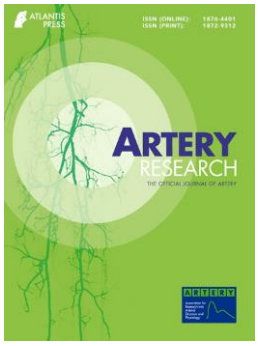

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P2.01: INITIAL DATA ON THE NATURAL HISTORY OF APWV IN WEST AFRICAN INFANTS

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Poster Presentation Abstracts
Epidemiology 1

P2.01
INITIAL DATA ON THE NATURAL HISTORY OF aPWV IN WEST AFRICAN INFANTS

J. Kips [1], O. Ayoola [4], S. Greenwald [5], W. Balogun [4], P. Clayton [3], L. Van Bortel [1], P. Segers [2], J. K. Cruickshank [4]

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Introduction: Aortic pulse wave velocity (aPWV) may measure vascular structure and function (distensibility) more precisely than blood pressure (BP). Few data exist on arterial distensibility in infancy; none on the effects of malaria in African children.
Methods: Healthy women with singleton pregnancies were recruited at Adeoyo Maternity Hospital, Ibadan, Nigeria. Measures of anthropometry, resting BP and aPWV using a Doppler device were taken on mothers and their babies at birth and three months later.
Results: 147 mother-baby pairs were measured at birth; 74 mothers had slide-positive malaria. 79 mother-baby pairs were measured at 3 months of age, but only 24 at both times. At birth, mean (SD) aPWV of infants whose mothers had malaria was 4.6 (1.6) m/s and SBP/DBP of 75.0/38.5 mmHg compared with those without 5.6 (1.6) m/s and 72.0/35.8 mmHg. Adjusting for birthweight, these differences were not significant.
By 3 months, children with maternal malaria had aPWV & BP of 7.2 (2.8) m/s and 88.2/47.8 mmHg compared to those without at 7.0 (3.0) m/s and 87.6/48.6 mmHg.
Neonatal aPWV was significantly related only to heart rate ($R = 0.40$;$p < 0.001$), but at 3 months to heart rate ($R = 0.27$;$p = 0.015$) and maternal age ($R = 0.25$;$p = 0.028$), independent of maternal and infant BP.
Discussion: aPWV on average increased during the first three months of life, uncorrelated between birth and 3 months. Children with maternal malaria had slightly lower aPWV at birth, catching up by 3 months. Whether higher aPWV develops sooner in babies with malaria than in those without malaria will be examined in follow-up.

P2.02
THE METABOLIC SYNDROME IN MIDDLE AGED INDIVIDUALS IS ASSOCIATED WITH GREATER ELASTIC, BUT NOT MUSCULAR ARTERIAL STIFFNESS

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There is some evidence that in MetS increase of arterial stiffness may be distributed over muscular and the elastic arteries not uniformly.
The purpose of this study was to examine the association between the MS and arterial stiffness of both elastic and muscular arteries in middle aged individuals.
Methods: The cohort consisted of 951 individuals without MetS (females 338 and males 613), mean ages 54.15 ± 5.88 and 604 with MetS (females 405 and males 199), mean ages 54.41 ± 5.97 ($p = 0.69$). For this investigation all those with diabetes were excluded. MetS defined according to the ATP III criteria. Following 10 min supine rest, blood pressure, carotid-femoral and carotid-radial PWV (using Sphygmocor v.7) and cardiovascular index CAVI (VaSera VS-100) were measured. All patients underwent detailed assessment of cardiovascular risk factors.
Results: Aortic PWV in the MetS group (9.02 +/- 1.53 m/s) was significantly higher ($P < 0.001$) than in patients without MetS (8.67 +/- 1.58 m/s). There were no significant between-group differences of carotid-radial PWV (MetS 8.92. +/- 1.21 m/s, without MetS: 8.95 +/- 1.4 m/s; $p = 0.53$) or CAVI (MetS: 7.93 +/- 3.2 m/s, non-MetS: 8.18 +/- 6 m/s; $p = 0.46$) values. In this study multiple logistic regression revealed that aortic but not carotid-radial PWV and CAVI were independently related to MetS (standardized regression parameter $r = -1.25$, $p = 0.0049$ after adjusting for age, gender).
Conclusions: the results therefore indicated that elastic arteries may stiffen preferentially over muscular arteries in middle aged individuals with the metabolic syndrome.

P2.03
THE PLASMINOGEN ACTIVATOR INHIBITOR-1 (4G/5G) POLYMORPHISM AFFECTS CENTRAL ARTERIAL BLOOD PRESSURE IN WOMEN

H. M. Björck [1], P. Eriksson [2], U. Alehagen [1], L. U. Ljungberg [1], R. DeBasso [1], K. Persson [1], U. Dahlström [1], T. Länne [1]

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Plasminogen activator inhibitor (PAI-1) is the key inhibitor of the fibrinolytic system, modulating cellular responses associated with vascular remodeling. Elevated plasma PAI-1 has been positively correlated to systolic- and diastolic blood pressure, measured in the brachial artery, and is increased in hypertensive patients. The (4 G/5 G) polymorphism in the PAI-1 promoter influences plasma concentrations, 4 G/4 G subjects having higher plasma PAI-1 levels than 5 G carriers. The effect of the (4 G/5 G) polymorphism on central arterial pressures is unknown. Hence, the aim of this study was to test whether the PAI-1 4 G/5 G polymorphism affects central arterial blood pressure.
400 subjects, 212 men and 188 women (70-88 years) were studied. Central pressures and waveforms were calculated from radial artery pressure waveforms by the use of the SphygmoCor device, using a generalized transfer function. The PAI-1 (4 G/5 G) genotype was determined. Central

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