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우리나라의 원발성 막성 신증 환자에서 인터루킨 10 유전자 촉진부의 다형성

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Interleukin-10 (IL-10) Gene Promoter Polymorphism was Associated with the Progression of Primary Membranous Nephropathy in Korean

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Background : We evaluated the influence of −1082 (A/G), −819 (T/C) and −592 (C/A) SNP in the IL−10 gene promoter on the primary membranous nephropathy (MN).

Methods : The subjects were enrolled in the Progressive REnal disease and Medical Informatics and gEnomics Research (PREMIER) study in which 34 nationwide hospitals and clinics participated. We selected 204 adult patients aged 20 years or more with biopsy proven MN. We gathered the data of ESRD and mortality from the ESRD registry and the national office of statistics, respectively, based on the unique ID which all Koreans have. We defined the renal death as doubling of serum creatinine, diagnosed as ESRD, or death during follow−up period. We analyzed the impact of SNPs on the final outcome of MN.

Results : The mean follow−up period was 43.7+36.5 months. The detected haplotypes were ATA (ordered by −1082, −819, −592) (278/408 alleles), ACC (98/408 alleles), and GCC (32/408 alleles) as in Caucasian population. The locus of −592 showed perfect dysequilibrium with the locus of −819. We grouped the subjects with the genotype ATA homozygote (ATA group; 90/204) and the others (Other group; 114/204). The prevalence of female, diabetes mellitus, and hypertension, age, the level of initial serum creatinine, proteinuria, and blood pressure did not differ significantly between genotypic groups. The frequency of renal death in ATA homozygote group was lower than that of the Other group (1/90 vs 13/114, p=0.004). The ATA group showed better outcome in the Kaplan−Meier analysis of renal survival (Log rank test, p=0.004). The IL−10 polymorphism genotypic group remained an independent risk factor for progression in multivariate analysis (Cox hazard proportional model, p=0.045) adjusted with age, sex, hypertension, diabetes mellitus, blood pressure, creatinine, and proteinuria. The relative risk for renal death in the Other group was 8.318 (95% CI: 1.046−66.123) compared to that in the ATA group.

Conclusion : Our results suggest that IL−10 gene promoter polymorphism is an important marker of progression in patients with MN.

Key Words : 막성 신증, 인터루킨 10, 다형성
Membranous nephropathy, Interleukin−10, Polymorphism