

Association of Intercellular adhesion molecule-1 K469E polymorphism with preeclampsia in Korean population

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Objectives (목적)

Endothelial dysfunction is considered to be central in the pathogenesis of preeclampsia. An excessive maternal systemic inflammatory response to pregnancy has been proposed to be responsible for endothelial dysfunction. The ICAM-1 molecule is functionally involved in the regulation of adhesion of leukocytes to the endothelium as well as leukocyte migration, in other words, that expression could stimulate maternal immunological recognition and rejection reactions, and result in disrupted trophoblast trafficking and thereby cause incomplete placentation leading to preeclampsia. In this case-control study, we will examine whether the distribution of genotypic and allelic frequencies of ICAM-1 K469 of Korean women with preeclampsia are different from those of control group.

Methods (연구 방법)

The ICAM-1 K469E polymorphism was genotyped using sequencing analysis in 42 women with preeclampsia and 138 normotensive controls who had delivered at least two normal term babies. Genomic DNA was extracted from whole blood sample. After gene amplification by PCR and purification, direct sequencing reaction method was used to detect a single nucleotide polymorphism.

Results (결과)

The distribution of genotype frequencies and the frequency of the K469 allele of the preeclampsia group were not significantly different from those of the controls. (KK/KE/EE (%) control 45.7/44.2/10.1 vs preeclampsia 59.5/23.8/16.7, $p>0.05$), (K allele (%) control 67.8 vs preeclampsia 71.4, $p=0.62$) A similar trend was observed between the severe preeclampsia patients and the controls. (KK/KE/EE (%) control 45.7/44.2/10.1 vs severe preeclampsia 59.3/29.6/11.1, $p=0.36$), (K allele (%) control 67.8 vs severe preeclampsia 74.1, $p=0.45$)

Conclusions (결론)

The frequencies of the KK genotype and the K allele were higher in the preeclampsia group than those in the control group. However, there was no statistically significant difference.