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Analysis of interleukin 19 serum levels and single nucleotide polymorphisms in systemic lupus erythematosus

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ABSTRACT. Systemic lupus erythematosus (SLE) is an autoimmune connective tissue disease that affects multiple organs and diminishes a patients' quality of life. It has been suggested that interleukin 19 (IL-19) is engaged in intercellular signal transduction, which is related to the immune response and the local inflammatory reaction. Single nucleotide polymorphisms (SNPs) have been used to explore the genetic basis underlying the pathogenesis of SLE. In this study, we investigated the potential correlation between the functional *IL19* SNP rs2243188 and SLE. The frequency of allele C in rs2243188 was lower in the SLE population, particularly when the dominant inheritance model was applied. There was also a significant difference in the allele C frequency between the lupus nephritis (LN) and non-LN groups in both the dominant and recessive inheritance models. In addition, we identified significant differences in the serum IL-19 levels between the different classes of SLE. Although this study is still at the preliminary stage, the correlations between the *IL19* SNP and SLE, and between the

IL-19 levels and the different subclasses of SLE provide a reference for further exploration.

Key words: Single nucleotide polymorphism; Lupus nephritis; IL-19; Systemic lupus erythematosus; Hardy-Weinberg equilibrium

