Association between *IL-1α* rs17561 and *IL-1β* rs1143634 polymorphisms and periodontitis: a meta-analysis

W.T. Yin, Y.P. Pan and L. Lin

Department of Periodontology, School of Stomatology, China Medical University, Shenyang, China

Corresponding author: L. Lin
E-mail: Linli_74k@yahoo.com

Received August 28, 2015
Accepted November 6, 2015
Published February 5, 2016
DOI http://dx.doi.org/10.4238/gmr.15017325

**ABSTRACT.** Genetic variations in human interleukin-1 (*IL-1*) genes are known to be involved in inflammatory disorders. The rs17561 and rs1143634 polymorphisms of *IL-1α* and *IL-1β*, respectively, have been increasingly recognized as important regulators in the development of periodontitis. However, the existence of a specific association remains controversial. Therefore, we performed a meta-analysis to explore the relationship between *IL-1* polymorphism and periodontitis risk. Based on our inclusion criteria, six case-control studies were used, involving a total of 336 periodontitis cases and 366 healthy controls. Our meta-analysis results showed that the T allele of *IL-1α* rs17561 is positively associated with periodontitis susceptibility. In addition, carriers of this allele (TC + TT genotypes) demonstrated increased risk of this disease. The *IL-1β* rs1143634 T allele was also positively connected to periodontitis, with TC + TT genotype carriers being significantly more at risk. These results demonstrate that the *IL-1α* rs17561 and *IL-1β* rs1143634 polymorphisms are associated with periodontitis.

**Key words:** Interleukin-1 gene; Genetic polymorphism; Periodontitis; Meta-analysis