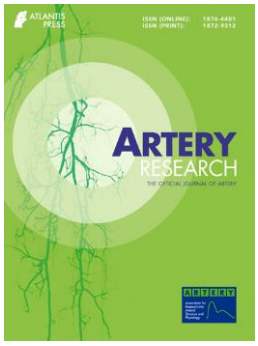

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P2.19: COMPARISON OF BRACHIAL AND CENTRAL BLOOD PRESSURES FROM 2 SPHYGMOCOR XCEL SYSTEMS EQUIPPED WITH A 2M AND 6M-LONG HOSE

S. Stoer, G. Soulat, S. Tavolaro, S. Millasseau, H. Khettab, P. Boutouyrie, S. Laurent, E. Mousseaux*

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calibrated to mean (MAP) and diastolic pressures (DBP) obtained with a Philips SureSigns monitor on the fistula-free arm.
Mean±SD values and coefficient of variation(CV) of repeated measurements are shown below:

	Pre-dialysis	CV	During dialysis	CV
Peripheral SBP(mmHg)	139±16	4%	120±16	7%
Peripheral DBP(mmHg)	74±12	5%	70±8	6%
Peripheral MAP(mmHg)	99±13	6%	88±12	7%
Central cSBP(mmHg)	127±20	3%	117±6	5%

Peripheral form factor (FF) was 37±13% (range 19-59) before dialysis and 39±21% (13-61) during dialysis while central FF was 45±7% (30-57) and 39±21% (21-46), respectively.
Estimation of cSBP during dialysis was feasible with Complior Analyse. Its variability was similar to peripheral BP variability. The wide range of peripheral form factor values suggested that there is a need to improve peripheral BP estimation during dialysis.

P2.18
IMPACT OF CARDIOVASCULAR RISK FACTORS ON CAROTID STIFFNESS AND CAROTID INTIMA MEDIA THICKNESS — GENDER DIFFERENCES

Maria Loboz-Rudnicka [1,*], Joanna Jaroch [1], Zbigniew Bociaga [1], Barbara Rzyczkowska [1], Ewa Kruszynska [1], Krystyna Loboz-Grudzien [1,2], Andrzej Szuba [3]
[1]*Departemnt of Cardiology, T. Marciniak Hospital, Wroclaw, Poland*
[2]*Faculty of Health Science, Medical University of Wroclaw, Wroclaw, Poland*
[3]*Department of Internal Medicine, 4th Military Hospital in Wroclaw, Wroclaw, Poland*

Background and purpose: Whether the influence of risk factors on carotid stiffness (CS) and carotid intima media thickness (CIMT) is modulated by gender is still unclear. The aim of our study was to examine the association between cardiovascular (CV) risk factors, CS and CIMT in men and women.
Material and methods: 252 subjects (including 132 women), mean age: 55 years, with CV risk factors and without the history of manifest CV disease underwent the examination of CS parameters and CIMT. The following CS parameters: beta stiffness index (beta), Peterson's elastic modulus (Ep), one-point pulse wave velocity (PWV-beta) and arterial compliance (AC) were measured with the use of the high-resolution echotracking system.
Results: The multivariate analysis revealed that age, diabetes and MAP were independent determinants of CS parameters in both men and women. Pulse pressure (PP) was significantly associated with beta (β coefficient +0,261, p=0,006), Ep (β coefficient +0,426, p<0,001) and PWV-beta (β coefficient +0,283, p=0,007) only in women. Of the risk factors significantly associated with CIMT in the multivariate analysis, age was an independent determinant of CIMT in both sexes, while PP (β coefficient +0,317, p=0,014) and increased waist circumference (β coefficient +0,207, p=0,048) only in women.
Conclusions: The influence of CV risk factors on CS and CIMT is modulated by gender. The impact of the pulsatile component of blood pressure on CS and CIMT and of the increased waist circumference on CIMT seems to be more prominent in women than in men.

P2.19
COMPARISON OF BRACHIAL AND CENTRAL BLOOD PRESSURES FROM 2 SPHYGMOCOR XCEL SYSTEMS EQUIPPED WITH A 2M AND 6M-LONG HOSE

S. Stoer [1], G. Soulat [1], S. Tavolaro [1], S. Millasseau [2], H. Khettab [1], P. Boutouyrie [1], S. Laurent [1], E. Mousseaux [1,*]
[1]*APHP, Paris, France*
[2]*Pulse Wave Consulting, St Leu la Foret, France*

Background and aim: Magnetic resonance imaging (MRI) provides excellent anatomical coverage for local and regional indices of aortic function and structure. However, blood pressure (BP) assessments is usually necessary for the calculation of these functional MRI parameters. Unfortunately, most pressure devices are not safe in high magnetic field. The aim of our study was to evaluate the use of the new SphygmoCor XCEL device (AtCor Medical, Australia) with a 6m hose to estimate central BP.
Methods and results: A SphygmoCor XCEL device with a 2m hose and a 2nd device with a 6m hose were fitted simultaneously on both arms of 38 subjects (63% men, median age:36.8years (28.5-58.4)). After 5 minutes rest supine, BP was recorded and then cables were changed (cuffs unchanged). Brachial, central BP, augmentation pressure (AP) and augmentation index (Aix) were recorded.
Brachial SBP, DBP, PP, central SBP, DBP PP, AP and Aix from the 2m and 6m device were strongly correlated (R2=0.96, 0.91, 0.78, 0.97, 0.85, 0.95, 0,96 respectively, p<0.001 for all.). Bland Altman plots showed no statistical difference between 2 and 6m for brachial and central SBP, DBP, PP values. However there was a difference between AP and Aix recorded with 2m and 6m hose (-2.65±1.5mmHg, p=0.043 and -5.25±2.93%, p=0.038 respectively).
Conclusion: SphygmoCor Xcel device with a 6m hose, brachial and central BP shows no statistical difference with the standard 2m hose, allowing data to be collected during MRI exams. However other parameters using waveform morphology such as AP and Aix are not so reliable.

P2.20
PERIPHERAL ARTERY DISEASE DETECTED BY ANKLE-BRACHIAL INDEX IS ASSOCIATED TO CARDIAC AND CAROTID ABNORMALITIES IN PATIENTS WITH ARTERIAL HYPERTENSION AND DIABETES

José Pompeu Filho [1], Ricardo Silva [2], Rachel Andrade [4], Leiria Andrade Neto [4], João Falcão [1], Sandra Falcão [1], Luiz Bortolotto [3,*]
[1]*Messejana Hospital, Fortaleza, Ceará, Brazil*
[2]*Federal University of Ceara, Fortaleza, Ceará, Brazil*
[3]*Heart institute (InCor), São Paulo University, São Paulo, São Paulo, Brazil*
[4]*Eye Hospital Leiria Andrade, Fortaleza, Ceará, Brazil*

Few studies evaluated cardiac or carotid abnormalities in patients with arterial hypertension and diabetes according to the presence of peripheral artery disease detected by abnormal ankle brachial index (ABI). For this purpose, we studied 99 diabetic hypertensive patients with abnormal (n=50, ABI≤0.9 or ABI>1.4) and normal (n=49, ABI>0.9 or ≤1.4) ABI values. All patients underwent successively to echocardiography and carotid ultrasound. From echocardiographic study, we analyzed the occurrence of a composite endpoint that included significant cardiac morphological and functional changes. The mean age was 65.4±7 years and 61.6% were women. It was observed a higher prevalence of left atrial enlargement (46%vs.26,5%, p<0.05), left ventricular hypertrophy (LVH) (56%vs.26.5%, p<0.01), left ventricular systolic dysfunction (12% vs.2%, p<0.05) and left ventricular regional kinetics abnormalities (16vs. 0%, p <0.01) in patients with abnormal ABI. The left ventricle mass (178.6±58vs.149.8±46 g/m^2, p<0.01) was greater in abnormal ABI group. The echocardiographic composite endpoint was more prevalent in abnormal ABI group (84.0%vs.59.2%, p <0.01). Binary logistic regression analysis showed abnormal ABI as an independent predictor for the occurrence of echocardiographic composite endpoint (OR=3.43; 95%CI=1.07-11.0;p<0.05) and the presence of LVH (OR=4.35, 95%CI=0.42-13.52, p=0.01). Carotid ultrasound revealed a higher frequency of plaque occurrence in common carotid arteries in patients with abnormal ABI (69,6%vs.30,4%, p< 0.05). Also, it was noted a higher number of patients from abnormal ABI group with carotid stenosis>50% (26,5% vs.6.3%; p<0.01). In conclusion, in patients with arterial hypertension and diabetes, the presence of peripheral artery disease detected by abnormal ABI was associated to important structural and functional cardiac and carotid modifications.

P3.1
SUB-MAXIMAL EXERCISE BLOOD PRESSURE RELATES TO LEFT VENTRICULAR MASS INDEX, BUT IS DEPENDENT ON LOW AEROBIC CAPACITY

Martin Schultz [1,*], Dean Picone [1], Rachel Climie [1], Costan Magnussen [1,2], Leah Wright [1], Thomas Marwick [1], Alison Venn [1], James Sharman [1]
[1]*Menzies Institute for Medical Research, University of Tasmania, Hobart, Australia*
[2]*Research Centre of Applied and Preventive Cardiovascular Medicine, University of Turku, Turku, Finland*

Background: Exaggerated blood pressure (BP) responses to sub-maximal exercise independently predict cardiovascular (CV) events, mortality and incident hypertension. The aim of this study was to explore relationships between exercise BP, left-ventricular (LV) structure and function and aerobic fitness as potential mechanisms underlying the CV risk associated with sub-maximal exercise BP.
Methods: 149 participants aged 40±2 years, 45% male completed a staged cycle test to estimate physical work capacity (aerobic fitness; PWC170) with concomitant BP measured each two minutes. 2D echocardiography was used to quantify LV mass (obtained from 2D-guided M-mode echo), and LV function (longitudinal strain, haemodynamics).
Results: Early-stage exercise systolic BP was associated with aerobic fitness and LV mass index (r=0.22, and 0.24, p<0.05) and was greater in those performing high stage-relative work (high-fitness) compared with low stage-