P1.09: RESULTS OF THE TWO METHODS OF AORTIC STIFFNESS ESTIMATION IN YOUNG AND MIDDLE AGED PATIENTS WITH CORONARY ARTERY DISEASE

M.V. Andreevskaya, Machmudova KhA, N.M. Moiseeva, S.G. Kozlov, T.V. Balakhonova, M.A. Saidova, A.N. Rogoza


To link to this article: https://doi.org/10.1016/j.artres.2009.10.012

Published online: 14 December 2019
P1.09
RESULTS OF THE TWO METHODS OF AORTIC STIFFNESS ESTIMATION IN YOUNG AND MIDDLE AGED PATIENTS WITH CORONARY ARTERY DISEASE
M. V. Andreevskaya, Machmudova Kh., N. M. Moiseeva, S. G. Kozlov, T. V. Balakhnova, M. A. Saidova, A. N. Rogoza
Cardiology Research Complex, Moscow, Russian Federation

Aim: The assessment of aortic stiffness in young and middle aged men with coronary artery disease (CAD).

Materials and methods: This study was carried out in 49 CAD patients aged 43.5 ± 4.8 years with coronary artery stenosis diagnosed by angiography and 29 healthy volunteers (the control group) aged 43.1 ± 5.9 years. The patients with arterial hypertension, diabetes mellitus, and hypercholesterolemia were not included in this study. The determination of aortic pulse wave velocity (PWV) was carried out by aorta ultrasound duplex scanning and by “Arteriograph” (TensioMed, Hungary).

Results: Aortic PWV in the control group was 4.4-7.8 (average 5.8 ± 0.9 m/s), median 5.6 m/s, the upper quartile 6.5 m/s, which was used as the upper normal level. Aortic PWV in CAD patients was 4.6-10 (average 6.8 ± 1.3 m/s, p < 0.001), median 6.9 m/s. Aortic PWV was higher than 6.5 m/s in 53% CAD patients and in 24% from control group (p = 0.02). PWV in CAD patients with 1,2 and 3 coronary artery damage was respectively 6.0 ± 1.1, 6.7 ± 1.1 and 7.7 ± 1.2 m/s. According to the measurement by “Arteriograph” PWV in CAD patients was on average 8.8 ± 2.4 m/s, and 8.1 ± 2.2 m/s (p = 0.21) in control group. Increased PWV was detected in 33% CAD patients and in 21% in the control group (p = 0.43). The significant PWV differences in CAD patients with the 1,2 and 3 coronary artery damage were not observed.

Conclusion: aortic PWV assessment by ultrasound duplex scanning but not by “Arteriograph” indicated the relation of arterial stiffness with the existence and severity of CAD in young and middle aged men.

P1.10
COMPARATIVE STUDY OF PULSE WAVE VELOCITY BY TWO DIFFERENT DEVICES
A. Vicente Casanova, F. Martinez Garcia, E. Solaz Moreno, O. Calaforra Juan, M. Bori Gines, J. Redon i Mas
Hospital Clinico Universitario, Department of Internal Medicine, Valencia, Spain

Background: According to the 2007 European Society of Hypertension guidelines, measurement of arterial stiffness (AS) is recommended in patients with arterial hypertension (HT). The carotid-femoral pulse wave velocity (PWV) appears to be the “gold standard” for evaluation on vascular stiffness. The aim of this study was to assess the concordance of PWV measured using Compior and Sphygmocor devices.

Material and methods: PWV was measured on a single visit, using both devices in a group of 67 patients, 38 females (57%), 54 (80%) were hypertensives under treatment; mean age 59,9 ± 10,8). Aortic PWV in CAD patients was 4.6-10 (average 6.8 ± 1.3 m/s, p < 0.001), median 6.9 m/s. Aortic PWV was higher than 6.5 m/s in 53% CAD patients and in 24% from control group (p = 0.02). PWV in CAD patients with 1,2 and 3 coronary artery damage was respectively 6.0 ± 1.1, 6.7 ± 1.1 and 7.7 ± 1.2 m/s. According to the measurement by “Arteriograph” PWV in CAD patients was on average 8.8 ± 2.4 m/s, and 8.1 ± 2.2 m/s (p = 0.21) in control group.

Results: PWV measured using Compior (11, 2 ± 2, 2 m/s) was significantly higher than that obtained using Sphygmocor (9, 5 ± 2, 4 m/s). The correlation coefficient was higher for women (r = 0.73). The correlation coefficient was higher for women (r = 0.73). The correlation coefficient was higher for women (r = 0.73). The correlation coefficient was higher for women (r = 0.73). The correlation coefficient was higher for women (r = 0.73). The correlation coefficient was higher for women (r = 0.73). The correlation coefficient was higher for women (r = 0.73).

Conclusion: PWV assessment by ultrasound duplex scanning but not by “Arteriograph” indicated the relation of arterial stiffness with the existence and severity of CAD in young and middle aged men.

P1.11
CAROTID STIFFNESS AND BAROREFLEX SENSITIVITY: THE EPP3 STUDY
A. Boudard 1, D. Laude 2, J. P. Empana 1, B. Pannier 3, K. T. Ong 1, F. Thomas 3, J. Perronc 1, J. Jouven 5, S. Laurent 5, P. Bouthoury 1
1INSERM U970, Paris, France
2INSERM U872, Paris, France
3IPC, Paris, France

Arterial baroreflex sensitivity (BS) is dependent on distension rate of baroreceptors, itself dependent on arterial stiffness. Differences in BS between younger and older subjects, and normotensive and hypertensive patients may be explained by differences in arterial stiffness. The objective was to demonstrate that increased carotid stiffness is a determinant of reduced baroreflex sensitivity.

Methods: 312 subjects were randomly selected from the EPP3 study (10000), a general population based cohort. We obtained intima-media thickness, internal-diameter and distensibility of the common carotid artery thanks to the Artlab® echotracking device. Cross spectral analysis between distension rate and RR interval on 5 min recordings was used for BS, estimated through the gain in the low frequency range (LF).

Conclusions: This study demonstrates that an improvement in arterial stiffness may be obtained after six months of ordinary therapy and clearly identifies patients who have a more favorable prognosis.

Abstracts