

Abstract Type : Poster

Abstract Submission No. : 1806

Metabolic profiles predict acute kidney injury in patients undergoing percutaneous coronary intervention

Miyeun Han¹, Seonghye Kim³, Sujin Lee³, Hye Won Lee², Han Cheol Lee², Hyo Jin Kim², Eun Young Seong², Suhkmann Kim³, Sang Heon Song²

¹Department of Internal Medicine-Nephrology, National Medical Center, Korea, Republic of

²Department of Internal Medicine, Pusan National University Hospital, Korea, Republic of

³Department of Department of Chemistry and Chemistry Institute for Functional Materials, Pusan National University, Korea, Republic of

Objectives: Acute kidney injury (AKI) after percutaneous coronary intervention (PCI) is a common and serious complication of the procedure and is associated with adverse outcomes. Early detection and management of AKI is crucial to minimize its impact and to improve prognosis. This study is to investigate serum metabolites associated with AKI after PCI

Methods: We performed proton nuclear magnetic resonance-based metabolomics analyses of serum from patients undergoing PCI to identify metabolic profiles underlying AKI. Total 31 samples from non-AKI group and 18 samples for AKI group were analyzed.

Results: Multivariate analysis identified four metabolites that allowed the diagnosis of AKI with an area under the receiver operating characteristic (ROC) curve of 0.8. Among those, histidine ($P < 0.01$) and threonine ($P = 0.046$) were significantly associated with AKI in multivariate logistic regression. In multivariate ROC analysis, adding histidine and threonine to clinical variables showed the higher discriminatory ability to predict AKI (AUC 0.929 vs 0.845, $P = 0.063$).

Conclusions: The present study identified histidine and threonine as potential candidate biomarkers of AKI after PCI.