Pericardial fluid and serum levels of vascular endothelial growth factor and endostatin in patients with or without coronary artery disease

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摘要

Abstract

BACKGROUND/PURPOSE: Vascular endothelial growth factor (VEGF) and endostatin are related to ischemic heart disease. This study investigated pericardial fluid and serum levels of VEGF and endostatin in patients with or without ischemic heart disease. METHODS: A total of 39 patients (24 patients in the CAD group with significant coronary artery disease; 15 patients in the non-CAD group without coronary artery disease) undergoing open heart surgery were enrolled. In the CAD group, patients were classified according to good coronary collateralization (Group A; n = 11) or poor coronary collateralization (Group B; n = 13). Pericardial fluid and serum samples were obtained at the time of surgery. VEGF and endostatin were measured by enzyme-linked immunosorbent assay. RESULTS: The levels of endostatin in both serum and pericardial fluid were significantly lower in the CAD group than in the non-CAD group (130.5 +/- 37.3 ng/mL vs. 172.4 +/- 37.8 ng/mL and 119.0 +/- 25.0 ng/mL vs. 143.0 +/- 23.5 ng/mL). The concentration of serum VEGF in the CAD group (92.6 +/- 18.2 pg/mL) was significantly higher than that in the non-CAD group (75.2 +/- 22.3 pg/mL). The concentration of serum VEGF in Group A (100.1 +/- 20.7 pg/mL) was significantly higher than that in Group B (84.3 +/- 12.4 pg/mL). The levels of pericardial fluid VEGF, serum and pericardial fluid endostatin were not significantly different between Groups A and B. CONCLUSION: Patients with coronary artery disease have lower serum and pericardial fluid levels of endostatin and higher serum levels of VEGF. Serum level VEGF, but not endostatin, is associated with good or poor collateralization in patients with coronary artery disease.