ASSOCIATION OF ACACB GENE POLYMORPHISM (G/A) WITH DIABETIC NEPHROPATHY AND OBESITY IN PAKISTANI PUNJABI POPULATION

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Diabetic nephropathy (DN) is a complication of diabetes which increases the risk of mortality due to kidney failure/end stage renal disease throughout the world. Several molecular pathways have been linked to this complication, including the role of Acetyl CoA Carboxylase Beta (ACACB), as ACACB is involved in fatty acid uptake, metabolism and insulin signaling. Hence, a SNP (G/A) in ACACB is targeted for study in the Pakistani Punjabi diabetics. A total of 206 subjects from Faisalabad, Pakistan were included, which were divided into four groups as; G1: Controls (without diabetes and nephropathy, n= 52), G2: Type 2 Diabetics (without nephropathy, n= 51), G3: Type 2 Diabetics (with Nephropathy, n= 60), G4: Non-diabetics (controls but with nephropathy, n= 43). Blood samples were collected from all the subjects and were analyzed for biochemical and molecular characterization. Taqman genotyping was done for ACACB gene polymorphism (G/A) to identify the genotypes (GG: homozygous dominant; GA: heterozygous; AA: homozygous recessive), and calculate and compare their genotype frequencies in each group as well as correlate them with all of the biochemical and disease parameters (nephropathy, hypertension and family history of diabetes). The genotyping results showed significant association of ACACB gene polymorphism (G/A) with obesity (BMI, body mass index) and diabetes in Pakistani population. No such previous report is available for Pakistani population.