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IgA 신증에서 KIM-1 표현과 예후와의 관계

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Tubular Expression of KIM-1 is not an Independent Prognostic Factor in IgA Nephropathy

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Background: The prognosis of IgA nephropathy (IgAN) are highly variable. Kidney injury molecule-1 (KIM-1) is a sensitive biomarker for proximal tubular injury. Recently a few study showed the urinary KIM-1 has clinical implication in IgAN. We performed this study whether urinary KIM-1 is associated with kidney injury and tissue KIM-1 has clinical implication for predicting long-term outcome in our IgAN patients.

Methods: Consecutive 50 patients were enrolled to measure urinary KIM-1 level. Spot urine KIM-1 samples, standardized by urine creatinine, were measured by ELISA while tubular KIM-1 was evaluated by immunohistochemistry. We determined the severity of IgAN using the Oxford classification. Sixty-nine adult Korean patients with IgAN were analyzed with tubular KIM-1 stain. Renal biopsies from all patients were scored by a pathologist who was blinded to the clinical data for pathological variables. Inclusion criteria were age greater than 18 years and at least 36 months follow-up. We excluded cases with secondary IgAN, diabetic nephropathy combined other glomerulopathies, less than 36 months of follow-up, and rapidly progressing cases.

Results: The concentration of urinary KIM/Cr of IgAN patients was significantly higher than that of normal controls (1.32±0.18 vs. 0.56±0.19 [g/mg]; $p<0.0001$). Urianry KIM-1 level did not detect tubulointerstitial injury. On univariate analysis showed the tubular KIM-1 stain is associated with the renal outcome in IgAN. However, on multivariate regression analysis, KIM-1 stain relationship with prognosis disappeared. The eGFR at biopsy time and 24 hrs proteinuria have prognostic value.

Conclusion: Tubular KIM-1 failed to predict renal prognosis in IgAN.

Key Words: KIM-1, IgA 신증, 표지자
Biomarker, IgA nephropathy, KIM-1