

April 25, 2022

Webinar

Journal of Diabetic Complications & Medicine
ISSN: 2475-3211

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 BanII and PstI 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.

Biography

Godwill Engwa is a lecturer at [Godfrey Okoye University](#) Enugu Nigeria in the Departments of Biotechnology and Chemical Sciences. He holds a PhD in [Medical Biotechnology](#) at Ebonyi State University, [Abakaliki Nigeria](#) and is active in research especially on genetic variations relating to drug actions. He has over 39 publications in reputable journals including a book on research methodology and 3 book chapters. He serves as an editorial board member and reviewer in some journals

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Received: April 01, 2022; Accepted: April 05, 2022; Published: May 19, 2022