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Haptoglobin phenotypes as a risk factor for coronary artery disease in type 2 diabetes mellitus: An Egyptian study

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Objective: Diabetes has long been known to be an independent risk factor for cardiovascular disease. Recognition of diabetic individuals at greatest risk of developing coronary artery disease (CAD) would have important public health importance by allowing the distribution of limited resources to be directed on those who would most benefit from aggressive management. Several functional differences between haptoglobin (Hp) phenotypes have been demonstrated that appear to have important biological and clinical consequences in the development of CAD in patients with type 2 DM. The present study was conducted to demonstrate the relationship between the Hp phenotypes and the development of CAD among Egyptian patients with type 2 DM. To our knowledge, this work had not been carried out in Egypt before.

Subjects & Methods: The study included 160 subjects divided into 3 groups: Group I: 72 type 2 DM patients without CAD; Group II: 48 type 2 DM patients with developed CAD; and Group III: 40 age and gender matched apparently healthy subjects to serve as controls. All patients and controls were subjected to full history taking, complete clinical examination and routine laboratory investigations. Serum C-reactive protein (CRP) levels and serum haptoglobin levels were measured. Polymerase chain reaction (PCR) was used for Hp phenotypes determination.

Results: Analysis revealed association between Hp2-2 phenotype and the presence of CAD in type 2 DM. Hp and CRP serum levels were significantly higher in patients with CAD. Although the levels of Hp did not reach significance among patients with different Hp phenotypes yet the individual with Hp2-2 phenotype had trend towards higher level.

Conclusion: Hp2-2 phenotype is considered to be a major susceptibility gene for the development of CAD in type 2 DM. Awareness of this gene susceptibility should raise future research for proper treatment and prevention of CAD development in type 2 DM.

Biography

Fatma A Khalaf completed her MD from Biochemistry Department, Menoufia Faculty of Medicine, Menoufia University, Egypt and become Lecturer of Biochemistry at the same university in 2008. She has published more than 10 papers in reputed journals. She was a Supervisor of more than 5 Master's theses. She has a membership in about 4 medical societies.

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