PREGNANCY-ASSOCIATED PLASMA PROTEIN A CAN BE REGARDED AS AN INDIRECT MEASURE OF ENDOTHELIAL FUNCTION IN PATIENTS WITH CORONARY ATHEROSCLEROSIS DISEASE

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Objectives To investigate the relationship between the levels of circulating pregnancy-associated plasma protein A (PAPP-A), a novel marker of atherosclerotic plaque activity, and vascular endothelial function in patients with coronary atherosclerosis disease.

Methods To investigate the relationship between the levels of circulating pregnancy-associated plasma protein A (PAPP-A), a novel marker of atherosclerotic plaque activity, and vascular endothelial function in patients with coronary atherosclerosis disease.

Results There were significant differences between SAP groups and ACS group in terms of PAPP-A (6.39×10⁻³ U/l±4.68×10⁻³ U/l vs 19.30×10⁻³ U/l±12.76×10⁻³ U/l, p<0.05), hs-CRP (0.49 ±0.31 mg/l vs 3.57±2.15 mg/l, p<0.01), NO (57.46±4.07 μmol/l vs 44.54±5.15 μmol/l, p<0.05) and FMD (5.96±0.79%, vs 3.30±1.20%, p<0.05). Using the method of stepwise multiple linear regression and correlation, at the levels of α=0.10, we found that LnPAPP-A was related to Lnhs-CRP and FMD. The constant of the model is 5.57, unstandardised partial coefficient for Lnhs-CRP is 0.333 (95% CI 0.138 to 0.527, p<0.01), FMD −0.623 (95% CI to 1.144−0.102, p<0.05), respectively. In patients with elevated PAPP-A levels (>11.094×10⁻³ U/l), hs-CRP was higher (4.18 ±5.31 mg/l vs 0.56±1.32 mg/L, p<0.001) and FMD was lower (3.30±2.40% vs 6.18±3.59%, p<0.05) than those without elevated PAPP-A levels (≤11.094×10⁻³ U/l).

Conclusions Just as CRP regarded as an indirect measure of endothelial function, PAPP-A can act as an indirect method to evaluated endothelial dysfunction in patients with coronary atherosclerosis disease.