Association between the Rs3087243 polymorphism and risk for diabetes: a meta-analysis

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Received November 19, 2012
Accepted August 24, 2013
Published December 6, 2013
DOI http://dx.doi.org/10.4238/2013.December.6.1

ABSTRACT. The aim of this study was to evaluate the association between the rs3087243 polymorphism of the cytotoxic T-lymphocyte-associated antigen-4 (CTLA-4) gene and the risk of type 1 diabetes mellitus (T1D). A comprehensive meta-analysis of case-control studies was conducted to determine the association between the rs3087243 polymorphism (CT60A/G) and T1D and assess the joint evidence for the abovementioned association, influence of individual studies, and evidence for publication bias. We searched PubMed, Medline, Embase, Cochrane Library, and reference lists of relevant studies up to February 2012 and contacted the authors of these studies via email. For the case-control studies, 1) the rs3087243 polymorphism was significantly associated with T1D [allele (fixed: odds ratio and 95% confidence interval)].
interval (CI) = 1.249 (1.194-1.307), \( P < 0.001 \); random: odds ratio and 95%CI = 1.601 (1.103-2.325), \( P = 0.013 \) [genotype (GG versus GA+AA: odds ratio and 95%CI = 1.249 (1.164-1.341), \( P < 0.001 \)], 2) there was no evidence to show that this association was accounted for in any study, and 3) there was no evidence for publication bias. In conclusion, the rs3087243 polymorphism was significantly associated with T1D.

**Key words:** Diabetes; *CTLA-4* gene; Meta-analysis; SNPs