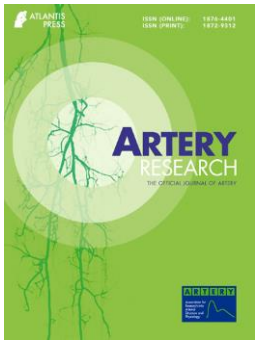


Artery Research

ISSN (Online): 1876-4401 **ISSN (Print): 1872-9312**
Journal Home Page: https://www.atlantis-press.com/journals/artres

P22: THE ROLE OF RENAL DYSFUNCTION ON TARGET ORGAN DAMAGE AND CARDIOVASCULAR RISK IN HYPERTENSIVES

Eirini Solomou, Dimitrios Terentes Printzios, Charalampos Vlachopoulos, N. Ioakimidis, K. Aznaouridis, I. Koutagiar, V. Gardikioti, E. Sigala, D. Tousoulis

To cite this article: Eirini Solomou, Dimitrios Terentes Printzios, Charalampos Vlachopoulos, N. Ioakimidis, K. Aznaouridis, I. Koutagiar, V. Gardikioti, E. Sigala, D. Tousoulis (2018) P22: THE ROLE OF RENAL DYSFUNCTION ON TARGET ORGAN DAMAGE AND CARDIOVASCULAR RISK IN HYPERTENSIVES, Artery Research 24:C, 86–86, DOI: https://doi.org/10.1016/j.artres.2018.10.075

To link to this article: https://doi.org/10.1016/j.artres.2018.10.075

Published online: 7 December 2019

Results: The proportion of males (54 vs 76%), Family history + (42 vs 73%) and smokers (19 vs 30%) were higher in P+. IMT and EF were significantly abnormal but not PWV or CBP in P+.
Conclusion: In a very selective sample of middle age patients, the genetic burden and the functional alterations seem to be closely related to the presence of aterosclerosis suggesting a pathogenetic predominace over epigenetic factors.

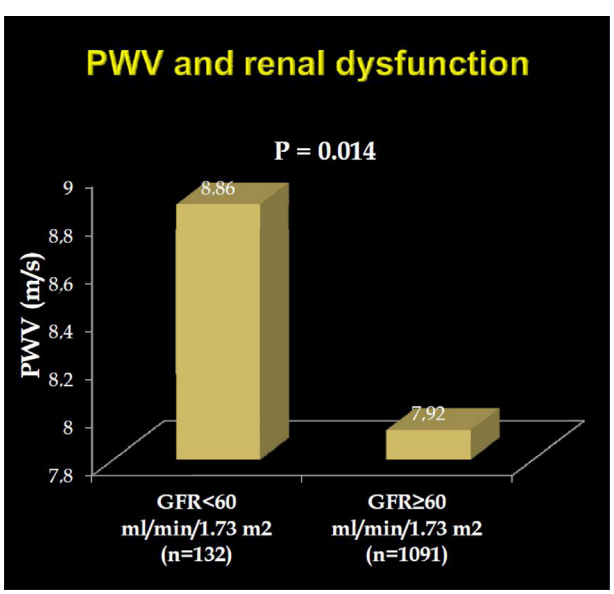
Poster Session I — Hypertension I

P22

THE ROLE OF RENAL DYSFUNCTION ON TARGET ORGAN DAMAGE AND CARDIOVASCULAR RISK IN HYPERTENSIVES

Eirini Solomou [1], Dimitrios Terentes Printzios [2], Charalampos Vlachopoulos [2], N. Ioakimidis [2], K. Aznaouridis [2], I. Koutagiar [2], V. Gardikioti [2], E. Sigala [2], D. Tousoulis [2]
[1]*First Academic Cardiology Clinic, Hippokration General Hospital, Athens, Greece*
[2]*1st Cardiology Department, Athens Medical School, Hippokration General Hospital, Athens, Greece*

Purpose/Background/Objective: Hypertension is associated with increased left ventricular (LV) hypertrophy, aortic stiffness and renal dysfunction, which are all predictors of cardiovascular risk. We investigated the effect of renal dysfunction on LV mass and aortic stiffness in hypertensives.
Methods: We enrolled 1223 consecutive hypertensives (mean age 53.0 ± 11.6 years, 726 males). We estimated the glomerular filtration ratio (GFR) using the MDRD formula. We classified our population as hypertensives with moderate to severe renal dysfunction (GFR ≥ 60 ml/min/1.73 m^2, n = 1091). LV mass index (LVMI) was assessed echocardiographically and calculated using the Devereux formula. Aortic stiffness and wave reflections were assessed with pulse wave velocity (PWV) and augmentation index (AIx), respectively. Ten-year cardiovascular risk was estimated with Framingham Risk score.
Results: After adjustment for age, gender, mean blood pressure, body-mass index, diabetes mellitus, low-density lipoprotein and C-reactive protein hypertensives with GFR < 60 ml/min/1.73 m^2 compared to hypertensives with GFR ≥ 60 ml/min/1.73 m^2 had higher PWV levels (8.86 m/s vs. 7.92 m/s, p = 0.014), higher LVMI (119.5 g/m^2 vs. 114.9 g/m^2, p = 0.012) and higher AIx (31.1% vs. 27.4%, p = 0.05). On the contrary, hypertensives with GFR < 60 ml/min/1.73 m^2 had similar 10-year cardiovascular risk compared to hypertensives with GFR ≥ 60 ml/min/1.73 m^2 (17.3% vs. 13.0%, p = 0.323).
Conclusions: Renal dysfunction is associated with LVMI and aortic stiffness. Hypertensives with moderate to severe renal dysfunction despite having similar 10-year cardiovascular risk with hypertensives with normal renal function or mild renal dysfunction, demonstrate higher aortic stiffness and LV mass, implying a possible underestimation of risk by Framingham.

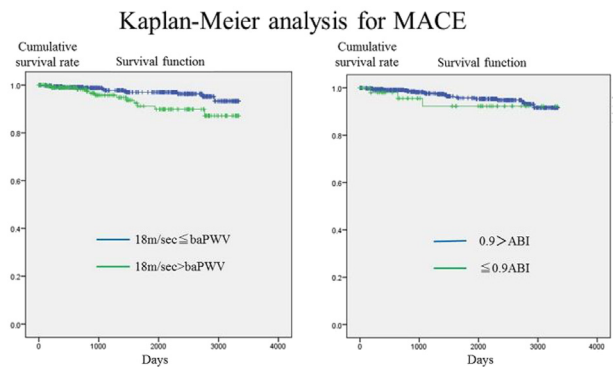


P23

THE COMPARISON OF PROGNOSTIC VALUE AMONG ANKLE BRACHIAL PRESSURE INDEX, ARTERIAL STIFFNESS AND PRESSURE WAVE REFLECTION IN SUBJECTS WITH CORONARY ARTERY DISEASE

Kazutaka Kimura
Tokyo Medical University Obaraki Medical Center, Ibaraki, Japan

Objectives: The present retrospective study was conducted to compare the prognostic value among ankle brachial pressure index (ABI), brachial-ankle pulse wave velocity (baPWV,) and radial augmentation index (rAI) in patients with coronary artery disease (CAD).
Methods: ABI, baPWV and rAI were measured in consecutive patients admitted for the management of CAD into our medical university hospital (n = 821, 677 males and 144 females; age 65.4 ± 10.5 years old), and they were followed at the outpatient department. During the follow-up period, events were defined as in-stent restenosis, new lesion of coronary artery sclerosis and MACE (i.e., acute coronary syndrome, cerebral infarction, cerebral bleeding and cardiac death).
Results: Among the study period (4.2 ± 3.0 years), the event of in stent restenosis (n = 99), new lesion of coronary artery sclerosis (n = 77) and MACE (n = 18) were observed respectively. In cox regression analysis after adjustment of age and gender, baPWV > 18m/sec, but not ABI18 m/sec) had significantly higher incidence of MACE (P = 0.021)(Figure). Both baPWV >18 m/sec (odds 1.61: 95% CI: 1.01 — 2.56, p = 0.044) and ABI



P24

BRACHIAL AND CENTRAL SYSTOLIC BLOOD PRESSURES FROM TWO OSCILLOMETRIC DEVICES (SPHYGMOCOR AND MOBIL-O-GRAPH) OVERESTIMATE HIGH FIDELITY INTRA-ARTERIAL MEASUREMENTS IN CHILDREN AND ADOLESCENTS: RESULTS OF THE KIDCOREBP STUDY

Jonathan Mynard [1,2,3], Greta Goldsmith [4], Lucas Eastaugh [4,5], Geoff Lane [6], Gabriella Springall [7], Alberto Avolio [8], Joe Smolich [9], Michael Cheung [2,6]
[1]*Murdoch Children's Research Institute, Parkville, VIC, Australia*
[2]*University of Melbourne, Parkville, VIC, Australia*
[3]*Royal Children's Hospital, Parkville, VIC, Australia*
[4]*Murdoch Childrens Research Institute, Parkville, VIC, Australia*
[5]*Royal Children's Hospital, Parkville, VIC, Australia*
[6]*Royal Children's Hospital, Parville, VIC, Australia*
[7]*Murdoch Childrens Research Institute, Parville, VIC, Australia*
[8]*Macquarie University, Sydney, NSW, Australia*
[9]*University of Melbourne, Parville, VIC, Australia*

Objective: This study investigated the accuracy of two oscillometric devices for measuring brachial and central blood pressures (BP) in children and adolescents, using high fidelity intra-arterial measurements as a gold-standard reference.
Methods: 57 children and adolescents aged 9.5 ± 4.6 years (mean ± SD, range 3 to 17, 74% <13 years) without aortic obstruction were recruited. A catheter was inserted into the ascending aorta via the femoral artery during a clinically-indicated procedure. Aortic BP was measured with a Verrata wire (Philips Volcano), along with brachial BP via two oscillometric devices: SphygmoCor XCEL (AtCor Medical, N = 51) and/or Mobil-o-Graph (MoG, IEMGmbH, N = 40). Intra-arterial brachial systolic BP was derived by calibrating the brachial pulse waveform (measured via tonometry after wire