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ASSOCIATION OF 5-LIPOXYGENASE ACTIVATING PROTEIN (ALOX5AP) GENE SG13S114T/A POLYMORPHISM WITH THE ELDERLY ACS

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Objective To investigate the possible association between 5-lipoxygenase activating protein (ALOX5AP) gene SG13S114T/A polymorphism and acute coronary syndrome (ACS) in the elderly (age≥60 years).

Methods A case-control study was conducted in 377 aged patients with ACS (male: 242 cases, female: 135 cases, from 60 to 99 (70.24 ± 6.99) year old) (ACS group) and 337 control subjects (male: 167 cases, female: 170 cases, from 60 to 88 (68.72 ± 6.55) year old) who were free from coronary heart disease (control group). The ALOX5AP SG13S114T/A polymorphism was determined by polymerase chain reaction and restriction fragment length polymorphism analysis.

Results (1) Genotype frequencies of ALOX5AP gene SG13S114T/A AA, AT and TT were 13.79%, 50.93% and 35.28% in patients with ACS and 12.76%, 38.58% and 48.66% in control subjects. There was statistical difference of frequencies of AT and TT genotype between ACS group and control group ($p < 0.05$). The T allele frequency was 69.74% in patients with ACS and 61.22% in control subjects and not significantly different between patients with ACS and controls ($p > 0.05$). (2) Subgroup analysis found that as compared with the control group, the AT genotype frequency in male ACS group was significantly higher (40.72% vs 52.48%, $p < 0.05$) and the TT genotype frequency in female ACS group was significantly lower (61.76% vs 37.04%, $p < 0.05$). Subgroup multivariate logistic regression analysis showed AT and TT genotype and T allele with male ACS as well (p were 0.014, 0.005 and 0.020, respectively).

Conclusion The AT and TT genotype and The T allele of ALOX5AP gene SG13S114T/A polymorphism may be associated with the susceptibility to ACS in the elderly, especially the aged male, in the Chinese Han population of Sunan region.