



Artery Research

ISSN (Online): 1876-4401

ISSN (Print): 1872-9312

Journal Home Page: <https://www.atlantis-press.com/journals/artres>

P1.14: PULSE WAVE VELOCITY AND KIDNEY DISEASE

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To cite this article: L. Rais, E. Abderrahim, R. Kheder, F. Ben-Moussa, A. Kheder (2013) P1.14: PULSE WAVE VELOCITY AND KIDNEY DISEASE, Artery Research 7:3_4, 114–114, DOI: <https://doi.org/10.1016/j.artres.2013.10.045>

To link to this article: <https://doi.org/10.1016/j.artres.2013.10.045>

Published online: 14 December 2019

Conclusion: MA has a major effect on BP lowering, differences between SNB and RB being observed in pts with OMA, not in patients with LMA. Combined methods for assessing MA allow determining the true efficacy of AHT strategies in RH pts.

P1.12

PREDICTIVE COMBINED ROLE OF CALCIUM SCORE AND CAROTIDIMT IN CORONARY ARTERY DISEASE

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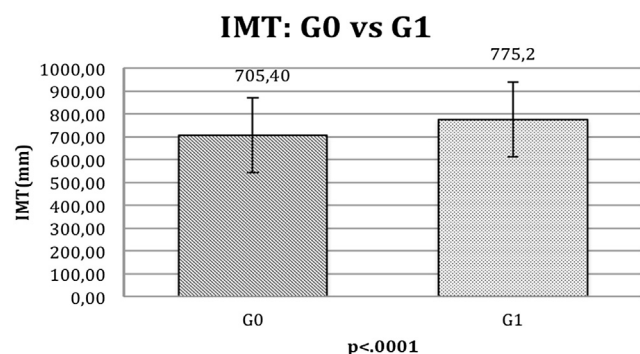
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Objectives: up to date the assessment of coronary artery disease (CAD) risk is based mainly on the presence of CV risk factors. However, many markers of subclinical atherosclerosis has been demonstrated as powerful predictors of CV events. Aim of our study was to evaluate if non invasive US parameters, such as carotid properties and heart calcifications, are able to add information to the prediction of CAD.

Methods: In 405 in-patients with a clinical indication (overt angina and/or positive exercise test) for coronary angiography (CA), we measured blood pressures (BP), carotid intima-media thickness (IMT), local PWV and distensibility and quantified cardiac calcification by means of Calcium Score (CaS). After CA we divided the group in G1 (N=240) (patients with at least one coronary stenosis >50%), and G0 (N=165) (unaffected coronaries).

Results: G0 and G1 patients differed in age (67 ± 10 vs 64 ± 11 yrs, $p=0,01$), but not in BMI ($26\pm 3,5$ vs 28 ± 16 kg/m², $p=0,03$); G1 had higher BP ($130\pm 21/74\pm 10$ vs $136\pm 18/77\pm 11$ mmHg, $p<0,02$), carotid-IMT ($705,4\pm 155$ vs $775,2\pm 164$ mcm, $p<0,0001$), local PWV ($8,9\pm 2,8$ vs $9,5\pm 2,7$ m/s, $p<0,01$) and CaS ($1,51\pm 1,45$ vs $2,56\pm 1,86$, $p?$). Among the considered US parameters, IMT and CaS were the best predictors of CAD, after adjusting for Framingham Risk Score (CaS: OD = 1, $p<,001$; IMT: OD = 1, $p=0,06$).

Conclusions: Integrated US of heart and carotid artery can be very useful to detect subclinical ATS in medium-high risk patients, predicting significant CAD and adding qualitative information for better stratify the CV risk and improve clinical management.



P1.13

THE ASSESSMENT OF VASCULAR AGE IS A USEFUL TOOL TO DEMONSTRATE SUBCLINICAL ARTERIAL DISEASE IN TREATED HYPERTENSIVE PATIENTS

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Background: Vascular age may be a more reasonable conception to the patient than the information about the percentage of risk.

Objective: To compare degrees of correlation between biological and vascular age with subclinical evidence of arterial disease in treated hypertensive patients.

Methods: Subjects in anti-hypertensive treatment, aged 30 to 75 years, were evaluated. Carotid intima-media thickness (cIMT), carotid-femoral pulse wave velocity (cf-PWV), and central parameters were assessed. Vascular age was calculated by the Framingham risk score for general cardiovascular disease. All the patients (n=165) were initially divided in tertiles (T1,T2,T3) according to biological age, and then in relation to vascular age.

Results: When divided by biological age, the difference between T3 and T1 was not significant for cIMT ($0,91\pm 0,14$ vs $0,88\pm 0,38$ mm) and aortic systolic blood pressure (aSBP; 136 ± 20 vs 129 ± 17 mmHg) although cf-PWV ($11,1\pm 2,0$ vs $9,7\pm 1,5$ m/s, $p<0,001$) and augmentation pressure (AP; 19 ± 9 vs 13 ± 5 mmHg, $p<0,01$) were significantly higher in T3. When separated by vascular age, the difference between T3 and T1 was significant for all the vascular parameters such as cf-PWV ($11,9\pm 2,0$ vs $9,6\pm 1,2$ m/s), cIMT ($1,10\pm 0,38$ vs $0,76\pm 0,13$ mm, $p<0,01$), aSBP (150 ± 18 vs 123 ± 15 mmHg, $p<0,001$) and AP (21 ± 9 vs 13 ± 6 mmHg, $p<0,001$). The correlation was stronger to vascular age than to biological age for AP ($r=0,46$ vs $r=0,29$), aSBP ($r=0,57$ vs $r=0,14$) and cIMT ($r=0,59$ vs $r=0,39$) although similar for cf-PWV ($r=0,44$ vs $r=0,40$).

Conclusion: The assessment of vascular age may be a useful tool to demonstrate the individual cardiovascular risk in treated hypertensive patients.

P1.14

PULSE WAVE VELOCITY AND KIDNEY DISEASE

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Increased arterial stiffness is one of the major alterations in arterial wall. It can be evaluated in non-invasively way by measuring the pulse wave velocity PWV in large arteries. Increased PWV is an independent predictor factor of cardiovascular complications in patients with hypertension and chronic kidney disease.

We conduct a 2 years prospective study between January 2003 and December 2004. In 161 patients we measured the PWV using an automatic device, the Complior (Colson, Paris). Patients were divided in 4 groups: 43 with polycystic kidney disease (PKD), 38 with primary chronic glomerulonephritis (PCGN), 40 patients with diabetes mellitus (DM) and 40 controls. The 4 groups were matched for age, sex and serum creatinine.

Results: we found a positive relationship between age and PWV in the different groups. There was a negative correlation between PWV and creatinine clearance. Among patients with chronic renal failure, PWV were correlated to serum phosphate level ($p<0,02$) and the product calcium X phosphate ($p<0,006$). In patients with DM, PWV was positively correlated to the level of hypertension and to the chronic renal failure (CRF). In patients with PCGN, PWV was positively correlated to the presence of vascular lesions on the kidney biopsy ($p<0,004$), to the level of hypertension and to the CRF. In the PKD group, PWV was correlated to the level of hypertension and to the CRF.

Conclusion: PWV is rather related to age, blood pressure and renal function than to type of nephropathy

P1.15

HIGHER DAY TIME RATE OF SYSTOLIC BLOOD PRESSURE VARIATION IS ASSOCIATED WITH REDUCED RETINAL ARTERIOLAR DIAMETER IN NON-DIABETIC, BUT NOT IN DIABETIC, INDIVIDUALS

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Background: Although Type 2 diabetes (T2DM) is associated with retinal vascular disease, the underlying pathophysiological mechanisms are unclear. Reduced retinal arteriolar diameter has been linked to high clinic blood pressure (BP) but the role of more sensitive measures of BP control have never been assessed. This study aimed to determine the relationship between retinal arteriolar diameter and 24 hour ambulatory BP (including BP variability) in people with and without T2DM.

Methods: Digitized retinal photographs were analysed to quantify retinal arteriolar diameters in 37 non-diabetic (aged 53 ± 10 years; 48.2% male)