

## **Prognostic significance of the brachial-ankle PWV; Latest evidence**

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Arterial stiffness measure has received great interest as a marker of vascular damage. Carotid-femoral pulse wave velocity (PWV) is the 'gold standard' of arterial stiffness but its use in daily practice is very limited. The brachial-ankle PWV (baPWV) is a new measure for arterial stiffness but its clinical value is not fully established.

So we conducted a multicenter study to directly compare clinical significance of the cfPWV and baPWV. In 2287 patients, both cfPWV and baPWV were similarly well correlated with age, blood pressure and Framingham risk score. The area under the curve to predict the presence of stroke or coronary artery disease was comparable between the two measures.

In the J-TOPP study, we examined if the baPWV could predict microalbuminuric state in hypertensive patients. In 321, non-diabetic hypertensive patients, the higher baPWV was associated with significantly higher risk of microalbuminuria 2 years after conventional antihypertensive treatment. The 400 cm/sec increase in the baPWV was associated with a 62 % increased risk for microalbuminuria.

Finally, a recent prospective cohort study conducted in Iwate prefecture, northern Japan, has further supported the clinical usefulness of the

baPWV. The baPWV, central blood pressure (SphyMoCor) and brachial BP were measured in 1057 inhabitants of the Higashiyama town. During mean follow-up of 6 years, 40 death including 23 cardiovascular death occurred. The baPWV was best predictor for total death among the three measures.

Recent evidence has clearly shown that baPWV is a practical, valuable measure for arterial stiffness in the management of cardiovascular diseases.