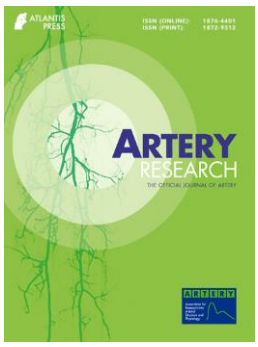

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P.047: CCR5-DEL32 GENOTYPE MODIFIES PRO-INFLAMMATORY//ANTI-INFLAMMATORY CYTOKINE RATIO; POSSIBLE ROLE IN ATHEROGENESIS

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PVF and WSS, relative differences of 6±8% ($p < 0.05$) and -1±15% ($p < 1$) respectively were evidentiated. The estimations based on Poiseuille theory present a significant underestimation of both maximum and mean PVF as well as maximum WSS by comparison to the results obtained through Womersley profiles fitting. No significant difference was observed for the mean WSS.

P.044
ROLE OF INTEGRIN α1β1 IN THE CARDIOVASCULAR EFFECTS OF ANGIOTENSIN II

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Integrin α1 knockout mice (α1-/-) were used to investigate the role of the integrin α1β1 in the cardiac and vascular functions of angiotensin II (AngII)-induced hypertension. Carotid artery (CA) elasticity was measured by incremental elastic modulus (Einc)-wall stress curves using an ultrasonic echo-tracking device and the measurement of medial cross-sectional area (MCSA) to evaluate *in vivo* CA mechanical properties. Cardiac function was studied by echocardiography in anaesthetized animals.
Infusion of Ang II (200ng/kg/min) in α1-/- mice and their control (α1+/+) for 4 weeks led to similar hypertensive effect (SAP +31 *vs* +37 mmHg). In α1-/- Ang II failed to increase MCSA of CA whereas it did in α1+/+ mice. The Einc-stress curve of Ang II-treated α1-/- was shifted to the right compared to Ang II-treated α1+/+, indicating a decreased arterial stiffness. The α1+/+ had an increased cardiac hypertrophy, evaluated by an increase of the end diastolic thickness of the septum (IVSd: 1.2±1 *vs* 0.9±0.08 mm) without modification of the posterior wall (LVPWd: 0.10±0.6 *vs* 0.97±0.07 mm) and without dilation of the ventricular cavity. This septal hypertrophy was not found in the α1-/- mice in response to Ang II. Cardiac fibrosis measured by collagen quantification (total, and type I and III), was lower in the α1-/- mice, compared with the α1+/+.
In conclusion, our results show an impaired of cardiovascular response to Ang II-induced hypertension in the integrin α1 knockout mouse. These results suggest the involvement of this integrin in the cardiovascular effects of Ang II.

P.045
STABLE THE REFLECTIVE PROPERTIES OF THE ARTERIAL SYSTEM IN RENAL TRANSPLANTATION (RTX) PATIENTS AT ONE YEAR FOLLOW-UP

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Background: Successful RTx from living-related donors, by removal of the uremic milieu and improvement in cardiovascular risk factors can be associated with improvement in indices of arterial stiffness. The aim of this study was to assess the arterial stiffness after one year of follow-up in live related RTx patients.
Methods: The augmentation index (AIx) was determined from arterial waveforms contour analysis recorded by applanation tonometry using SphygmoCor® device in 31 living related RTx (19 M, age 34.6±8.5 yrs; RTx duration 29.7±24.8 Mo, mean Cr.Cl. = 69.2±1.2 ml/min). All studies were performed before CsA administration, at baseline and at one-year follow-up. As a surrogate marker of the pulse wave velocity (PWV) we used the time to shoulder (TTS) parameter on the reconstructed central pulse pressure contour wave.
Results: Overall, during follow-up, mean AIx increased from 13.5±13.3% to 15.6±10.5% (p = NS). TTS increased from 107.7±9.5 ms at baseline to 109.3±9.5 ms at follow-up (p = NS). Biochemical parameters, blood pressure and heart rate remained unchanged over the follow-up period. On univariate analysis, at both moments, AIx and TTS correlated with anthropometric parameters (height and weight) and serum creatinine (independent predictor at baseline $R^2 = 0.443$; $p < 0.05$). There was no correlation of the arterial stiffness parameters with creatinine clearance or CsA therapy (dosage/levels).
Conclusions: In our study we demonstrate that there are no significant overall changes in arterial stiffness properties after one-year follow-up in stable renal transplant patients.

P.046
INSIGHTS FROM PULSE WAVE VELOCITY ACROSS CONTRASTING DISEASES

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Objectives: Several disease conditions are associated with an increased risk of vascular events. Direct evaluation of arterial structure and function remains elusive at the clinical level. We now report the results of pulse wave velocity in contrasting diseases.
Patients and Methods: We studied 200 consecutive patients assisted at the out-patient department of a public central hospital: (1) Obesity (OB, n = 60); (2) Type 2 Diabetes Mellitus (DM2, n = 60), Sexual Erectile Dysfunction (SED, n = 80). Patients were compared to controls (C, n = 40). Pulse wave velocity was measured between the carotid-radial arteries (CR) and between the carotid-femoral arteries (CF) with a computerized pressure transducer device (Complior ®).
Results: Compared to controls, values at both sites were significantly increased in every disease condition: CR (m/s): (C) 7.03±1.67; (OB) 8.21±2.08; (DM2) 8.44±3.10; (SED) 9.63±2.10; CF (m/s): (C) 5.87±1.92; (OB) 7.80±2.04; (DM2) 11.31±3.27; (SED) 13.08±4.26. CR and CF PWV were directly and significantly related. Higher CR than CF levels were found only in the C group, with no difference in the OB group, and higher CF than CR levels in DM2 and SED groups ($p < 0.05$). Body volume was a general significant factor for PWV, across diagnostic groups.
Discussion: Non invasive assessment of arterial stiffness by measuring PWV establishes arterial dysfunction in several pathologic conditions associated with an increased cardiovascular risk, even when this is still a matter of debate, namely OB and SED. Increased arterial stiffness is most marked in larger elastic arteries like the aorta (CF-PWV) and reverses the normal PWV gradient against smaller-muscular arteries (CR-PWV).

P.047
CCR5-DEL32 GENOTYPE MODIFIES PRO-INFLAMMATORY/ /ANTI-INFLAMMATORY CYTOKINE RATIO; POSSIBLE ROLE IN ATHEROGENESIS

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CCR5 is a receptor for several chemokines and is highly expressed on the cells involved in atherogenesis. A 32 bp deletion mutation of CCR5 prevents expression of this molecule on cell surface and is associated with reduced risk of premature coronary artery disease. It was shown that IL-6/IL-10 ratio could be a predictor of further coronary artery events in patients with Non-ST elevation acute coronary syndrome. In the present study we investigated the effect of CCR5-del32 mutation on production of pro-inflammatory and anti-inflammatory cytokines by lymphocytes in basal or stimulated conditions. Subjects were from a cohort of patients admitted to undergo coronary artery bypass graft surgery. Samples from 7 patients who were homozygote for wild type CCR5 allele (CCR5/CCR5) and 7 patients who were heterozygote for CCR5-del32 allele (CCR5/CCR5-del32) were used. Peripheral mononuclear cells (PMNC) were separated from whole blood by density gradient centrifugation. The PMNC cultures were either left untreated or incubated with lipopolysaccharide (LPS) or oxidative low density lipoprotein (OxLDL) for 24 hours before collecting their supernatant for cytokines measurement. PMNC carrying del32 produced significantly more IL-6 at baseline and after LPS stimulation. They also produced more IL-10 when stimulated with LPS and OxLDL. However, pro-inflammatory/anti-inflammatory ratio (IL-6/IL-10 and TNF-α/IL-10) tend to be lower under stimulation by LPS and OxLDL in the group with del32 genotype. We concluded that some aspects of the protective effect of CCR5-del32 mutation against premature atherosclerosis can be attributed to modulation of anti-inflammatory and pro-inflammatory cytokine response in inflammatory cells particularly in PMNC.

P.048
AORTIC SYSTOLIC BLOOD PRESSURE: ESTIMATION FROM THE POINT OF SYSTOLIC AUGMENTATION IN THE DIGITAL ARTERY WAVEFORM

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Introduction: Central and peripheral blood pressure and waveforms differ due to effects of wave reflection and amplification. Use of a mathematical transform function to predict central pressure remains controversial. It may be possible to estimate central systolic pressure directly from a peripheral