Abstract

Thrombin-activatable fibrinolysis inhibitor gene polymorphism in IHD diagnostic and prognostic correlation

*Background***:** Thrombin-activatable fibrinolysis inhibitor (TAFI) is a recently identified fibrinolysis inhibitor. TAFI is activated by the thrombin-thrombomodulin complex and activated TAFI suppresses fibrinolysis by removal of carboxy-terminal lysine (and arginine) residues from partly degraded fibrin polymers, preventing the binding of the fibrinolytic components plasminogen and tissue-type plasminogen activator to fibrin. TAFI antigen (Ag) and activity levels show a large variation between individuals. Recently it has been shown that elevated TAFI:Ag levels are associated with deep vein thrombosis. Polymorphisms in TAFI gene, which are in strong linkage disequilibrium, are correlated to TAFI Ag levels. The association of TAFI levels and TAFI Polymorphisms in patients with cardiovascular disease is largely unknown**.**

*Aims***:** The aim of this study is to compare the effect of TAFI gene polymorphism with the severity of coronary artery disease in patients with IHD as will as its diagnostic and prognostic values.

Material and Methods: The study population consisted of 63 patients with IHD admitted to the Critical Care Medicine Department, Cairo University of whom 43 were admitted for elective PCI and 20 were admitted for acute coronary syndrome. Plasma samples were drawn, TAFI level was measured for elective PCI, as well as measurement of TAFI gene variation. A follow-up major adverse coronary event was performed in 74% of patients.
Results: there is a significant relation between TAFI Ag level and TAFI polymorphism (P=.008). No significant difference in relation between TAFI polymorphism and risk factors (HTN, DM, smoking) or between TAFI polymorphism and number of affected vessels as shown by angiographic study. There was dominated normal TAFI genotype distribution upon IVD patients. No significant relation between TAFI polymorphism and MACE.

Conclusion: in this study polymorphism of the TAFI gene influence in plasma TAFI level but not associated with the risk of CHD prospectively or association with coronary events.

Key Words : thrombin Activatable – Fibrinolysis – TAFI – IHD - Coronary Artevy Disease.