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CORRELATION OF THE PREGNANCY-ASSOCIATED PLASMA PROTEIN-A GENE IVS6+95 POLYMORPHISM WITH THE SERUM PAPP-A LEVEL IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Objective To investigate the association between PAPP-A gene IVS6+95 polymorphism and the serum level of PAPP-A in patients with AMI from the Chinese Han population of Sunan region.

Methods Fifty-six patients with AMI (AMI group) and 51 control subjects who were free from coronary artery disease confirmed by coronary angiography (control group) were recruited into the study. The PAPP-A gene IVS6+95 polymorphism was determined by polymerase chain reaction and restriction fragment length polymorphism analysis (PCR-RFLP). The serum level of PAPP-A were determined by enzyme-linked immunosorbent assay (ELISA).

Results As compared with those in the control group, the frequencies of the CC genotype in AMI group was higher (11.8% vs 28.6%, p=0.032) and the frequencies of the CG (41.2% vs 32.1%) and GG (47.1% vs 39.3%) genotype, and C allele (35.3% vs 48.2%) was not different (all p value>0.05). Multivariate logistic regression analysis showed that there was significant correlation of the CC genotype (OR=3.382, 95% CI 2.798 to 3.966, p=0.037) and C allele (OR=2.093, 95% CI 1.753 to 2.443, p=0.030) with the risk of AMI, The serum level of PAPP-A (M/IQR) was significantly higher in AMI group (8.59/148.91 pg/ml) than that in the control group (0.05/14.42 pg/ml) (p<0.001). No significant differences were found in the serum level of PAPP-A among any of the genotypes of the PAPP-A gene IVS6+95 within AMI group and its subgroup (the same gender group and the same age group), and control group, respectively (all p value>0.05), suggesting no association of the PAPP-A gene IVS6+95 polymorphism with the serum level of PAPP-A. Multiple linear regression analysis showed that the serum level of PAPP-A was not associated with CHD-associated factors such as age, gender, smoking, history of diabetes mellitus and hypertension, and dislipidemia in AMI group. Conclusion: In the Chinese Han population of Sunan region, there is the IVS6+95 polymorphism of PAPP-A gene, which may be associated with attack of AMI but not associated with the serum level of PAPP-A; the serum PAPP-A level is significantly increased and not affected by CAD relevant factors in patients with AMI, which suggest that there is an association of the serum level of PAPP-A with unstable plaque and may be an independent risk factor for attack of AMI.

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