

## IgA 신병증 환자에서 serum IgE의 농도는 병의 진행과 관련이 있다

경희대학교병원 신장내과

이신영, 김진숙, 이태원, 정경환, 이유호, 이상호, 문주영, 김양균, 김세연, 임천규

### Plasma Immunoglobulin E level is associated with Renal Progression in Immunoglobulin A Nephropathy

Shin Yeong Lee, Jin Sug Kim, Tae Won Lee, Kyung Hwan Jeong, Yu Hoo Lee, Sang Ho Lee  
Ju Young Moon, Yang Gyun Kim, Se Yun Kim, Chun Gyoo Ihm

Division of Nephrology, Department of Internal Medicine, Kyung Hee University Hospital

**Purpose:** Previous studies reported that plasma Immunoglobulin E(IgE) levels are elevated in Immunoglobulin A nephropathy (IgAN) and suggested IgE levels as a good prognostic indicator in IgA nephropathy. The aim of this study is to explore the association between plasma IgE level of IgAN patients and renal outcome.

**Methods:** This study is an observational study of a cohort of IgAN patients undergoing kidney biopsy between 1995 and 2012. We collected the data of patient's demographics and plasma IgE levels from routine laboratory examination. We retrospectively analyzed the correlation between plasma IgE level and clinical parameters (age, sex, serum creatinine (SCr), estimated glomerular filtration rate (eGFR), proteinuria, Blood pressure, history of gross hematuria). We defined renal progression if patient meets one of this criteria; 1) a rise in SCr >50% above baseline measurements or 2) a rise in SCr >30% and an absolute level >1.5 mg/dL. We analyzed the effect of the plasma IgE level on the renal outcome

**Results:** A total of 117 patients (male 67, female 50; mean age, 33.43±13 years) with IgAN were included. The mean initial eGFR and urine protein creatinine ratios were 84.79±37 ml/min/1.73m<sup>2</sup> and 1.79±2.68 g/gCr. The distribution in glomerular grades of the 117 patients using the H. S. Lee grading was as follows; grade I, 28 patients (23.9%); grade II, 62 patients (53%); grade III, 19 patients (16.2%); grade IV, 6 patients (5.1%); grade V, 1 patient (0.9%). The mean level of plasma IgE was 304±607 IU/mL. Of the 117 patients, fourteen (12%) had renal progression. Plasma IgE level was significantly high in renal progression group compared to nonprogressive group (IU/mL, 801±1520 vs. 236±293, p<0.001). Gender (76% vs 50%, p=0.011) and history of gross hematuria (9% vs 29%, p=0.024) were significant difference between high IgE group and low IgE group. But no significant differences were seen for delta SCr (mg/dl/months), delta eGFR (ml/min/1.73m<sup>2</sup>/months), delta proteinuria (g/gCr/months) and pathologic findings. Univariate linear regression analysis showed that male gender (standardized β=0.308, t=2.246 p=0.028), initial proteinuria (standardized β=0.617, t=2.712, p=0.008) and delta proteinuria (standardized β=0.404, t=2.246 p=0.028) were significant associated with plasma IgE levels.

**Conclusion:** We demonstrated that levels of Plasma IgE were increased in progressive group and positively correlated with delta proteinuria. These results suggested that plasma IgE level is probably associated with renal progression in IgAN patients. Future prospective studies are needed to support this association.

**Key Words:** IgA 신병증, IgE 농도, 예후인자

IgA nephropathy, Serum IgE, Renal outcome