S-C5(E) 우수초록상

Liver type fatty acid-binding protein (L-FABP) : 중환자에서의 예후 예측

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Urinary Liver Type Fatty Acid-binding Protein (L-FABP) Predicts Mortality in ICU Patients

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Although several urinary biomarkers including neutrophil gelatinase associated lipocalin (NGAL) have been characterized and validated as useful biomarkers for the early detection of acute kidney injury (AKI), their usefulness as outcome predictors is not well established. Here, we determined the diagnostic and prognostic ability of urinary L-FABP, one of the newly recognized candidate biomarkers for kidney injury, in heterogeneous intensive care unit (ICU) patients, comparing with those of NGAL.

We prospectively collected data of patients admitted to medical and surgical ICUs from July, 2010 to January, 2011, and urine NGAL and L-FABP at the time of admission to ICU were quantitated. Among 96 patients enrolled, 35 (36.5%) had AKI and 9 patients required renal replacement therapy. Urinary NGAL and L-FABP were significantly higher in patients with AKI compared to non-AKI ICU patients. The diagnostic performance of these biomarkers, assessed by the area under the receiver operating characteristic curve (ROC-AUC), was 0.811 (95% C.I. 0.718-0.903) for NGAL and 0.796 (95% C.I 0.700-0.892) for L-FABP, demonstrating their usefulness in diagnosing AKI. In addition, urinary L-FABP was also found to be useful in predicting in-hospital mortality in multivariate analysis along with SAPS II score, whereas urinary NGAL failed to demonstrate it. The ROC-AUC of urinary L-FABP in predicting in-hospital mortality was 0.743 (95% C.I. 0.635-0.851, with a sensitivity of 72% and a specificity of 70% at a cutoff value of 44.5 ng/mL).

L-FABP, an emerging urinary biomarker, seems to be promising both for the diagnosis of AKI and the prediction of prognosis in heterogeneous ICU patients. It needs to be further examined and validated for clinical utility. Discovery of biomarkers to stratify patients at risk of poor prognosis might improve ultimate outcomes in critically ill patients.

Key Words: 생체표지자, 급성신손상, 예후
Biomarker, Acute kidney injury, Prognosis