



## P73 The Relationship Between Different Measurements of Arterial Stiffness

Eszter Szabó\*, Krisztina Gáspár, Ildikó Szabó, Viktória Kovács, Zsuzsanna Pál, Gábor Simonyi, Endre Kolossváry, Katalin Farkas

Szent Imre Teaching Hospital, Budapest, Hungary

### ABSTRACT

**Background:** Arterial stiffness is the characteristic of early vascular damage that can be measured by several methods. Sphygmocor determines the carotid-femoral pulse wave velocity (PWV). Cardio-ankle vascular index (CAVI) also measures PWV between heart and ankle, independently of blood pressure. According to results of several studies using these methods is a well-recognized predictor of adverse cardiovascular outcomes.

**Objectives:** We compared these different methods of measuring early vascular damage in asymptomatic population with increased cardiovascular risk.

**Methods:** Database contained 40–95 years-old patients without cardiovascular diseases. Anamnestic and clinical data were collected, arterial stiffness was measured by Sphygmocor and CAVI. Atrial fibrillation, carotid atherosclerosis, and peripheral arterial disease were excluded.

**Results:** We included 100 patients (male/female–19/81; mean age–60.3 ± 10.7), 40% of patients had diabetes, 89% were obese, 70% had metabolic syndrome, 83% had hypertension and 63% had dyslipidemia. 29% of patients had abnormal (>10 m/s) PWV. CAVI above the reference value was detected 19% on the left and 23% on the right side of patients. Results of two different methods correlated significantly ( $p < 0.05$ , Pearson correlation). However, the coefficient of determination was low, 8.5%. In half of the abnormal values, both results were above the reference values.

**Conclusion:** Because of a few patients numbers, we can not draw far-reaching conclusions. However, we found more than 20% of asymptomatic patients with abnormal arterial stiffness. Relationship between two methods of arterial stiffness measurements was weak, which draws attention that these methods are not interchangeable. Role of these two methods in cardiovascular prognosis should be evaluated separately.

© 2019 Association for Research into Arterial Structure and Physiology. Publishing services by Atlantis Press International B.V. This is an open access article distributed under the CC BY-NC 4.0 license (<http://creativecommons.org/licenses/by-nc/4.0/>).