

POLYMORPHISMS IN MYH9 ARE ASSOCIATED WITH THE CHRONIC KIDNEY DISEASE IN CHINESE

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Objectives:

To explore the association between polymorphisms in MYH9 and Chronic kidney disease in Chinese

Methods:

Five hundreds and ninth-five Chinese, including 301 patients with chronic kidney disease as the case group and 294 healthy people who are confirmed to be healthy by the physical examination as normal control group, were enrolled the present study.

The SNP in MYH9 gene of rs3752462、rs4821480 site were determined by PCR-restriction fragment length polymorphisms (PCR-RFLP). (Table 1)

By comparing the clinical data of CKD patients, this study will see if there are discrepancies in age, sex, urinary protein in 24 hour, Serum Creatinine, Glomerular filtration rate, systolic and diastolic blood pressure, frequency of different primary diseases and frequency of using different kinds of antihypertensive drugs ,it analyzes the relation between different genotypes and CKD patients in Rs3752462 sites.

SPSS16.0 statistical software is used for data analysis.

Table 1

Graph

Table 2

SNP sites	PCR product (bp)	enzyme	Restriction enzyme cut site
rs3752462	367	Rsal	A、T
rs4821480	440	Dral	A、T

	controls	patients	χ^2	P
rs3752462	294	301	1.288	0.525
T/T	138	153		
T/C	122	120		
C/C	34	28		
rs4821480	294	301	0.179	0.673
T/T	292	298		
T/G	2	3		
G/G	0	0		

Results:

1. rs3752462 and rs4821480 site groups conform to the law of population genetic equilibrium. ($p > 0.05$) (Table 2)

2. Single factor analysis showed for rs3752462 site that systolic blood pressure of CT genotype patients is significantly higher (147.94 ± 27.40) than that of CC (136.43 ± 19.09) ($P < 0.05$). Glomerular filtration rate of CC (32.00 ± 29.98) genotype of Patients Significantly higher than the genotype CT (21.62 ± 23.67) patients, and TT (21.99 ± 24.18) ($P < 0.05$) (Graph)

3. The frequency of using all kinds of Anti-hypertensive drugs for CC genotype patients (7.4%) is below that of TT (43.9%) and CT (48.7%) genotype patients ($P < 0.05$).

4. Logistic regression rs3752462 site CC genotype is a protective factor for the increase in CKD systolic blood pressure. The probability of suffering from high blood pressure for CT genotype patients with CKD is 0.175 times that of CC genotype with CKD, ($95\%CI = 0.071, 0.431$). CC genotype is the independent Protective factors of CKD progression to ESRD. The probability of suffering from ESRD CT genotype patients with CKD is 0.410 times that of CC genotype, ($95\%CI = 0.183, 0.922$).

Conclusions:

References:

Base on a Chinese cohort, we found that CKD patients who carry MYH9 genes and rs3752462 site CC genotype are not prone to suffering from high blood pressure and glomerular filtration rate is higher, CC genotype is the protective factor to CKD. Allele C mutation for T can lead to the increase in systolic blood pressure and even may cause ESRD.

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