



Correlation of VCAM-1 expression in serum, cord blood, and placental tissue with gestational hypertension associated with fetal growth restriction in women from Xingtai Hebei, China

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ABSTRACT. The aim of this study was to investigate the expression of vascular adhesion molecule (VCAM)-1 in the maternal serum, cord blood, and placental tissue of pregnant women from Xingtai, Hebei, with gestational hypertension (GH) combined with fetal growth restriction (FGR). A total of 108 patients with GH combined with FGR (GH-FGR), 60 patients with GH alone (GH), and 50 healthy

pregnant women (control) were recruited to this study. VCAM-1 expression was detected in the maternal serum and cord blood by enzyme-linked immunosorbent assay, and in the placental tissue by immunohistochemistry. VCAM-1 expression was significantly higher in the maternal serum of patients with GH-FGR (164.38 ± 60.35) and GH alone (103.85 ± 54.47) than in the serum of the control population (46.70 ± 21.79 ; $P < 0.05$). On the other hand, VCAM-1 expression in the cord blood of GH-FGR (163.19 ± 69.46), GH (149.82 ± 58.20), and control (128.89 ± 43.59) subjects was not significantly different ($P > 0.05$). Moreover, the VCAM-1 expression rates were significantly higher and lower in the vascular endothelial and trophoblastic cells of the placenta of patients with GH-FGR (74.71 and 56.1%) and GH (72.98 and 55.36%), respectively, compared to those in the control subjects (46.48 and 95.11%). Therefore, we concluded that VCAM-1 plays an important role in the development and generation of GH. Additionally, the low VCAM-1 expression in the trophoblastic cell could be correlated to the pathogenesis and progression of GH.

Key words: Vascular adhesion molecule-1; Serum; Cord blood; Placental tissue; Gestational hypertension; Fetal growth restriction