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Original Article

Variation in the visfatin gene may alter the required dosage of oral antidiabetic agents in type 2 diabetic patients

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Abstract:

Background: Treatment of diabetes with oral antidiabetic agents is accompanied by considerable variability in pharmacokinetics and clinical efficacy. Genetic factors may contribute to individual differences in bioavailability, drug transport, metabolism and drug action. We investigated the role of visfatin gene polymorphism (rs2110385) on required dosage of oral antidiabetic agents in type2 diabetic patient.

Methods: As a cross-sectional study, we recruited 94 patients with type 2 diabetes. Laboratory measurements were FBS, OGTT, HbA1C, fasting serum visfatin and Insulin. HOMA-IR and QUICKI indices were calculated. Genotyping for SNP was performed using the PCR-RFLP method. We recorded the amount of antidiabetic agents in the last 8 weeks before the survey according to drug dose (metformin 500mg and glibenclamide 5 mg).

Results: We found no significant difference in FBS, G2h, HbA1C levels, Fasting insulin concentration, and HOMA and QUICKI indices between various genotypes. The required dose of glibenclamide for adjustment of glucose homeostasis was lower in genotype GG compared to others, but there was no difference in required dose of metformin between various genotypes.

Conclusion: It seems that visfatin gene variation modifies the insulin secretion by glibenclamide treatment

Keywords:

Visfatin , Genotype , Antidiabetic agents , HOMA , QUICKI , Type 2 diabetes

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