



Artery Research

ISSN (Online): 1876-4401

ISSN (Print): 1872-9312

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

P147: ASSOCIATIONS BETWEEN RESERVOIR PRESSURE PARAMETERS AND KIDNEY FUNCTION ARE DEPENDENT ON THE ARTERIAL MEASUREMENT SITE

Matthew Armstrong, Dean Picone, Martin Schultz, James Sharman, Nathan Dwyer, Philip Roberts-Thomson, Andrew Black

To cite this article: Matthew Armstrong, Dean Picone, Martin Schultz, James Sharman, Nathan Dwyer, Philip Roberts-Thomson, Andrew Black (2018) P147: ASSOCIATIONS BETWEEN RESERVOIR PRESSURE PARAMETERS AND KIDNEY FUNCTION ARE DEPENDENT ON THE ARTERIAL MEASUREMENT SITE, Artery Research 24:C, 122–122, DOI: <https://doi.org/10.1016/j.artres.2018.10.200>

To link to this article: <https://doi.org/10.1016/j.artres.2018.10.200>

Published online: 7 December 2019

(rcfPWV = -0.163, r_{mAP} = -0.171). To clarify the relation between LVDD and arterial stiffness the conditional inference trees analysis was used. Only cfpPWV, mAP, heart rate and BMI were significant for presence of LVDD.

Conclusion: Carotid-to-femoral PWV, the biomarker of vascular damage, is significant determinant of LV diastolic dysfunction in MetS patients. Arterial stiffness is a possible causal link to development of LV diastolic dysfunction.

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P146

ANALYSIS OF RENAL ARTERY REVASCLARIZATION IN A TERTIARY CARE CENTRE

Pedro Marques¹, Flores Luís², André Carvalho³, Joel Sousa⁴,
Patricia Lourenço¹, Jorge Almeida²

¹Internal Medicine Department - Centro Hospitalar de S. João, Porto, Portugal

²Internal Medicine Department - Centro Hospitalar S. João, Porto, Portugal

³Radiology Department - Centro Hospitalar S. João, Porto, Portugal

⁴Vascular Surgery Department - Centro Hospitalar de S. João, Porto, Portugal

Renovascular hypertension is an uncommon cause of secondary hypertension. Percutaneous angioplasty is considered in selected patients. Retrospective study of patients undergoing renal artery revascularization, in a tertiary centre, in 2004–2017. Demographic, biometrical, radiological and clinical data were gathered. Sixty-one procedures were performed in 50 patients (42 adults). Most had Atherosclerotic Renal Artery Stenosis (ARAS) (n = 28, 56%), followed by Fibromuscular Dysplasia (FMD) (n = 14, 28%); 8 (16%) presented rare aetiologies. Patients were predominantly female (72%) irrespectively of the aetiology. Compared to FMD, patients with ARAS were older (63 ± 11 vs 35 ± 21 years, $p < 0.001$), and more often had dyslipidaemia (89.3% vs 42.9%, $p = 0.002$) and diabetes mellitus (39.3% vs 7.1%, $p = 0.04$). Most ARAS patients had stent placement (96.4%). Resistant hypertension (53.6%) and deteriorating renal function (32.1%) were the main causes for intervention. Concomitant peripheral artery disease and carotid atherosclerosis were reported in 39.3% and 46.4%, respectively. FMD was predominantly treated with balloon angioplasty (71.4%). Renovascular disease was multifocal in 71.1%. Supra-aortic and other abdominal aortic branches involvement was reported in 14.3% and 21.4%, respectively. Nine early complications (0.0% in ARAS, 25.0% FMD and 33.0% other aetiologies, $p = 0.008$) and 14 late complications (10.0% in ARAS, 31.3% FMD and 40.0% other aetiologies, $p = 0.05$) were reported, mainly residual stenosis and restenosis. Cure/improvement of hypertension occurred in 59.2% patients revascularized (66.7% in ARAS, 42.9% FMD and 62.5% other aetiologies, $p = 0.33$).

Our cohort was predominantly female. ARAS patients were older and had higher cardiovascular risk burden. There was a trend to less success in hypertension control improvement in FMD patients.

P147

ASSOCIATIONS BETWEEN RESERVOIR PRESSURE PARAMETERS AND KIDNEY FUNCTION ARE DEPENDENT ON THE ARTERIAL MEASUREMENT SITE

Matthew Armstrong¹, Dean Picone¹, Martin Schultz¹, James Sharman¹,
Nathan Dwyer², Philip Roberts-Thomson², Andrew Black²

¹Menzies Institute for Medical Research, University of Tasmania, Australia

²Royal Hobart Hospital, Australia

Introduction: Reservoir pressure parameters derived from pressure waveforms captured at various arterial sites predict adverse kidney function independently of conventional cuff blood pressure (BP). However, there has never been an analysis directly comparing if associations with kidney function may differ depending on arterial site of measurement, which was the aim of this study.

Methods: Intra-arterial BP waveforms were measured via fluid filled catheter at the ascending aorta, brachial and radial arteries in 172 people undergoing coronary angiography (aged 60 ± 13 years, 67% male). Customised Matlab software was used to derive reservoir pressure and associated parameters of

excess pressure, diastolic and systolic rate constants at each arterial site. Kidney function was determined by estimated glomerular filtration rate (eGFR). **Results:** Reservoir and excess pressure derived from BP waveforms measured at the aorta were associated with eGFR ($r = -0.26$, and $r = -0.24$, $p < 0.01$, respectively), but not from brachial or radial BP waveforms ($r < -0.14$, $p > 0.07$ all). However, diastolic rate constants from BP waveforms at all arterial sites were significantly associated with eGFR. These associations remained following adjustment for aortic systolic BP, heart rate, sex, and body mass index ($\beta = -0.37$, $p = 0.001$; $\beta = -0.37$, $p = 0.003$; $\beta = -0.25$, $p = 0.02$ respectively). Systolic rate constants were not significantly associated with eGFR at any arterial site.

Conclusion: Associations between reservoir pressure parameters and kidney function are dependent on site of waveform measurement, with exception of the diastolic rate constant, which independently relates to kidney function irrespectively of location. This is of clinical relevance since this variable can be derived from non-invasively recorded peripheral BP waveforms.

P148

ANTHROPOMETRIC MEASURES IN INTERMITTENT CLAUDICATION AND CRITICAL LIMB ISCHEMIA

Joana Ferreira¹, Jacinta Campos²

¹Hospital da Senhora da Oliveira Guimarães, Portugal

²Centro Hospital Gaia/Espinho, Portugal

Purpose/Background/Objective: Peripheral arterial disease (PAD) is a common manifestation of atherosclerosis and obesity is one of its well-established risk factors 1–5. PAD is classified in intermittent claudication (IC) and critical limb ischemia (CLI), according to its severity⁶. Therefore, we hypothesized that anthropometric measures of adiposity will be associated with the severity of PAD.

Methods: We studied prospectively 46 males who underwent aorto-bifemoral bypass from 2013 to 2016: The body mass index (BMI), the waist circumference, the waist-to-hip ratio and the ankle-brachial index (ABI) were determined.

Results: 17 IC: 60.69 ± 7.46 years old; 17.6% with diabetes; 70% with hypertension and 100% were smoker/ex-smoker. 29 CLI: 64.51 ± 8.42 years old; 44.82% with diabetes; 51.72% with hypertension and 86.2% were smoker/ex-smoker. All the anthropometric measures were higher in the IC group (BMI: 25.10 ± 5.01 Kg/m² versus 23.52 ± 3.59 Kg/m², $p = 0.27$; weight: 72.74 ± 9.84 Kg versus 65.92 ± 10.89 Kg $p = 0.043$; waist circumference: 98.65 ± 8.19 cm versus 89.38 ± 15.91 cm $p = 0.017$; waist-to-hip ratio: 1.06 ± 0.06 versus 1.01 ± 0.06 $p = 0.038$). No relationship was found between ABI and the anthropometric measures.

Conclusion: This is the first study of anthropometric measures in IC and CLI patients undergoing aorto-bifemoral bypass. Adipose tissue was not directly determined in this study, but the measurements used have been shown to correlate well with adiposity. We found an inverse relationship between body fat content and the severity of PAD. Patients with CLI had a lower weight, waist circumference and waist-to-hip ratio, and these differences were statistically significant. Obesity is a risk factor for atherosclerosis, but as PAD progresses to CLI, there is an increase in tissue hypoxia, which causes an inflammatory environment promoting proteolysis and lipolysis.

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