Conclusions Plasma YKL-40 levels were significantly increased in patients with CAD. A promoter polymorphism (−131C>G) in CHI3L1 gene is associated with circulating levels of YKL-40, but not with coronary artery disease in Southern Han Chinese. Future research is needed to confirm the present findings, by replicating this association in independent populations of various ethnic origins, especially in large-scale prospective cohort studies.

GW23-e2439

A PROMOTER POLYMORPHISM (−131C>G) IN THE CHI3L1 GENE IS ASSOCIATED WITH CIRCULATING LEVELS OF YKL-40 BUT NOT WITH CORONARY ARTERY DISEASE IN SOUTHERN HAN CHINESE

doi:10.1136/heartjnl-2012-302920j.33

Chao-Wei Tian, Shi-Ming Liu. *The Second Affiliated Hospital, Guangzhou Medical University*

Objectives Recent studies have shown that YKL-40 is a new biomarker in patients with coronary artery disease (CAD). YKL-40 is a chitinase-like glycoprotein encoded by the chitinase 3-like 1 gene, CHI3L1, that is localised at a highly conserved area on chromosome 1q32.1. The polymorphisms in the promoter of CHI3L1, −131 C>G (rs4950928), was reported to be associated with the inflammatory-mediated disease asthma and a decreased serum level of YKL-40.We recently showed that plasma YKL-40 levels are significantly increased in patients with CAD. In this study, we intended to investigate whether the SNP −131 C>G (rs4950928), which affect the serum level of YKL-40, is associated with CAD.

Methods

Results Significant clinical correlates of YKL-40 plasma levels were sex, age, cigarette smoking, hypertension, hyperlipidaemia and diabetes. Compared with a control group, plasma YKL-40 and hsCRP levels were significantly higher in CAD group (36.46±27.42 ng/ml vs 71.79±104.85 ng/ml, $p<0.01$, and 3.72±20.06 mg/ml vs 20.20 ±37.70 mg/ml, $p<0.01$, respectively). The CHI3L1-131G allele was significantly associated with reduced plasmaYKL-40 levels in a recessive genetic model (OR, 0.484; 95% CI 0.264 to 0.889; $p=0.02$), but not with CAD in Southern Han Chinese in a linear logistic regression model after adjustment for the conventional risk factors for CAD (OR, 0.865; 95% CI 0.285 to 2.62; $p=0.799$). Different LD of CHI3L1 promoter between European and Chinese: the results confirmed perfect LD in the European population with $R^2=1$, but the LD was disturbed in Chinese.