

S-A6

IgA 신병증 환자에서 소변 페리오스틴의 임상적 의의

중앙대학교병원 내과¹, 보라매병원 내과², 서울대학교병원 내과³, 서울대학교병원 신장연구실⁴

황진호¹, 안정남², 류현진³, 양승희⁴, 오윤규², 임춘수², 주권욱³, 김동기³, 김연수³, 이정표²

The Clinical Significance of Urine Periostin in IgA Nephropathy

Jin Ho Hwang¹, Jung Nam An², Hyun Jin Ryu³, Seung Hee Yang⁴, Yun Kyu Oh², Chun Soo Lim²
Kwon Wook Joo³, Dong Ki Kim³, Yon Su Kim³, Jung Pyo Lee²

Department of Internal Medicine¹, Chung-Ang University Medical Center
Department of Internal Medicine², Seoul National University Boramae Medical Center
Department of Internal Medicine³, Seoul National University College of Medicine
Kidney Research Institute⁴, Seoul National University Hospital

Background: Periostin is in charge of tissue regeneration, fibrosis, and wound healing as a non-structural protein in extracellular matrix. However, there are only limited data in the field of nephrology. Here, we investigated the correlation between urinary periostin excretion and clinical significance including renal histologic findings in IgA nephropathy (IgAN).

Methods: Between 2009 and 2012, a total of 303 patients of biopsy-proved IgAN were reviewed and 219 patients were finally enrolled. Urine periostin levels were measured by ELISA using urine samples stored at the time of kidney biopsy. We divided the patients into 3 groups by the value of urine periostin/creatinine: group 1 (undetectable), group 2 (below median value of remained patients), and group 3 (above median value of remained patients).

Results: Urine periostin level was correlated with WHO classification ($p < 0.001$), Lee SMK ($p = 0.002$), and both of the initial and the final IDMS-MDRD GFR ($p < 0.001$). In histological aspect, the patients with higher urine periostin/creatinine level showed more of global sclerosis, more severe interstitial inflammation ($p = 0.002$), and more diffuse tubular atrophy ($p = 0.01$) and interstitial fibrosis ($p = 0.008$). In addition, blood vessel changes such as fibrointimal thickening ($p = 0.003$), hyaline ($p = 0.001$), and arteriosclerosis ($p < 0.001$) were significantly associated with urine periostin/creatinine level. In multiple linear regression model, urine periostin/creatinine was significantly correlated with the final IDMS-MDRD GFR ($r = 0.534$, $B = -12.9$, 95% CI -18.1 to -7.6 , $p < 0.001$ when adjusted for age and sex).

Conclusion: Urine periostin/creatinine value at the time of initial diagnosis correlated with renal pathology and might predict the renal progression in patients with IgAN.

Key Words: IgA 신병증, 소변 페리오스틴, 섬유화
IgA nephropathy, Urine periostin, Fibrosis