

論 文 要 旨

Insufficient blood pressure control is independently
associated with increased arterial stiffness

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Hypertension is a risk factor for atherosclerosis. Achieving the therapeutic target value of blood pressure (BP) prevents the onset of cardiovascular events; however, it is not clear how antihypertensive drug use and BP control status relate to arterial stiffness. The purpose of this study is to investigate the relationship between BP control status with or without antihypertensive drugs and arterial stiffness. Nine hundred eighty individuals (mean age: 68 ± 11 years) who participated in a community-based cohort study were enrolled. Arterial stiffness was evaluated using the cardio-ankle vascular index (CAVI). Higher BP was defined as a systolic BP >140 mmHg or diastolic BP >90 mmHg. Participants were divided into four groups: normal, non higher BP without antihypertensive drugs ($n=421$); untreated, higher BP without antihypertensive drugs ($n=174$); good control, non higher BP with antihypertensive drugs ($n=209$); and poor control, higher BP with antihypertensive drugs ($n=176$). In multivariable logistic analysis adjusted for age, sex, dyslipidemia and diabetes mellitus medication use, obesity, smoking, alcohol drinking, and heart rate at the CAVI measurement for a high CAVI—using a borderline cutoff value of 8.0—the other three groups were significantly associated with a high CAVI when compared with the normal group. By contrast, multivariable logistic analysis of a high CAVI using an abnormal cutoff value of 9.0 demonstrated that the poor control and untreated groups were significantly associated with a high CAVI, whereas the good control group was not. In conclusion, even with antihypertensive drugs, poor BP control is independently associated with a high CAVI.