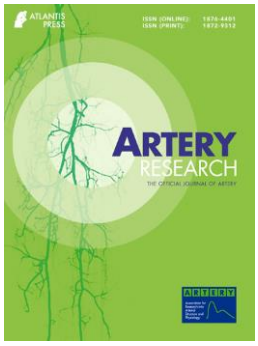

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P5.11: THE AUTONOMIC NERVOUS SYSTEM FUNCTIONING IN PATIENTS WITH HUNTINGTON'S DISEASE

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	Controls	Non-CFRD	CFRD
MAP (mmHg)	100 (8)	102 (11)	109 (11)*
AP (mmHg)	-2.2 (4.7)	-0.4 (4.6)	2.2 (4.2)*
$\triangle E_W$ (dynes.s/cm^2)	-576 (1400)	-22.9 (1360)	665 (1164)*
AIx (%)	-5.7 (11.2)	-2.0 (10.9)	3.5 (10.3)

Mean (SD). *$P < 0.05$ from controls (ANOVA).

Conclusions: Patients with CFRD have increased central systolic loading during exercise. These changes have implications for myocardial work and oxygen demand. In contrast, the haemodynamic response in non-CFRD patients does not appear to be maladapted.

P5.10

CARDIOPULMONARY FITNESS AND ARTERIAL STIFFNESS IN HEALTHY SUBJECTS — IS THERE A DIFFERENCE BETWEEN ACUTE HAEMODYNAMIC EFFECTS OF AEROBIC VS. RESISTANCE EXERCISE?

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Although, the cardioprotective effects of aerobic exercise are proven, not much is known about resistance exercise. Arterial wave reflection measured as augmentation index (AIx), and pulse pressure(PP) amplification are independent prognosticators of CV morbidity and mortality. However, how these parameters are impacted by cardiopulmonary fitness (CPF) and acute bouts of different types of exercise is unclear.
Our aim was to investigate the relationship between CPF, arterial stiffness, and high sensitivity C-reactive protein (hs-CRP). Furthermore, we compared the acute cardiovascular effects of aerobic exercise to resistance exercise. Eighteen healthy subjects (male = 8, aged 23± 3) underwent a maximal exercise test, followed by measurement of AIx, blood pressure (BP), fasting glucose, lipid profile and hs-CRP. The subjects were randomised in a cross-over design to aerobic and resistance exercise and BP, AIx and PP amplification measured before and immediately after exercise. Results were analysed by JMP Version 7.1 and $p < 0.05$ considered significant.
VO2max was significantly and inversely related to augmentation pressure and AIx and positively with PP amplification, independent of gender and BP. Despite higher BP following aerobic exercise, there was a significant reduction in AIx and PP amplification compared with resistance exercise which was associated with increased arterial stiffness and reduced PP amplification.
Impaired CPF is associated with stiff arteries and poor PP amplification, highlighting the impaired buffering capacity of the arteries and endothelial dysfunction in unfit individuals at an early age. Furthermore, resistance exercise is associated with arterial stiffening and should therefore be prescribed with caution to those with cardiovascular disease.

P5.11

THE AUTONOMIC NERVOUS SYSTEM FUNCTIONING IN PATIENTS WITH HUNTINGTON'S DISEASE

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Background: Huntington's disease (HD) is an autosomal dominant neurodegenerative disorder leading to progressive death of neurons in various brain regions. In advanced stages of disease there is a classical triad of movement, behavioural, and cognitive disorders. Besides there are often symptoms suggestive of autonomic dysfunction, like excessive sweating, decrease in orthostatic tolerance, sexual dysfunction, and a disturbance in micturition. Clinical testing has revealed the hypofunction of the autonomic nervous system (ANS) in mid and advanced HD patients.
Aim: We intended to investigate functioning of ANS in early stages of HD.
Methods: We measured heart rate, systolic (SBP) and diastolic blood pressure (DBP) in 14 presymptomatic (PHD), 11 early symptomatic patients (EHD) and in 25 age and sex matched controls during rest and during simple mental arithmetic test. Heart rate variability (HRV) analyses were determined by the autoregression method. The area under the power spectrum curves over the high frequency (HF) band (0.15—0.4 Hz) and the low frequency (LF) band (0.04—0.15 Hz) was determined.
Results: Attenuated response to simple mental arithmetic test in PHD and EHD patients (relative heart rate in PHD and EHD patients was 10% lower than in controls; diastolic pressure was 10.6% lower in EHD than in controls; $p < 0.05$) was found. There was higher LF and lower HF component of HRV in PHD relative to EHD patients.
Conclusion: The results suggest there is an ANS dysfunction in EHD and even in PHD patients. In PHD patients there is a predominance of sympathetic over parasympathetic part of ANS.