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ASSOCIATION OF MMP-9 GENE POLYMORPHISMS WITH ACUTE CORONARY SYNDROME IN THE UYGUR POPULATION

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Methods A case-control study composed of 361 ACS patients and 432 control subjects that underwent coronary angiography were enrolled in the study. Among the ACS patients, 162 had single-vessel disease (44.9%), 145 had two-vessel disease (40.2%) and 54 had three-vessel disease (14.9%).

Results Analysis of two SNPs, the frequency of CT and TT genotypes in patients with ACS was significantly higher than in control group (ACS vs controls; CT+TT: 25.5% vs 15.8%, $p=0.001$). And the -1562 gene allele (C/T) showed significant association with acute coronary syndrome (ACS vs controls; C allele: 85.7% vs 91.5%, T allele: 14.3% vs 8.5%, $p<0.001$). But the frequencies of CT+TT and CC genotypes were not statistically different among ACS patients with one, two and three or more significantly diseased vessels ($p=0.55$). About R279Q polymorphism site, with regard to the association with ACS was not significant ($p>0.05$). The presence of CT or TT genotype, assuming codominant effect of the T allele, was independently associated with increased risk of coronary artery disease when adjustment for age, body mass index, smoking, hypertension and diabetes mellitus (OR 1.737, 95% CI 1.337 to 2.257, $p=0.018$).

Conclusions There findings suggest that MMP-9 -1562C>T polymorphism could be associated with the susceptibility to ACS in China Uygur population. However, this mutation apparently is not related to the severity of coronary arterial stenosis. Another SNP (R279Q) polymorphism of MMP-9 was not significantly associated with the risk of ACS.