P1.12: PROGNOSTIC ROLE OF REVERSIBLE ARTERIAL STIFFNESS IN MEN WITH CORONARY ARTERY DISEASE


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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 to 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 exposed.

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

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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 changes in these patients. Pulse wave velocity (PWV) has been incorporated to other devices used for assessment of Augmentation index (AI). The aim of this study was to assess the concordance of PWV measured using Compilor 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 treated with antihypertensive drugs. Baseline characteristics of the study population were: age 54.3 ± 10.1 years; BMI 27.8 ± 4.2 kg/m2; SBP 134 ± 16.6 mmHg; DBP 79 ± 12 mmHg; SBP a 124.3 ± 16.6 mmHg; DBP a 81.2 ± 11.7 mmHg.

Results: PWV measured using Compilor (11, 2 ± 2, 2 m/s) was significantly higher than that obtained using Sphygmocor (9, 5 ± 2, 4 m/s). The correlation of the PWV assessed with the Compilor with the values obtained using Sphygmocor was r = 0.73. The correlation coefficient was higher for women (r = 0.80) as compared to men (r = 0.59). The Bland-Altman plot indicated that the discrepancies between the two methods depend on the V0P values. The higher the value, the higher the discrepancies.

Conclusions: If the gold standard to measure the PWV is the Compilor device, assessment of PWV using other devices needs to be carefully evaluated.

P1.11 CAROTID STIFFNESS AND BAROREFLEX SENSITIVITY: THE EPP3 STUDY

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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).

Abstracts