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Lack of Association between Arg144Cys Variant of CYP2C9 Gene and Therapeutic Response to Oral Agents in Type 2 Diabetes Patients

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ABSTRACT Sulfonylureas (SUs) used in type 2 diabetes (T2DM) treatment are mainly metabolized by the cytochrome p450 2C9 enzyme. The aim of the study was to verify whether the Arg144Cys polymorphism within the CYP2C9 gene may influence the length of time from T2DM onset to the insulin therapy initiation in T2DM patients in the Polish population. For the purpose of the study the researchers analyzed clinical data of 502 T2DM patients. The patients were genotyped for Arg144Cys using real-time PCR (polymerase chain reaction). The minor allele frequency was 10.6%. The mean time to insulin introduction was 7.9 +/- 5.9 years vs. 8.7 +/- 5.9 years for CC and CT/TT genotypes respectively, p=0.3403. The analysis did not show significant association between CYP2C9 variant and metabolic control as measured by the HbA1c% (glycated hemoglobin A1c), lipid profile or BMI (body mass index). In conclusion, the researchers did not find any association between the CYP2C9 gene Arg144Cys polymorphism and therapeutic response to oral agents in T2DM patients.