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급성 신손상 환자에서 plasma NGAL의 유용성

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The Use of Plasma NGAL in Patients with Acute Kidney Injury

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Background: Patients with acute kidney injury (AKI) requiring renal replacement therapy (RRT) have high mortality and morbidity. Plasma NGAL is emerging as an excellent standard-alone troponin-like structural biomarker in the plasma and urine for the early diagnosis of AKI. The aim of this study was to evaluate the prognostic value of plasma NGAL on RRT requirement in adult patients with AKI.

Methods: A total of 52 patients with AKI were analyzed for NGAL. Plasma NGAL at admission or nephrology consultation were measured by ELISA. AKI was diagnosed according to the RIFLE criteria and classified a causes of AKI : pre-renal, intrinsic, and post renal.

Results: Mean plasma NGAL, serum creatinine, and estimating GFR (eGFR) according to the Modification of Diet in Renal Disease (MDRD) formula were 503.98 ng/ml, 3.66 mg/dl, and 24.21 mL • min^{-1} • 1.73m^{-2}. Mean plasma NGAL in R,I,F,L, and E group according to RIFLE criteria were 426.77 ng/ml, 503.78 ng/ml, 510.18 ng/ml, 664.43 ng/ml, and 673.67 ng/dl. Significant differences for NGAL level between the groups according to RIFLE criteria were not detected. Mean plasma NGAL in pre-renal, intrinsic, and post-renal were 478.91 ng/ml, 577.57 ng/ml, and 341 ng/ml. Plasma NGAL did not related with mortality, RRT requirement. Instead, NGAL/eGFR ratio were significantly higher in patients with than without RRT requirement.

Conclusion: NGAL/eGFR was useful marker for predicting the RRT requirement in AKI.

Key Words: 급성신손상, 신대체요법
NGAL, Acute kidney injury