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Evaluation of Plasma Protein C Antigen, Protein C Activity and Thrombomodulin Levels in Type 2 Diabetic Patients

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Abstract: The imbalance between coagulation and fibrinolysis leads to vascular complications in diabetics. In our study, we have investigated the effects of the protein C-thrombomodulin system as a cause of diabetic vascular complications. Whereas PC-Ag levels were lower, thrombomodulin (TM) levels of diabetics were higher than that of the controls ($P < 0.001$, $P < 0.001$ respectively). Furthermore, patients were divided into three groups according to their urinary albumin excretion (UAE). Group 1, 2 and 3 consisted of 27 patients with UAC £ 30 µg/ml, 16 patients with UAC in range 30-140 µg/ml, 3 patients with UAC >140 µg/ml, respectively. Plasma PC-Ag levels were significantly decreased in group 1 and 2 with respect to controls ($P < 0.01$, $P < 0.01$). Plasma TM concentrations were significantly increased in group 1, 2 and 3 compared with the control group ($P < 0.001$, $P < 0.01$, $P < 0.01$). Patients were also divided into two groups according to the duration of their illness; patients whose diabetic age < 10 years (Group A) and whose diabetic age > 10 years (Group B). In both groups, PC-Ag levels were lower and TM levels higher than that of the control group ($P < 0.01$, $P < 0.01$; $P < 0.001$, $P < 0.001$ respectively). There was no significant difference between group A and B in PC-Ag levels ($P > 0.50$) but a significant difference in TM levels ($P < 0.001$).

Key Words: Protein C, Protein C activity, Thrombomodulin and Diabetes mellitus

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