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MATCHED CASE-CONTROL STUDY ON MECHANISM OF RADIAL ARTERY SPASM

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Objects The aim of this study is to discuss preliminarily the relationship between vaso-active substances and radial artery spasm (RAS), and provide theoretical evidence for the prevention of RAS.

Methods This is a prospective, matched case-control study. The patients who suffered from RAS during coronary angiography were enrolled, and the patients without RAS were matched 1:2 according to same gender, similar age (within 2 years). The diagnostic criteria are clinical definition of RAS based on a questionnaire which was documented by angiography. Blood samples were obtained before the procedure, and were tested for nitric oxide, endothelin-1, prostacyclin, thromboxane A2 and norepinephrine. Logistic regression was made to find out the risk factors of RAS.

Results Sixty patients suffered form RAS and 120 patients without RAS were enrolled. The concentration of nitric oxide (63.5875±21.2763 vs 55.6425±18.1542, p=0.351) and thromboxane A2 (0.9768±0.1953 vs 0.7824±0.2051, p=0.284) was of no difference between the RAS group and the control group. The concentration of endothelin-1 (298.5839±65.3291 vs 81.4391±20.4283, p<0.001) and norepinephrine (202.3721±38.3829 vs 56.4828±15.6025, p=0.005) was higher, prostacyclin (8.8294±2.5322 vs 15.5430±4. 8267, p=0.038) was lower in RAS group. Multiple regression showed that endothelin-1 (OR 2.954, 95% CI 1.569 to 5.354, p=0.005) and norepinephrine (OR 4.642, 95% CI 2.619 to 8.332, p=0.018) were the risk factors of RAS during the procedure.

Conclusions Multiple regression showed that endothelin-1 and norepinephrine were the risk factors of RAS during the procedure.