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CAVI WAS MEASURED TO EVALUATE BLOOD VESSEL FUNCTION OF HYPERTENSION AND TYPE 2 DIABETES MELLITUS

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Objective Cardio-ankle vascular index (CAVI) was measured to evaluate arterial function of hypertensive patients with or without type 2 diabetes mellitus, and to discuss the relationship between cardiovascular risk factors and CAVI.

Method One hundred and seventeen hypertensive patients were divided into two groups: essential hypertension group (EH) including 82 cases, hypertension and type 2 diabetes mellitus group (EH+DM) including 35 cases. Left ventricular mass index (LVMI), creatinine clearance rate (Ccr), albumin-to-creatinine ratio (ACR) were measured. CAVI was evaluated with automatic arterial stiffness measurement system (Beijing Fukuda denshi medical instruments Co. Ltd.). SPSS11.5 statistical software was applied to analyse the data.

Results (1) There were no significant difference in gender, BMI, TC, TG, LDL, HDL, creatinine, systolic blood pressure, diastolic blood pressure and pulse pressure between the two groups except age and FPG ($P < 0.05$); (2) ACR and bilateral CAVI were significantly higher in EH+DM group than in EH group ($p < 0.05$); (3) CAVI right and CAVI left in the same patient were no significant difference. Therefore, CAVI right can be chosen for single factor phase analysis and multivariate linear regression analysis with other indexes. (4) In all patients, CAVI was correlated with age, pulse pressure, systolic blood pressure and Ccr ($p < 0.05$). (5) Age and systolic blood pressure are independently correlated with CAVI, standardisation β values were respectively 0.568 and 0.203.

Conclusions (1) CAVI in EH+DM group are higher than in EH group. High blood glucose can promote the occurrence of arteriosclerosis. (2) ACR is significantly higher in EH+DM group than in EH group, but Ccr and LVMI are no significant difference. Arteriosclerosis is an early subclinical target organ damage, CAVI can be used for evaluation of early arterial damage. (3) Age and systolic blood pressure are related with CAVI independently. Age is the most important factor for the occurrence of arteriosclerosis.