Correlation between IL-3 and IL-13 gene polymorphisms in Chinese patients and rheumatoid arthritis

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ABSTRACT. The aim of this study was to examine the association between polymorphisms in the interleukin-3 and -13 (IL-3 and IL-13) genes and rheumatoid arthritis (RA). In this hospital-based case-control study, we analyzed the IL-3 rs2073506 G/A, IL-3 rs40401 C/T, and IL-13 rs1800925 C/T polymorphisms in 615 RA patients and 839 controls from a Chinese Han population. Genotyping was performed using a custom-by-design 48-Plex single nucleotide polymorphism scan™ kit. Our results indicated that the IL-3 rs2073506 G/A, IL-3 rs40401 C/T, and IL-13 rs1800925 C/T polymorphisms were not associated with RA. However, stratification analyses suggested that the IL-13 rs1800925 CT and CT/CC genotypes increased the risk of RA in patients with erythrocyte sedimentation rate (ESR) <25.00. To sum up, these findings suggest that the IL-13 rs1800925 C/T polymorphism may be associated with increased risk of RA in ESR <25.00 patients. Future studies with
larger sample sizes and inclusion of other ethnic populations must be conducted to confirm the findings of this study.

Key words: IL-3; IL-13; Single nucleotide polymorphism; Rheumatoid arthritis