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## Effects of obesity and family history of diabetes on the association of *CETP* gene with HDL cholesterol levels in Korean population

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High-density lipoprotein (HDL) cholesterol levels are associated with decreased risk of coronary artery disease. Several genome-wide association studies (GWAS) for HDL cholesterol levels have implicated cholesterol ester transfer protein (*CETP*) as possibly causal. We tested for the association between single nucleotide polymorphisms (SNPs) in *CETP* gene and HDL cholesterol levels in Korean population. Subjects were selected from the Korean Metabolic Syndrome Research Initiative study in the Bundang-gu area. A total of 2,304 individuals from Bundang-gu were recruited in 2008. Other subjects were selected from the Severance Hospital (N=4,294). SNP rs6499861 in the *CETP* gene was associated with mean HDL cholesterol levels (effect per allele -2.044 mg/dL,  $p=7.23 \times 10^{-7}$ ). Subjects with the CG/GG genotype had a 1.46-fold (range 1.24-1.72-fold) higher risk of having abnormal HDL cholesterol levels (<40 mg/dL) than subjects with the CC genotype. When analyzed by gender, the association of *CETP* was stronger in women than in men. When analyzed by body mass index, the association with *CETP* was much stronger in male subjects with BMI  $\geq 25.69$  (OR=1.55, 95% CI: 1.15-2.07,  $P=0.0037$ ) than in male lean subjects. When analyzed by family history of diabetes, the association with *CETP* was much stronger in male subjects with positive family history of low physical activity (OR=4.82, 95% CI: 1.86-12.5,  $P=0.0012$ ) than in male subjects with negative family history of diabetes. This study clearly demonstrates that genetic variants in *CETP* influence HDL cholesterol levels in Korean adults.

### Biography

Jae Woong Sull is an Associate Professor at Eulji University. He obtained both his PhD (Genetic Epidemiology) and Master of Health Science degrees (Epidemiology) from Yonsei University in Korea. He 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.

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