAIx increased with each decade, (PAIx was 79.85 in born in 1981 and 99.68 in born in 1941, and CAIx 19.25 in born in 1981 to 35.11 in born in 1941), and HRV decrease with each decade (3.31 in born in 1981 and 2.52 in born in 1941). No differences were found in heart rate. This data is the same in men and women. Correlation of age with PAIx was $r = 0.424$, CAIx $r = 0.323$, HRV $r = -0.364$ ($p > 0.01$ for all) and HR 0.51 ($p > 0.05$).
Conclusion: The PAIx and CAIx were higher in women than men. PAIx and CAIx increase with aging while the HRV decreases.

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