

## **Assessment of arterial stiffness using the cardio-ankle vascular index**

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With the aging of society and the adoption of Westernized lifestyles, a substantial number of patients are developing atherosclerosis that can, in turn, lead to cardiovascular events. Previous studies aimed at predicting cardiovascular events have focused on identifying biomarkers: A simple and noninvasive indicator for monitoring vascular lesions would be a powerful tool for improving lifestyle. Among the biomarkers reported to date, arterial stiffness is associated with atherosclerotic risk factors and is regarded as a surrogate marker for the development of cardiovascular disease. Although measurement of pulse wave velocity is a widely accepted, noninvasive approach for the assessment of arterial stiffness, its accuracy is affected by changes in blood pressure. The cardio-ankle vascular index (CAVI) is an index of the overall stiffness of the artery from the origin of the aorta to the ankle and is theoretically independent from blood pressure at the time of measurement. CAVI increases linearly with age and is elevated even in mild atherosclerotic disease. It can identify differences in the degree of lesions among patients with atherosclerotic disease. Emerging evidence showed that patients with higher CAVI values show a poor prognosis compared with those with lower CAVI values. Furthermore, CAVI can be lowered by controlling diabetes mellitus, hypertension and other risk factors. The primary aims of assessing arterial stiffness using CAVI are to assist in the early detection of arteriosclerosis, allowing timely treatment and lifestyle modification, and to quantitatively evaluate the progression of disease and the effectiveness of treatment. In this session, I will review clinical evidences of CAVI and discuss about the future of assessing arterial stiffness.