Role of *IL-8* rs4073 and rs2227306 polymorphisms in the development of primary gouty arthritis in a Chinese population

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ABSTRACT. In this study, we investigated the role of two single nucleotide polymorphisms in the promoter region of the interleukin-8 gene (*IL-8*; rs4073 and rs2227306) in the susceptibility to primary gouty arthritis in a Chinese population. Three hundred and twelve patients with primary gouty arthritis and 340 healthy controls were recruited from the Yan’an University Affiliated Hospital between January 2014 and March 2015. The *IL-8* rs4073 and rs2227306 polymorphisms were genotyped by polymerase chain reaction combined with restriction fragment length polymorphism. Unconditional multiple-logistic regression analysis revealed that the TT genotype of rs4073 was correlated with primary gouty arthritis risk, compared to the AA genotype [adjusted odds ratio (OR) = 1.65, 95% confidence interval (CI) = 1.08-2.54; P = 0.02]. In addition, the *IL-8* rs4073 T allele was associated with a significant elevated risk of primary gouty arthritis, in comparison to the A allele (OR = 1.34, 95%CI = 1.07-1.67; P = 0.01). However, we observed no significant relationship between the *IL-8*
rs2227306 polymorphism and primary gouty arthritis risk. The results of this study suggest that the *IL-8* rs4073 polymorphism could be a marker for primary gouty arthritis development.

**Key words:** *IL-8*; rs4073; rs2227306; Primary gouty arthritis; Polymorphism