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Effects of fasting glucose levels on the association between CDH13 (rs4783244) and adiponectin among Korean population

Jae Woong Sull
Eulji University, South Korea

Adiponectin is associated with obesity and insulin resistance and several genome-wide association studies of adiponectin levels have identified candidate genes, including the CDH13 gene. The objective of the study was to examine the association of serum adiponectin levels (or hypoadiponectinemia) with SNP rs4783244 in CDH13 gene considering fasting blood glucose levels. This study included 2,005 subjects with hypoadiponectinemia, and this condition is defined as the lowest quartile of adiponectin. The CDH13 gene SNPs were genotyped via TaqMan reaction. The multivariate linear regression models and multiple logistic regression analysis were performed in which the majority of individuals were middle-aged. In this analysis, subjects with the GG genotype had a 2.44-fold (range 1.97–3.03-fold) higher risk of hypoadiponectinemia than subjects with the TG/TT genotype. When analyzed by fasting blood glucose levels, the CDH13 association was much stronger in male subjects with pre-diabetes (odds ratio, 10.96; 95% confidence interval, 4.31–27.88; $P < 0.0001$) and our results suggested that the association between CDH13 and adiponectin can be modified by fasting blood glucose levels.

Biography

Jae Woong Sull has obtained his PhD Degree in Genetic Epidemiology and Master's in Health Science in Epidemiology from Yonsei University in Korea. He is an Assistant Professor at Eulji University and was also trained as a Post-doctoral fellow in Genetic Epidemiology at Johns Hopkins University in USA. He has published over 50 papers in peer-reviewed journals.

sulljw@gmail.com

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