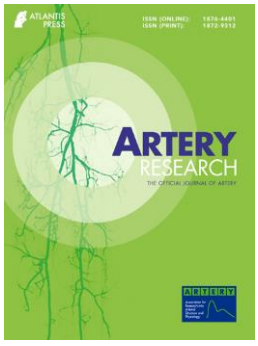

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P159: CORRELATION BETWEEN INFLAMMATORY STATE AND ARTERIAL STIFFNESS

Daniele Brustolim, Lucelia Magalhaes, Diorlene Silva, Rodrigo Sant'Ana de Lima, Vinicius Louzada Castro, Daniel Malta Ribeiro, Caroline Rodrigues Fidelman, Natalia Damasceno, Larissa Vasconcelos, Caroline Ventura, Vascor Group

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Stavroula Pantou, Christos Georgakopoulos, Dimitrios Tousoulis
Hypertension and Cardiometabolic Syndrome Unit, 1st Department of Cardiology, Medical School, National and Kapodistrian University of Athens, Hippokration Hospital, Athens, Greece

Purpose/Background/Objectives: Aortic calcifications and inflammation are independent predictors of adverse cardiovascular events. We sought to investigate the association of aortic calcifications and inflammation with in-hospital morbidity and mortality of patients with acute coronary syndrome (ACS).
Methods: Two hundred patients (mean age 66 ± 15 years, 150 males) admitted to our Hospital with ACS from 2016-2017 were included in the study. The extent of aortic arch calcification (AAC) on a postero-anterior plain chest X-ray was divided into four grades (0 to 3). Grades 0 to 1 and grades 2 to 3 were categorized as lower and higher AAC grade respectively. High-sensitivity C-reactive protein (hsCRP) was also assessed. In-hospital complications that included reinfarction, arrhythmias, heart failure, stroke, mechanical complications, renal failure, surgery and death were assessed in all patients.
Results: The majority of patients (n = 132, 66%) presented with non-ST elevation ACS, whereas 68 patients as ST-elevation myocardial infarction (STEMI) (n = 68, 34%). Seventy-seven (38.5%) patients presented with one or more in-hospital complications (6 of them died). Higher AAC grade was visible in 44 patients (22%). Patients with higher AAC had increased risk (Odds ratio [OR] = 2.29, 95% Confidence intervals [CI] 1.03 to 5.12, p = 0.043) for in hospital complications after adjusting for age, gender, STEMI/NSTE-ACS diagnosis (OR = 4.10, 95% CI 2.08 to 8.05 for STEMI diagnosis, p < 0.001) and hsCRP (OR = 1.80, 95% CI 1.10 to 2.93, p = 0.02).
Conclusions: Our study shows that simple tools can be used to assess the in-hospital risk of ACS patients. It also highlights the prognostic role of arterial stiffness and low-grade inflammation in ACS.

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ARTERIAL STIFFNESS IN THE VERY OLD: THE AGA@4LIFE RESEARCH PROJECT

Telmo Pereira
Polytechnic Institute, Coimbra Health School, Portugal

Objective: To study the determinants of Arterial Stiffness (AS) in the elderly.
Design and method: Cross-sectional, observational study of elderly participants. Blood Pressure (BP) and arterial function parameters were measured with a validated device. Clinical and demographic information was gathered, as well as the estimation of global cardiovascular risk, health related quality of life, dietary profile and cognition. Cholesterol and glycaemia were measured.
Results: 54 Participants recruited for the project, with a mean age of 73.0 ± 6.0 years (range: 65—94 years). Central BP was 119.4 ± 16.2 mmHg and 38.3 ± 11.6 mmHg, respectively for aortic systolic and pulse pressures. Mean pulse wave velocity (PWV) was 10.6 ± 1.36 m/s and the augmentation index was 27.0 ± 17.6%. Significant differences were depicted as a function of gender, with males presenting higher BP and PWV. The proportion of participants with increased PWV, according to the available reference values, was 31.6%. Participants with increased PWV had higher brachial and central BP, higher BMI and higher abdominal fat. Functionality was worst in high PWV participants, as well as cognitive function. Multivariate linear regression indicated age (β = 0.172; CI: 0.158;0.185; p < 0.001), and aortic systolic BP (β = 0.033; CI: 0.028;0.038; p < 0.001) as independent determinants of PWV. Also Hypertension (OR = 15.83; IC:8.16—30.7) and Diabetes (OR=2.34;IC: 0.99-5.50) were independently associated with AS.
Conclusions: Accelerated AS is a common finding in the elderly and is highly associated with hypertension and diabetes. A strong association of AS with central BP and reflected waves is also of notice in this particular population.

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CORRELATION BETWEEN INFLAMMATORY STATE AND ARTERIAL STIFFNESS

Daniele Brustolim [1], Lucelia Magalhaes [2], Diorlene Silva [2], Rodrigo Sant'Ana de Lima [2], Vinicius Louzada Castro [3], Daniel Malta Ribeiro [4], Caroline Rodrigues Fidelman [4], Natalia Damasceno [4], Larissa Vasconcelos [4], Caroline Ventura [2], Vascor Group [2]
[1]*FTC medicina, Brazil*
[2]*Medical School, University Center of Science andTecnology (FTC), Salvador, Brazil*
[3]*Federal Univerty of Bahia (UFBA), Salvador, Brazil*
[4]*School of Medicine and Health Bahiana, Salvador, Brazil*

Pulse wave velocity (PWV) is gold standard for assessing arterial stiffness. Studies have shown that people with metabolic syndrome have insulin resistance and that after the onset of diabetes, cardiovascular risk is intensely increased, high-sensitive C-reactive protein (hsCRP) (1). Relate influence of changes in pulse wave velocity in the severity of the inflammatory state (2).
Methods: A population-based cross-sectional study representative of a neighborhood of Salvador-BA, Brazil. The overall sample is randomized in adults from the assigned area, from December 2016 to May 2018 comprise 64 people. PWV was the measuring velocity between the carotid and right femoral wave. The flattening tonometer SphygmoCor® apparatus (XCEL, AtCor Medical, Australia). Blood samples were collected to biochemistry analysis, ADVIA1800® (SiemensHealthcare Japan/Canada). The committee for research FTC protocol (No1827621). Spearman's linear correlation coefficient between the laboratory tests and adjusted PWV were stratified according to the increased risk level of adjusted PWV. STATA v.12 for data analysis. The level of statistical significance was set at 5%.
Results: Table 1 (image 1), predominance of women (72.3%), (n = 64). When compared to the group with normal pulse wave velocity, there was an increase in the parameters of the laboratory tests in the group with an increased risk of arterial stiffness (adjusted PWV ≥ 10), the correlations in this group and the PWV were positive and weak, except for the glycemia was negative, but they were not statistically significant. Already in the group with normal PWV, the correlations were positive and weak, only triglycerides presented.
Conclusion: New molecular markers is necessary for correlate low intensity inflammation and arterial stiffness.

Table 1. Percentage of altered parameters in exams, Pearson correlation coefficient between examinations and adjusted PWV, mean and standard deviation and respective confidence intervals of the exams (n = 64).

Laboratory tests	Changed Parameters n (%)	(r; p-value)	Mean ± standard deviation	IC95%
	Pulse wave velocity set ≥ 10 (n=17)			
Homa	3 (17,7)	(r=0,0479;0,8553)	3,0 ± 0,52	1,9 – 4,1
hs-CRP	6 (35,3)	(r=0,2611;0,3115)	0,4 ± 0,1	0,2 – 0,6
Triglycerides	2 (11,8)	(r=0,1272;0,6225)	149,2 ± 32,7	79,9 – 218,4
Cholesterol	6 (35,3)	(r=-0,0663;0,800)	218,5 ± 12,1	192,9 – 244,1
HDL	14 (82,4)	(r=0,3434;0,1772)	52,3 ± 2,6	46,8 – 57,8
LDL	7 (46,7)	(r=0,1243;0,6589)	148,6 ± 10,5	126,2 – 171,0
Insulin	1 (5,9)	(r=0,0657;0,8022)	11,2 ± 1,8	7,2 – 15,1
Blood glucose	8 (50,0)	(r=-0,0415;0,8787	112,9 ± 8,9	94,0 – 131,8
	Pulse wave velocity set < 10 (n=47)			
Homa	7 (14,9)	(r=0,1253;0,4012)	2,6±0,3	2,0 - 3,3
hs-CRP	10 (21,3)	(r=0,1311;0,3799)	0,3±0,1	0,2 - 0,5
Triglycerides	5 (10,6)	**(r=0,3144;0,0314)**	110,5±9,9	90,6 - 130,4
Cholesterol	8 (17,0)	(r=0,2766;0,0599)	199,1±5,9	187,2 - 211,0
HDL	40 (85,1)	(r=0,1559;0,2952)	52,8±2,2	48,5 - 57,2
LDL	10 (21,3)	(r=0,1478;0,3216)	125,7±5,1	115,5 - 135,9
Insulin	3 (6,4)	(r=0,0528;0,7245)	10,4±1,2	8,1 - 12,7
Blood glucose	15 (31,9)	(r=0,2024;0,1725)	99,3±3,6	92,0 - 06,7

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ASSESSMENT OF CAROTID PULSE WAVE VELOCITY (CARPWV) IN PATIENTS WITH ANKYLOSING SPONDYLITIS

Guillermo Alanis-Sánchez [1], Carlos Ramos-Becerra [2], David Cardona-Müller [3], Patricia Quezada-Fernández [3], Sara Pascoe-González [3], César Murguia-Soto [3], Ernesto Cardona-Muñoz [3]
[1]*West Lab ICORD, University of British Columbia, Canada*
[2]*University of Guadalajara, Department of Physiology, Arterial Stiffness, Canada*