

Glutathione S-Transferase (Gstt1) Gene Polymorphism and Lipid Profile in Type 2 Diabetes Mellitus Patients Attending Murtala Muhammad Specialist Hospital Kano, Nigeria

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Abstract : A cross sectional randomized, descriptive cross sectional study was conducted on the frequency of GSTT1 null alleles in patients diagnosed with type-2-diabetes mellitus (T2DM). A total of 40 patients with T2DM and 10 non-diabetic controls were included in the study. GSTT1 null-alleles genotyping was carried out using multiplex PCR amplification to amplify GSTT1 gene (460bp) while using β -globulin (250bp) as an internal control. The results showed that 55% of T2DM patients had BMI within reference limits, 13% are overweight. Additionally, patients with T2DM were found to have significantly higher ($p<0.05$) serum levels of glucose, total cholesterol, triglyceride and low density lipoprotein. Furthermore, the presence of null genotype of GSTT1 (deletion in GSTT1) was observed in 28% of diabetic patients. Subjects with GSTT1 deletion have significantly higher ($p<0.05$) levels of serum glucose, low-density lipoprotein and total cholesterol when compared with individuals without deletion (diabetic and non-diabetic). This results suggests that the deletion of GSTT1 gene might serve as a predisposing factor in the development of T2DM and dyslipidaemia

Keywords : diabetes, glutathione-S-transferase, lipid profile, PCR, polymorphism.

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