



Risk factors for the development of essential hypertension in a Mongolian population of China: a case-control study

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ABSTRACT. Lifestyle, habits, diet, and genetics are all important factors associated with the prevalence of hypertension. Many association studies have been performed in the Chinese Han population, whereas data explaining the high prevalence of hypertension in the Mongolian population remain scarce. In the present study, we aimed to determine the factors associated with the development of essential hypertension in Mongolians. A total of 194 hypertensive cases and 201 controls from Dongwu County were enrolled in the study. Demographics, anthropometric and blood biochemical parameters, food intake, lifestyle, habits, education, occupation, and family history were recorded for each subject. Genotype and allele frequencies of six single nucleotide polymorphisms (SNPs) of the kallikrein 1 (KLK1) gene were also examined. Mean body

mass index, waistline, hipline, blood sugar, blood urea nitrogen, creatinine, uric acid, total cholesterol, triglyceride, and low-density lipoprotein levels were all significantly higher in the hypertensive group ($P < 0.01$). Hypertensives consumed less milk, vegetables, and fruits, and had higher cigarette, alcohol, and salt intake ($P < 0.05$). There were also less regular physical exercisers and manual workers among the hypertensive group ($P < 0.05$). The mean inheritance rank of the hypertensive group was higher than that of controls ($P < 0.05$). There were no differences in the distribution of genotype and allele frequencies of the six SNPs between the hypertensive and control groups ($P > 0.05$). These results suggest that dietary history and habits have the most important influence on the development of essential hypertension in the Mongolian population.

Key words: Diet; Essential hypertension; Habits; Lifestyle; Mongolians