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THE ENPP1 K121Q POLYMORPHISM PROTECTIVE IMPACT AGAINST HYPERTENSION IN IRAQI TYPE 2 DIABETIC PATIENTS

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ABSTRACT

Background

Patients with hypertension having diabetes mellitus or obesity are more likely predisposed to target organ damage. ENPP1is ubiquitously expressed, most importantly in insulin-sensitive tissues such as liver, skeletal muscle and adipose tissue.

Method

A case-control study conducted to find the association between SNP rs1044498 in T2DM with and without hypertension in AL-Najaf Governorate, Iraq. The study included 188 T2DM patients with hypertension randomly selected based on World Health Organization (WHO) guideline AND 148 T2DM patients without hypertension as a control group. DNA was extracted from blood and genotyped by PCR-RFLP by using (AvaII) enzyme. Multinominal logistic regression was applied to compare the proportions of genotypes and alleles. The odds ratio for risk of developing hypertension in T2DM was calculated with and without adjustment for age, sex and BMI.

Results

ENPP1 K121Q gene rs1044498 polymorphism (heterozygous KQ, and homozygous QQ genotype was found to have a protective impact against the development of hypertension in type 2 diabetic patients, after the adjustment for age, sex and BMI.

Conclusions

The SNP of ENPP1 (K121Q) rs10444989 gene have a protective role against the occurrence of hypertension in type 2 diabetic patients in Al-Najaf Governorate,Iraq, andchanges of the serum lipid concentration as well as Rseistin levels may be taken place independent on the types of the investigated genotypes. BMI is seemed to be independent on the genotype of the investigated gene (ENPP1 K121Q rs10444989).

KEYWORDS: Diabetes Mellitus (T2DM), World Health Organization (WHO), Multinomial Logistic Regression, VLDL Cholesterol and TG