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Intestinal fatty acid binding protein *Ala54Thr* polymorphism is associated with peripheral atherosclerosis combined with type-2 diabetes mellitus

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The intestinal fatty acid binding protein (*FABP-2*) is expressed in enterocytes and binds with saturated and unsaturated long-chain fatty acids. *FABP-2 Ala54Thr* polymorphism was reported to have an influence on lipid metabolism. This study aimed to assess the relation of this polymorphism with peripheral atherosclerosis combined with type 2 diabetes mellitus in an Egyptian population. The study included 100 diabetic patients with peripheral atherosclerosis and 100 control subjects. The *Ala54Thr* polymorphism was analyzed by PCR-RFLP. FABP-2 level was measured by ELISA technique. FBG, fasting serum insulin, HbA1c lipid profile, BMI, systolic and diastolic blood pressure were all determined. The Thr54 allele had higher frequency among the patients group (p=0.002). The heterozygote *Ala54/Thr54* and the rare *Thr54/Thr54* genotypes showed significant increase in BMI and *FABP-2*. Carriers of *Thr54/Thr54* genotype had significantly decreased HDL-C. Carriers of *Thr54/Thr54* genotype had significantly higher systolic and diastolic blood pressure than carriers of both *Ala54/Ala54* and *Ala54/Thr54* genotypes. FABP-2 level had positive correlation with BMI, systolic and diastolic blood pressure and negatively correlated with HDL-C. The *Thr54 allele* of *FABP-2 Ala54Thr* polymorphism was associated with increased incidence of peripheral atherosclerosis combined with type-2 diabetes mellitus in the studied population.

Biography

Eman T Mehanna is a Lecturer of Biochemistry and Molecular Biology at the Faculty of Pharmacy, Suez Canal University, Egypt. She has 6 internationally published papers.

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