P4.11: ASYMMETRIC DIMETHYLARGININE LEVELS ARE INCREASED IN HUMAN IMMUNODEFICIENCY VIRUS INFECTED PATIENTS ON ANTIRETROVIRAL THERAPY COMPARED TO NAÏVE TO TREATMENT PATIENTS AND HEALTHY CONTROLS

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Results: Recruitment began in January 2008 and will be completed in June 2012. It is hypothesized that there will be no significant difference in LV mass between groups. However, there will be significantly reduced use of medication and improved quality of life in the central BP group because more appropriate titration choices will be made to maintain normal central SBP.

Conclusion: Principal findings will be presented at ARTERY 12.

P4.11
ASYMMETRIC DIMETHYLGARNINE LEVELS ARE INCREASED IN HUMAN IMMUNODEFICIENCY VIRUS INFECTED PATIENTS ON ANTIRETROVIRAL THERAPY COMPARED TO NAIVE TO TREATMENT PATIENTS AND HEALTHY CONTROLS

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Background: HIV infection is linked to higher cardiovascular risk. Adverse outcomes may be mediated through mechanisms of endothelial dysfunction attributed to nitric oxide (NO) inhibition. The aim of the study was to compare blood plasma levels of asymmetric dimethylarginine (ADMA), a natural NO inhibitor, of HIV infected patients who are either naive to treatment or on antiretroviral therapy (ART) and healthy controls.

Methods: 108 subjects were studied: 29 non-infected controls and 79 HIV infected patients [33 naive to treatment, 30 on a nucleoside reverse transcriptase inhibitor plus non-nucleoside reverse transcriptase inhibitor combination (NRTI/NNRTI) and 16 on a protease inhibitor combination (NRTI/PI)]. Plasma ADMA levels were measured using a commercially available ELISA kit. Between group comparisons were made using non-parametric tests.

Results: HIV infected patients had higher ADMA levels compared to controls (P<0.003). ADMA levels differed significantly across groups; non-infected controls had the lower levels of ADMA (P<0.001). Among HIV infected patients, those on ART exhibited higher ADMA levels versus ART-naive patients [0.84 (0.77, 1.05) μmol/L for ART versus 0.67 (0.26, 0.86) μmol/L for ART-naive patients, P<0.002]. ADMA levels did not differ between patients on NNRITIs [0.86 (0.77, 1.10) or PIs [0.82 (0.71, 0.95)], P=0.31.

Conclusions: ART-naive patients exhibit lower ADMA levels, denoting increased NO bioavailability compared to patients on ART; this may be attributed to their lower viral load that translates in a diminished inflammatory burden and better functional status. Patients on NNRITIs and PIs have comparable ADMA plasma levels.

P4.13
HIGH OUTPUT, LOW RESISTANCE HAEMODYNAMICS ARE ASSOCIATED WITH AUGMENTATION INDEX IN PATIENTS WITH TYPE 2 DIABETES

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Objectives: Augmentation index (AIx) is associated with increased arterial stiffness. However, several reports have shown that AIx is not significantly raised in patients with type 2 diabetes (T2DM) despite having increased arterial stiffness. This suggests different mechanisms contributing to AIx in T2DM, although the exact cause is unknown. The aim of this study was to examine haemodynamic determinates of AIx in healthy people compared with T2DM.

Methods: Resting haemodynamics were recorded in 53 T2DM patients (aged 61±8 years, 51% male) and 53 matched controls (aged 58±6, 51% male). Tonometry was used to record Aix, central blood pressure (BP) and aortic stiffness (aPWV). Cardiac output (CO) and systemic vascular resistance (SVR) were measured using impedance cardiography.

Results: There was no significant difference between groups in AIx (24±11 vs 27±9%, p=0.107). T2DM patients had significantly higher aPWV (7.6±1.6 vs 6.8±1.9 m/s), heart rate (64±9 vs 57±7.0 bpm), CO (5.54±1.15 vs 4.49±0.71 L/min), and central SBP (114±12 vs 107±12 mmHg), but lower SVR (1326±249 vs 1559±281 d.s.cm⁻¹.p.s⁻¹.all). The strongest correlates of AIx in T2DM patients were heart rate (r=−0.632), CO (r=−0.604) and SVR (r=0.542). However, these were not related to AIx in controls.