

Insulin resistance and some coagulation and fibrinolytic parameters in subjects with metabolic syndrome

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Introduction: Insulin resistance syndrome has been shown to be associated with many coagulation and fibrinolytic proteins changes which suggest a role in atherothrombotic disorders.

Aim: To determine the levels of some of the haemostatic parameters in subjects having metabolic syndrome and correlate these values with the anthropometric and metabolic variables associated with this syndrome.

Subjects and methods: The study included 46 obese non diabetic subjects of whom 28 subjects fulfilled the ATP III criteria of the metabolic syndrome and 18 subjects did not have metabolic syndrome as well as 14 lean subjects as a control group. Clinical and laboratory evaluation of the study groups stressed on anthropometric measurements, blood pressure, and laboratory measurements of fasting plasma glucose, fasting insulin, serum lipids, tissue plasminogen activator (t-PA), antithrombin III activity (ATIII), protein C and von Willebrand factor (vWf) antigen.

Results: There was significant increase in the concentrations of t-PA and vWf antigens in subjects having metabolic syndrome in comparison to the other groups while there were non-significant changes in the levels of protein C antigen and AT III activity. Both t-PA and vWf showed significant correlation with HOMA-IR as a measure of insulin sensitivity.

Conclusion: Haemostatic and fibrinolytic parameters should be included in the features of the insulin resistance syndrome. t-PA and vWf antigens concentrations were increased in subjects with metabolic syndrome and correlated with the HOMA-IR measure of insulin sensitivity. Taking into consideration that both t-PA and vWf are mainly released from vascular endothelium, these findings could be an indicator of endothelial dysfunction.

Biography

Nashwa K. Abousamra is an assistant professor in Clinical Pathology Department, Mansoura University at which she is working from 1994 until now. She has completed his Ph.D at the age of 35 years and also her postdoctoral studies from Clinical Pathology Department, Mansoura University. She is the technical manager of flow cytometry laboratory, Mansoura University Oncology Centre. She has published more than 15 papers in reputed journals.

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