

عنوان مقاله:

Association between PPARG Pro12Ala polymorphism and diabetic nephropathy risk; an updated meta-analysis of 27 studies

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نویسندگان:

Saikrishna Lakkakula - Department of Zoology, Sri Venkateswara University, Tirupati, India

Punit Gupta - Regional Institute of Kidney diseases and Organ transplantation, DKS Post Graduate Institute and Pt. JNM Medical College, Raipur, India

Henu Kumar Verma - Research Division, Sickle Cell Institute Chhattisgarh, Raipur, India

Bhaskar V.K.S. Lakkakula - Research Division, Sickle Cell Institute Chhattisgarh, Raipur, India

خلاصه مقاله:

Diabetic nephropathy (DN) is one major complication of hyperglycemia in diabetes patients. The relationship between peroxisome proliferator-activated receptors gamma (PPARG) gene rs1801282 (Pro12Ala) polymorphism and the risk of DN has been investigated previously. However, the results were conflicting. In this study, we assessed whether PPARG gene rs1801282 polymorphism is associated with the risk of DN by meta-analysis. We searched in PubMed, Science Direct and Google Scholar databases using a combination of terms of 'Diabetic nephropathy', 'peroxisome proliferator activated receptor gamma', 'PPARG', 'Pro12Ala polymorphism' and 'rs1801282' between January 2001 and July 2017. Twenty-seven original studies involving 5443 cases and 7262 controls were analysed. Studies conducted in several countries in Europe and North America were assigned to the Caucasian ethnic group and countries in South, East and South East Asia were assigned to an Asian ethnic group. Pooled odds ratios (ORs) and 95% confidence intervals (CIs) were calculated. The heterogeneity of the included studies was examined with Cochran Q and I² statistics. Begg's rank correlation test and Egger's linear regression test were used to assess the publication bias. Our meta-analysis indicated that the PPARG Ala12 allele carriers reduced the DN risk in study populations ($P < 0.001$, OR = 0.760, 95% CI = 0.677-0.853). Although there is moderate heterogeneity between studies (Pheterogeneity < 0.007 , $Q = 47.0$, $df = 26$, I-squared = 44.7%), publication bias was not seen. However, subgroup analyses showed that in Asian populations, a significant association was not found between the PPARG Pro12Ala and DN risk ($P = 0.133$, OR = 0.796, 95% CI = 0.591-1.072). The PPARG Pro12Ala polymorphism is a genetic risk factor for DN in Caucasian populations and no conclusion of a causal relationship can be drawn from the available data.

کلمات کلیدی:

PPAR-gamma, Pro12Ala, Diabetic Nephropathy, Meta-analysis, Asians, Caucasians

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