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Relationship between *ABCC8* C/T and *KCNJ11* E23K polymorphisms with type 2 diabetes in a Nigerian population

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The ATP sensitive potassium ion receptor (KCNJ11) E23K and ATP binding cassette, subfamily C, member 8 (ABCC8) C/T polymorphisms have been reported. However, such occurrence in a Nigerian population is yet to be established. This study assessed the relationship between *ABCC8* C/T and *KCNJ11* E23K polymorphisms with type 2 diabetes (T2D) in Nigeria. A case control study involving 73 T2D patients and 75 non-diabetic (ND) patients was conducted. Demographic, clinical and anthropometric data was collected and the fasting blood glucose (FBG), total cholesterol (TC), triglyceride (TG), LDL and HDL were assayed. The *KCNJ11* E23K and *ABCC8* C/T polymorphisms were genotyped by RFLP–PCR using *Ban*II and *Pst*I restriction enzymes respectively. There was predominance of the mutant A allele and homozygote AA genotype (92.5%) of the *KCNJ11* gene in both T2D and ND patients but the AA genotype showed no significant risk of T2D when compared to the GG genotype (OR: 1.183, 95% CI: 0.345-4.059, p=0.790). HDL was significantly higher (p=0.002) in patients with the GG genotype compared to those with the AA genotype. In the *ABCC8* gene, the mutant genotypes (CT and TT) showed significant (p 0.05) risk of T2D (OR: 2.39, 95% CI: 1.16-4.91, p 0.018) following age adjustment. High level of HDL as well as reduced levels of TG, TC and LDL significantly (p 0.05) associated with TT genotype in non-diabetic patients but not in T2D patients. In conclusion, the *ABCC8* C/T polymorphism showed possible association with T2D while the *KCNJ11* E23K polymorphism was not associated with T2D.