

인터루킨-17 및 인터루킨-17 수용체 유전자의 단일 염기 다형성과 말기 신부전의 연관성

강동경희대병원 신장내과¹, 경희의료원 신장내과²

김은영¹, 문주영¹, 정경환², 이태원², 임천규², 김명재¹, 이상호¹

Gene Polymorphisms of Interleukines-17 and Interleukin-17 Receptor are Associated with End-stage Kidney Disease

Eun Young Kim¹, Ju Young Moon¹, Kyung hwan Jeong², Tae Won Lee²
Chun-Gyoo Ihm², Myung jae Kim¹, Sang Ho Lee¹

Division of Nephrology Department of Internal Medicine¹, Kyung Hee University Hospital at Gangdong
Division of Nephrology Department of Internal Medicine², KyungHee University Medical Center

Background: Inflammation could be a causal factor in progression of chronic kidney disease. To date, there is convincing experimental and clinical evidences to support the notion that IL-17-producing T cells contribute to kidney injury in renal diseases. But it has never been studied about genetic relationship between ESRD and Th17 pathway. In this study, we hypothesized that polymorphisms of interleukin 17 or their receptors may be associated with ESRD.

Methods: A total of 290 non-diabetic ESRD patients and 289 normal controls were included. We analyzed fourteen single-nucleotide polymorphisms (SNPs) located within the 4 genes of IL17A, IL17E, IL17R and IL17RB.

Results: The ESRD patients had a significantly higher allele frequency compared to control subjects for the IL17E rs10137082*C and rs1124053*G and IL17R rs4819554*A alleles. Genotyping analysis demonstrated that 3 SNPs (21.4 %) among 14 were significantly associated with ESRD after adjusting for age and sex, which were showed by IL17E rs10137082 (p=0.02 dominant, p=0.01 log-additive), IL17E rs1124053 (p=0.02 codominant2, p=0.02 dominant, p=0.02 recessive, p=0.01 log-additive) and IL17R rs4819554 (p=0.02 codominant1, p=0.01 codominant2, p=0.01 dominant, p=0.00 log-additive).

Conclusions: Three polymorphisms within the IL17E and IL17R genes are associated with ESRD independent of age and sex. This is first finding to suggest that polymorphisms of IL17 genes affect the risk of development of ESRD.

Key Words: 단일 염기 다형성, 인터루킨-17, 말기 신부전

Single nucleotide polymorphism, Interleukine 17, End stage ren