OMICS Group Conferences
Accelerating Scientific Discovery

International Conference on
Genetic Syndromes & Gene Therapy

November 19-21, 2012 Hilton San Antonio Airport, USA

The association between GSTM1, T1 and P1 polymorphisms with type 2 Diabetes mellitus in southern Iran

Elham Moasser
University of Ahvaz, Iran

Diabetes Mellitus is Characterized by chronic hyperglycemia and associated with an increased production of reactive oxygen species (ROS). Oxidative stress is the result of accumulation of free radicals in tissues which specially affects beta cells in pancreas. Glutathione S-transferases (GSTs) are a family of antioxidant enzymes that include several classes of GSTs. These enzymes have important roles in decreasing of ROS species and act as a kind of antioxidant defense. To investigate the association between GSTs polymorphism with type 2 diabetes mellitus (T2DM), we investigated the frequency of GSTM1, T1 and P1 genotypes in patients with T2DM and controls. The genotypes of GSTT1, M1 and P1 were determined in 171 clinically documented T2DM patients and 169 normal cases (as controls) by Multiplex Polymerase Chain Reaction and PCR-RFLP. In diabetic patients, the frequency of GSTM1-null genotype was significantly (P = 0.016) higher than that in control. The presence of this genotype was associated with 1.74-fold increased risk of T2DM. However, the frequency of GSTT1 and GSTP1 genotypes were not significantly different comparing both groups (P = 0.94 and P = 0.07, respectively). Also, the frequency of both GSTT1-null and GSTM1-null genotypes in patients (19.88%) was significantly higher compared to controls with the same genotypes (11.83%, P = 0.022). Our results indicated that an increase in the frequency of GSTT1-null and GSTM1-null genotypes that observed in our first Iranian study might be involved in the pathogenesis of T2DM in south Iranian population.

Biography

Elham Moasser has completed her genetic M.sc at the age of 26 years from Shahid Chamran University of Ahvaz Faculty of Science and finished this M.sc thesis by the scientific supports of Shiraz University and Shiraz University of Medical Sciences' professors.

elhammoasser@yahoo.com