

Polymorphisms of Macrophage Migration Inhibitory Factor (MIF) and Susceptibility to Endometriosis

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Abstract : Macrophage migration inhibitory factor (MIF) is a key pro-inflammatory cytokine that involves in pathophysiological events of endometriosis. We aimed to evaluate the association between mRNA expression levels and polymorphisms of MIF in endometriosis. Seventy endometriosis patients and 70 volunteer fertile women were recruited. RFLP was applied to determine -173G/C polymorphism. ORF polymorphisms and -794(CATT)₅₋₈ were detected by sequencing. Q-PCR was used for expression study of 14 ectopic tissues of patients. Homozygote of CATT₅ was observed only in controls. The CATT₅/G haplotype related to controls ($p=0.094$, $OR=0.61$). Expression level of MIF with -794(CATT)_{6,7}/-173GC was significantly more than the other haplotypes ($p=0.00$). We identified four SNPs including: +254rs2096525 ($p=0.843$), +626rs33958703 ($p=0.029$), +656rs2070766 ($p=0.703$) and +509rs182012324 ($p=1.00$). In conclusion, increased repeat of CATT and presence of C allele in promoter of MIF were significantly associated with mRNA level in patients. It seems that +509rs182012324 and +626rs33958703 SNPs were significantly correlated with susceptibility to endometriosis.

Keywords : endometriosis, haplotype, macrophage migration inhibitory factor, polymorphism

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