

17TH GLOBAL DIABETES CONFERENCE & NURSING CARE

March 08-09, 2018 | Paris, France

Genotypic interactions of genes implicated in lipoprotein metabolism with type-2 diabetes in Tunisian population

Raja Chaaba¹, Issat Mahdia¹, Mehri S¹, Attia N¹, Hammami S², Smaoui M¹, Ben Hamda K², Nakbi A¹ and Hammami Mo¹

¹University of Monastir, Tunisia

²CHU Monastir, Tunisia

The relationship between diabetes and lipids is complex. Lipid disturbance can be the result of diabetes but also can be the reason of disturbed glucose metabolism. Apolipoprotein A5 (apo A5), Apolipoprotein E (Apo E) and CETP (Cholesteryl Ester Transfer Protein) are involved in lipoprotein metabolism. To explore the role of genetic variants of apo A5, Apo E and CETP as predictors of diabetes risk and to examine their combined effects on type-2 diabetes mellitus (T2DM), 149 type-2 diabetic patients are compared to 101 controls. The genotypic frequencies for all three genes alone were associated with increased risk of developing diabetes. Logistic regression analysis of classic coronary risk factors and the genetic polymorphisms demonstrated that B2B2 and CC genotypes of CETP and apo A5 respectively were the most significant contributors to T2DM. However, those genotypes were not associated with higher CETP activity in diabetics. For the three genes, the risk of T2DM in individuals with one risk genotype was 2.5 (95% CI: 2.0-4.1, p=0.004) higher than those with zero risk genotype. Individuals who carried two risk genotypes had a 3.8 (95%CI 3.2-4.8, p=0.018) times higher risk of T2DM than those who did not carry any risk genotypes. Most interestingly, the risk of T2DM for individuals with three risk genotypes was 3.7 (95% CI: 3.5-4.2, p=0.015) higher than those with zero risk genotype. In conclusion, the results imply that genotyping of genes implicated in lipoprotein metabolism could become an important part of the clinical process of risk identification for T2DM.

Biography

Raja Chaaba has completed her PhD in Biological Engineering in 2006 and is interested in research about lipids, diabetes and cardiovascular disease. She is a Member of research laboratory "Nutrition-Functional Foods and Vascular Health", Faculty of Medicine, Monastir, Tunisia. She is an Assistant Professor in Superior Institute of Applied Sciences and Technology, Mahdia, Tunisia.

rchaaba@yahoo.fr

Notes: