ASSOCIATION OF RISK FACTORS FOR CARDIOVASCULAR DISEASE AND GLOMERULAR FILTRATION RATE: A COMMUNITY-BASED STUDY OF 4925 ADULTS IN BEIJING

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Background Several large prospective studies had reported that a low estimated glomerular filtration rate (eGFR) is independently associated with cardiovascular disease (CVD) events and populations with a low level of GFR show increased exposure to CVD risk factors. The authors investigated the relationship between CVD risk factors and eGFR or CKD in population of Beijing, China.

Methods This is a community-based observational survey in residents from three communities in Beijing for a routine health status checkup. Out of 5100 individuals who were eligible for inclusion, 4925 (96.57%) had complete data and were investigated for level of eGFR and the associated factors of reduced renal function. Two thousand and eighty five individuals with albuminuria values were included in the analyses on the associated factors of CKD. The urine albumin-creatinine ratio (ACR) was used as an expression for albumin excretion. eGFR was evaluated by the Chinese modified Modification of Diet in Renal Disease equation.

Results The proportion of risk factors was higher in those with low levels of eGFR. Risk factors that expose to reduced renal function were slightly different between males and females. The results of multivariate logistic regression analysis showed older age (increased by 10 years; OR=1.22), male gender (OR=1.38), diabetes (OR=1.67), hypertension (OR=1.84) and hypertriglyceridemia (≥1.7 mmol/l; OR=1.68) were independently associated with CKD.

Conclusions In the general population in Beijing, China, multiple CVD risk factors increased with a decline in eGFR. Older age, hypertension, diabetes and elevated TG were independently associated with CKD.