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The relationship between plasma soluble urokinase-type plasminogen activator receptor and pelvic inflammatory disease

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Objectives: The purpose of this study was to estimate the expressions of urokinase-type plasminogen activator (u-PA), soluble urokinase-type plasminogen activator receptor (su-PAR), plasminogen activator inhibitor-1 (PAI-1) in plasma, and the gene polymorphisms in patients with pelvic inflammatory disease (PID) and healthy controls.

Methods: The enzyme-linked immunosorbent assay (ELISA) and polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) were respectively used to measure the plasma levels and polymorphisms of u-PA, u-PAR, and PAI-1 among seventy healthy controls and in Sixty-four PID patients before and after they received routine treatment protocols.

Results: We found the level of plasma soluble u-PAR was significantly elevated in PID patients compared to that in normal controls and decreased significantly compared to that in same patients after they received treatment. The increased expression of u-PAR was significantly correlated with the cell counts of WBC in blood and the levels of plasma CRP as well as u-PA of PID patients before they received treatment, also, significantly correlation between plasma concentration of u-PAI-1 was found among PID patients before they received treatment. There was no association between genetic polymorphisms and their gene expression levels and PID susceptibility.

Conclusions: Elevated plasma u-PAR could be a biological marker for the diagnosis and to be a new strategy for target therapy of pelvic inflammatory disease.

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