Obesity is related to polymorphism in Candidate gene of Lipid metabolism pathway

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Abstract

Obesity is a substantial global public health problem and its development varies worldwide due to genetic and environmental factors. The aim of the present study was to identify whether genetic polymorphisms in three lipid metabolism genes that confer susceptibility to obesity in Jordanian population. The study population comprised three hundred and fifty Jordanian subjects. The genotypes for INSIG-2 (rs7566605), APOC3 (rs2854117), and APOB (rs1042034) genes related to lipid metabolism were selected, and their polymorphisms were analyzed using the PCR-RFLP method. An APOB rs1042034 genotype distribution showed a significant difference between controls and obese group. Furthermore, individuals with AA and GA genotypes were at higher risk of having Obesity (OR=3.6 and 1.8, respectively) than those with wild type (GG) genotype. However, no significant differences in genotypes distribution in between controls and Obesity were detected in the INSIG-2gene (CC and GC) (OR=1.37 and 1.03, respectively) and, APOC3 gene (CC and TC) (OR=1.07 and 1.02, respectively). Subjects with AA/GA of APOB gene at rs1042034 might be at higher risk and closely associated of having Obesity (OR=3.6 and 1.8, respectively) than those with wild type (GG).