



## Association between macrophage migration inhibitory factor rs1007888 and GDM

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**ABSTRACT.** We investigated the association between macrophage migration inhibitory factor (*MIF*) rs1007888 single-nucleotide polymorphisms and the genetic susceptibility to gestational diabetes mellitus (GDM). A total of 240 GDM pregnant women (GDM group) and 330 healthy pregnant women (control group) were included in the study. Differences in the *MIF* rs1007888 genotype and allele frequencies and differences between fasting blood glucose, fasting insulin, homeostatic model assessment (HOMA)-insulin resistance, and HOMA- $\beta$  levels of pregnant women with different genotypes were compared. *MIF* genotype distributions were significantly different in the GDM group compared to the control group ( $P < 0.05$ ). No significant difference was observed in the allele distributions of *MIF* rs1007888 between the GDM group and control group ( $P > 0.05$ ). GDM patients had higher fasting blood glucose, fasting insulin, and HOMA-insulin resistance levels, but lower HOMA- $\beta$  levels than normal gestational women ( $P < 0.05$ ). Fasting blood glucose, fasting insulin, and HOMA-insulin resistance in pregnant women with the GG genotype were significantly higher than those with GA and AA genotypes, while HOMA- $\beta$  in pregnant women with the GG genotype was lower (all  $P < 0.05$ ). Our findings demonstrated the associations among *MIF* polymorphism rs1007888,

insulin resistance, and pancreatic  $\beta$  cell functions in GDM patients. The GG genotype of *MIF* rs1007888 may be a genetic susceptibility factor in the pathogenesis of GDM.

**Key words:** Macrophage migration inhibitory factor; Polymorphism; Gestational diabetes; rs1007888; Single-nucleotide polymorphism