



Correlation between polymorphisms in the visfatin gene and its expression in the serum and coronary artery calcification

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ABSTRACT. We investigated the association between serum visfatin levels and single nucleotide polymorphisms (SNPs; rs61330082, rs2058539) in the visfatin gene and coronary artery calcification (CAC) in patients from Wenzhou, China. CAC patients (N = 206) were divided into two groups: mild CAC (MCAC) and moderate and severe CAC (MSCAC). Volunteers without CAC (N = 70) were included in the control group. The serum visfatin level was analyzed by enzyme-linked immunosorbent assay. SNPs (rs61330082, rs2058539) in the visfatin gene were analyzed by polymerase chain reaction-restriction fragment length polymorphism. Clinical data, serum visfatin levels, and genotype and allele frequencies of rs61330082 and rs2058539 were compared among the three groups. MSCAC patients expressed significantly higher serum visfatin levels (30.58 ± 6.12 ng/mL) than individuals in the MCAC (29.03 ± 1.87 ng/mL) and control (24.45 ± 5.44 ng/mL) groups ($P < 0.05$). The genotype distributions and frequencies of rs61330082 differed significantly among the groups ($P < 0.05$), while those of rs2058539 did not. The serum visfatin level was positively correlated with the body mass index (BMI), high-density lipoprotein

cholesterol (HDL-C), and insulin resistance index (IRI), and negatively correlated with the triglyceride (TG) levels ($P < 0.05$) of patients. Serum visfatin is associated with the development of CAC. The T allele of the rs61330082 SNP in the visfatin gene had a cardioprotective effect on patients with CAC; the SNP at rs2058539 was not significantly associated with CAC. The BMI, HDL-C, IRI, and TG levels influenced the development of CAC.

Key words: Coronary artery calcification; Visfatin; Single nucleotide polymorphisms