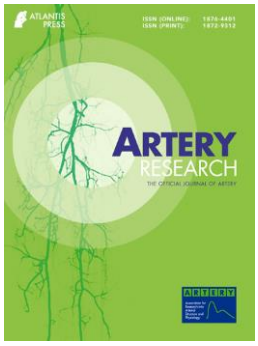

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P8.8: CENTRAL ARTERIAL STIFFNESS IN COPD

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determinations of carotid-femoral pulse wave velocity (PWV), aortic augmentation index corrected for heart rate (AIx75), brachial flow-mediated dilatation (FMD) and carotid intima-media thickness (cIMT). Based on these measurements the annual absolute changes were calculated.
Results: At baseline patients with MS compared with patients without MSs had lower values of FMD (6.0% vs. 7.0%, P=0.025), but there were no statistically significant differences for PWV (7.04m/s vs. 7.26m/s, P=0.242), AIx@75 (19.9% vs. 20.3%, P=0.846) and cIMT (0.68mm vs. 0.68mm, P=0.957). For the overall population, there were no statistically significant differences in the annual absolute changes of PWV, FMD, AIx75 and cIMT. However, when a subgroup of patients <60 years with more rapid progression of endothelial aging was investigated, MS was associated with almost 7 times higher annual change of FMD [-0.89% (95% CI:-1.50 to -0.28) in patients with MS vs. -0.13% (95% CI:-0.36 to 0.10) in patients without MS, P=0.032]. This difference was not evident in the other vascular biomarkers.
Conclusions: Presence of MS is associated with endothelial dysfunction as well as accelerated progression of endothelial dysfunction, especially in the younger subjects.

P8.8
CENTRAL ARTERIAL STIFFNESS IN COPD

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Introduction: Increased arterial stiffness is a marker of cardiovascular disease and suggested to beassociated with impaired lung function in chronic obstructive pulmonary disease (COPD). However, whether patients with mild COPD have increased arterial stiffness and what factors are linked to is still not explicitly studied. We hypothesised that patients with mild COPD would have increased arterial stiffness than controls independent of lung function.
Methods: As part of the ARCADE study, 70 patients with mild COPD and 150 controls free from lung disease were examined. Aortic pulse wave velocity (PWV), spirometry, body composition, blood pressure (BP), heart rate (HR) and C-reactive protein (CRP) were determined.
Results: Patients and controls were similar in age, body composition and gender. However, patients had greater aortic PWV 9.4 (1.96) m/s, systolic BP 147 (18) mmHg, HR 72 (12) bpm and CRP* 3.1 (1.7) mg/l compared with controls PWV 8.4 (1.8) m/s, BP 140 (18) mmHg, HR 67 (10) bpm and CRP* 1.7 (1.6) mg/l, all p<0.001. Aortic PWV was related to HR in patients (r=0.39) and controls (r=0.26), all p<0.001. A stepwise regression analysis adjusted for age and MAP showed heart rate was only predictor of increased aortic PWV (Adjusted R2=33%, p<0.001) where waist circumference and HR in the controls (Adjusted R2=37%, p<0.001).
Conclusion: Increased heart rate accelerates atherosclerosis process and vascular dysfunction and ultimately leads to increased incidence rate of coronary artery disease. Understanding the relationship between increased heart rate and greater aortic stiffness would allow for cardioprotective effect of lowering heart rate.

P8.9
EFFECT OF CARDIAC RESYNCHRONISATION THERAPY ON THE ARTERIAL STIFFNESS

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Development of cardiac resynchronisation therapy (CRT) in recent years became a breakthrough in treatment of severe heart failure, as it improves exercise capacity, reduces a rate of hospitalisations due to heart failure exacerbation, and the mortality rate, as well as improves quality of patients' life. However, data on CRT effects on a number of heart failure comorbidities remains scarce. The aim of this study was evaluation of CRT effect on the arterial stiffness.
Methods: The study covered a group of 55 patients (45 men and 10 women; mean age 67.04 ± 9.13 years) with chronic heart failure stable for at least last 3 months, in the NYHA functional class III or IV despite optimal pharmacotherapy, with a reduced left ventricular ejection fraction (LVEF) ≤ 35%, wide QRS complexes ≥ 120 ms. Before the resynchronisation system was implanted and after twelve months of observation arterial stiffness was evaluated with the carotid-femoral pulse wave velocity (PWV).
Results: Statistically significant changes weren't demonstrated for carotid-femoral pulse wave velocity value, only a tendency for its reduction (11,73 ± 2,37 m/s vs 11,32 ± 2,78 m/s, p = 0,08).
Conclusions: After the resynchronisation system implantation, no statistically significant change in arterial stiffness was observed, only a trend towards its reduction.

P8.10
EFFECTS OF BARIATRIC SURGERY ON ENDOTHELIAL FUNCTION IN EXTREMELY OBESE PATIENTS

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Introduction: Bariatric surgery in extremely obese patients has influence on metabolic variables and body weight however data about influence on flow-mediated dilatation (FMD) of brachial artery are inconsistent.
The aim of the study was to assess the effect of bariatric surgery on endothelial function measured by flow-mediated dilatation.
Material and methods: We examined 35 patients with extreme obesity who met the eligibility criteria and underwent bariatric surgery (sleeve gastrectomy or Roux-en-Y Bypass).
Brachial flow-mediated dilatation was performed using linear-array transducer (GE Vivid 3, GE Healthcare Medical Diagnostics, Little Chalfont, UK).
Results: Data from 35 patients (34% men; age: 45+/-10) were collected. BMI decreased form 47,5 +/- 6 kg/m^2 before surgery to 35,5 +/-5kg/m^2 six months after surgery. FMD after six months has significantly improved. Median flow mediated dilatation before intervention was 6,5% (IQR 2-10,7) and after operation 8,5% (IQR 6,2-16,8). Improvement in FMD was higher in patients who underwent by-pass surgery (median 142% (IQR: 85-453)) in comparison to sleeve gastrectomy intervention (median 118% (IQR 67-246) but no statistical significance was observed between two groups.
Conclusions: Bariatric surgery resulted in significant improvement in endothelial function and may have potential impact on reduction of cardiovascular risk.

P8.11
EFFECT OF CARDIAC RESYNCHRONISATION THERAPY ON THE AUTONOMIC NERVOUS SYSTEM FUNCTION

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Development of cardiac resynchronisation therapy (CRT) in recent years became a breakthrough in treatment of severe heart failure. The aim of this study was evaluation of CRT effect on the autonomous nervous system function.
Methods: The study covered a group of 55 patients (45 men, 10 women; mean age 67.04±9.13 years) with chronic heart failure stable for at least last 3 months, in the NYHA functional class III or IV despite optimal pharmacotherapy, with a reduced left ventricular ejection fraction ≤ 35%, wide QRS complexes ≥ 120 ms, and sinus rhythm present during the examination. Before the resynchronisation system was implanted and after three months of observation arterial baroreflex sensitivity (BRS) was evaluated with the sequence technique, and with the α coefficient and the transfer function.
Results: Three months after implantation of the CRT device, a statistically significant increase in the arterial baroreflex sensitivity was observed for all methods used in the study, both when lying and breathing spontaneously (BRSseq: 5,96±2,07 ms/mmHg vs 7,64±4,73 ms/mmHg, p<0,001; αLF: 6,00±4,44 ms/mmHg vs 7,68±5,09 ms/mmHg, p=0,029; αHF: 6,53±3,19 ms/mmHg vs 10,15±6,84 ms/mmHg, p<0,001; TFLF: 3,18±3,05 ms/mmHg vs 4,18±3,17 ms/mmHg, p=0,01; TFHF: 3,54±2,02 ms/mmHg vs 5,72±4,24 ms/mmHg, p<0,001), as well as when lying with breathing controlled. Furthermore, after three months from the CRT implementation, all monitored BRS indicators were significantly reduced in response to orthostatic stimulus. Such modulatory ability was not observed before implantation of the CRT device.
Conclusions: The study confirmed the beneficial effect of the CRT on the autonomous nervous system function.