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ASSOCIATION BETWEEN SERUM SULFATIDE AND CAROTID INTIMA MEDIA THICKNESS IN PATIENTS WITH FAMILIAL HYPERCHOLESTEROLAEMIA

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[1]Li gang, [2]Hu rui, [1]Gu jian, [1]Li gang. *[1]Cardiac Centre of Hebei General Hospital; [2]The Second Hospital of Hebei Medical University*

Objectives There is a positive association between sulfatide and atherosclerosis in an animal model for human familial hypercholesterolaemia. There are also association between sulfatide and vascular neointimal thickening in human. We investigated the relationship between sulfatide and carotid intima–media thickness (IMT) in heterozygous familial hypercholesterolaemia (FH) subjects.

Methods 35 genetically-verified heterozygous patients with FH and 34 healthy controls were recruited into our study. We measured serum sulfatide levels, the carotid IMT, and conventional cardiovascular risk factors including obesity parameters, blood pressure, fasting blood glucose, and lipid profiles.

Results Subjects with heterozygous FH had significantly elevated serum sulfatide, elevated total cholesterol, low-density lipoprotein cholesterol, and increased carotid IMT compared with control subjects. In patients with FH, univariate analysis showed that serum sulfatide was highly correlated with carotid IMT. Multiple linear regression analysis indicated that serum sulfatide was the only independent predictor of carotid IMT in patients with FH.

Conclusions Patients with heterozygous FH had significantly higher carotid IMT and the level of serum sulfatide was independently associated with atherosclerotic progression. (R: 0.639, R^2: 0.408, $p<0.001$).