

## Effects of Obesity and Family History of Diabetes on the Association of Cholesterol Ester Transfer Protein Gene with High-Density Lipoprotein Cholesterol Levels in Korean Population

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**Abstract :** Lipid levels are related to the risk of cardiovascular diseases. Cholesterol ester transfer protein (CETP) gene is one of the candidate genes of cardiovascular diseases. A total of 2,304 persons were chosen from a Hospital (N=4,294) in South Korea. Female subjects with the CG/GG genotype had a 2.03 -fold ( $p=0.0001$ ) higher risk of having abnormal HDL cholesterol levels ( $<40$  mg/dL) than subjects with the CC genotype. Male subjects with the CG/GG genotype had a 1.34 -fold ( $p=0.0019$ ) higher risk than subjects with the CC genotype. 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.

**Keywords :** CETP, diabetes, obesity, polymorphisms

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