# Effect of polymorphisms in interleukin-18 gene on the susceptibility to coronary artery disease in a Chinese population

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**ABSTRACT.** Coronary artery disease (CAD) has a high mortality rate in several countries. Interleukin (IL)-18 has been previously correlated with atherosclerotic plaque rupture. In this case-control study, the relationship between -607A/C and -372C/G promoter polymorphisms in *IL-18* and risk of CAD development was investigated. A total of 326 CAD patients were consecutively recruited from the First Hospital of Yulin between March 2013 and May 2015. The *IL-18* -607A/C and -372C/G polymorphisms were genotyped by polymerase chain reaction-restriction fragment length polymorphism. Patients with CAD had a higher body mass index, a history of hypertension or diabetes (all $P < 0.001$), cigarette smoking habit ($P = 0.002$); as well as higher plasma total cholesterol, triglyceride, and low-density lipoprotein cholesterol

levels (all $P < 0.001$) and lower high-density lipoprotein cholesterol ($P < 0.001$) levels compared to the control subjects. Unconditional logistic regression analysis revealed significant correlation between the CC genotype of *IL-18* -607A/C and CAD development, compared to the AA genotype [adjusted odds ratio (OR) = 2.42; 95% confidence interval (CI) = 1.52-3.89; $P < 0.001$]. The recessive model showed a significant association between the CC genotype of *IL-18* -607A/C and an increased risk of CAD, compared to the AA+AC genotype (OR = 2.51, 95%CI = 1.65-3.85). However, *IL-18* -372C/G did not contribute to the risk of glioma development in the co-dominant, dominant, and recessive models. Therefore, the *IL-18* -607C/A polymorphism was significantly correlated with the risk of CAD development.

**Key words:** IL-18; -607A/C; -372C/G; Polymorphism; Coronary artery disease