

# Association of Polymorphism in Monocyte Chemotactic Protein-1 (MCP-1) Promoter with Ig A Nephropathy in Korean Population

*Department of Pharmacology, Department of Nephrology\*,  
Kyung Hee University, School of Medicine, Seoul, Korea*

김한수 · 문주영\* · 이상호\* · 이태원\* · 임천규\* · 김명재\* · 정주호

**Background :** MCP-1 plays a pivotal role in inflammation and host response to infection by attracting mononuclear cells to tissues. Currently, striking evidence has been described that genetic polymorphism in the regulatory region of MCP-1 gene played a role in the susceptibility and progression of Ig A nephropathy. We evaluated the allelic frequency and genotypic distribution of the polymorphism (A/G) at position -2518 of MCP-1 promoter in patients with of Ig A nephropathy in Korean population.

**Methods :** Sixty-five patients (male/female:44/21) with biopsy proven Ig A nephropathy at Kyung-Hee University Medical Center for the past 2 years and 108 healthy controls (male/female:80/28) were genotyped by polymerase chain reaction-based restriction fragment length polymorphism (PCR-RFLP). We compared the genotypes of Ig A nephropathy patients and controls, and evaluated the associations between MCP-1 polymorphism and histological and clinical manifestations

## **Results :**

- 1) The genotype distribution of MCP-1 promoter showed no significant differences in Ig A nephropathy patients (A/A 13.8% : A/G 43.0% : G/G 43.0%) compared to controls (A/A 9.25% : A/G 37.9% : G/G 25.9%).
- 2) The frequency of allele A (44.5%) in histologic group I (SMK Lee grade 3, 4, 5) was significantly higher than that (23.6%) in histologic group I (SMK Lee grade 1, 2) ( $p < 0.05$ ).
- 3) The carriage of A allele was associated with the degree of severity in histology (carriage rate 42.1% vs. 70.4%,  $p < 0.05$ )
- 4) A allele was more frequently found in hypertensive patients and the carriage of A allele was associated with the risk of hypertension in patients with IgA nephropathy ( $p < 0.05$ )
- 5) No association existed between the polymorphism and the amount of urinary protein in our studied patients.

**Conclusion :** The polymorphism of MCP-1 (-2518, A/G) was not associated with the susceptibility of IgA nephropathy in Korean population. However, it was significantly associated with the histologic grade and the hypertension in IgA nephropathy.