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PDK2 and *ABCG2* genes polymorphisms are correlated with blood glucose levels and uric acid in Tibetan gout patients

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ABSTRACT. Previous studies have shown that the *PDK2* and *ABCG2* genes play important roles in many aspects of gout development in European populations. However, a detailed genotype-phenotype analysis was not performed. The aim of the present study was to investigate the potential association between variants in these two genes and metabolism-related quantitative phenotypes relevant to gout in a Chinese Tibetan

population. In total, 316 Chinese Tibetan gout patients were recruited from rheumatology outpatient clinics and 6 single nucleotide polymorphisms in *PDK2* and *ABCG2* were genotyped, which were possible etiologic variants as identified in the HapMap Chinese Han Beijing population. A significant difference in blood glucose levels was detected between different genotypes of rs2728109 (P = 0.005) in the *PDK2* gene. We also detected a significant difference in the mean serum uric levels between different genotypes of rs3114018 (P = 0.004) in the *ABCG2* gene. All P values remained significant after Bonferroni's correction for multiple testing. Our data demonstrate potential roles for *PDK2* and *ABCG2* polymorphisms in the metabolic phenotypes of Tibetan gout patients, which may provide new insights into the etiology of gout. Further studies are required to confirm these findings.

Key words: Gout; *PDK2*; *ABCG2*; Single nucleotide polymorphism; Metabolic phenotypes

