

IgA 신병증의 새로운 독립적인 예후 인자로써의 혈장 호중구 젤라티나제 결합 리포칼린

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정희연, 오세현, 김경훈, 박승찬, 임정훈, 권오연, 최지영, 조장희, 김찬덕, 김용림, 박선희

Plasma Neutrophil Gelatinase-associated Lipocalin as a New Independent Predictor of Prognosis in IgA Nephropathy

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Background: Neutrophil gelatinase-associated lipocalin (NGAL) is a well-known biomarker of acute kidney injury (AKI). The aim of this study was to evaluate the value of plasma NGAL as an independent predictor associated with prognosis in IgA nephropathy (IgAN).

Methods: A total of 93 patients with biopsy-proven IgAN in a single center were evaluated. Plasma NGAL was measured using a commercial ELISA kit (R&D Systems). Adverse renal outcome was defined as chronic kidney disease (CKD) stage 3 or above at the last follow-up. Pearson's correlation coefficient and Cox regression were used for analysis.

Results: Mean age of all patients (M/F 50/43) was 35 years (18-77 yrs). Plasma NGAL ranged between 21.67 and 446.40 ng/ml (median 125.13 ng/ml) and showed correlation with age ($r=0.326$, $p=0.001$), creatinine ($r=0.403$, $p<0.001$), eGFR ($r=-0.432$, $p<0.001$), uric acid ($r=0.309$, $p=0.003$), and protein-to-creatinine ratio (PCR) ($r=0.308$, $p=0.003$). During a mean follow-up period of 37.6 months, 13 patients (14%) had CKD stage 3 or above. In a multivariate Cox regression model, HTN (HR=7.289 CI 1.448-36.682 $p=0.016$), proteinuria >1 g/day (HR=4.724 CI 1.227-18.182 $p=0.024$), and plasma NGAL (HR=1.010 CI 1.002-1.018 $p=0.018$) were independent predictors associated with adverse renal outcome.

Conclusions: Plasma NGAL showed strong correlation with other clinical prognostic factors of prognosis of IgAN and was an independent predictor of adverse renal outcome. We suggest plasma NGAL as a new independent predictor of prognosis in IgAN, while further studies are needed to confirm the usefulness of plasma NGAL as a predictor.

Key Words: IgA 신병증, 호중구 젤라티나제 결합 리포칼린, 예후
IgAN, NGAL, Prognosis