

The association of genetic variant of lipoprotein lipase S447X and the susceptibility to hypertension

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Abstract

Hypertension is an important risk factor leading to cardiovascular diseases, such as stroke, myocardial infarction, atherosclerosis and heart failure, etc...

Hyperlipidemia is not only the major risk of ischemic stroke but also associated with the severity of hypertension. Hyperlipidemia is affected by vitamin B6 and lipoprotein lipase activity. In addition, genetic factors also have been associated with hypertension development. This study investigated whether LPL genotype a factor associated with hypertension.

Study subjects consisted of 136 hypertensive patients and 195 non-hypertensive subjects in Nan-tou County. Each participants completed the demographic and lifestyle questionnaire. Blood samples were collected and we used Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP) to determine LPL gene S447X genotype. All statistical analyses were conducted using statistical package SAS for Chi-square test, ANOVA test, and logistic regression.

Results showed that LPL gene of S / X genotype in hypertension patients had significant differences between blood pressure level ($p < 0.0001$). Triglyceride levels and LPL gene of the S / X polymorphisms were significantly different ($p = 0.0090$) between case and control. Logistic regression analysis showed that individuals with the SX or XX genotype had a much lower risk of hypertension than those with SS genotype. **【Odds ratio 0.1, 95% Confidence interval (0.05, 0.19)】**

Individuate with SS genotype of LPL gene are significantly associated with hypertension.