Shaping Tomorrow's Nephrology: Insight-Driven Kidney Care
KSN 2026 SEOUL, KOREA
The 46th Annual Meeting of the Korean Society of Nephrology
THE KOREAN SOCIETY OF NEPHROLOGY
Jun 11 (Thu) – 14 (Sun), 2026
COEX, Seoul, Korea

Abstract Type : Poster exhibition
Abstract Submission No.: A-0745
Abstract Topic : Acute Kidney Injury

H3K18 and Cyclin-D1 levels in plasma are prognostic biomarkers of mortality in patients with sepsis-Associated Acute Kidney Injury

Lilin Li, Qingsong Cui
Department of critical care medicine, the Affiliated hospital of Yanbian University, China

Objectives : Lactylation modification, the lactylation of histone H3K18, plays a critical role in the pathogenesis of sepsis-associated acute kidney injury (SA-AKI). Meanwhile, cyclin D1 actively participates in the repair process of renal tubular epithelial cells following injury. Based on these findings, we evaluated the clinical potential of plasma H3K18 and cyclin D1 as prognostic biomarkers for SA-AKI.
Methods : This study collected data from sepsis patients who were hospitalized in the Intensive Care Unit (ICU) of Affiliated Hospital of Yanbian University from February 2025 to November 2025 and met the Sepsis 3.0 diagnostic criteria. After excluding patients based on the exclusion criteria, a total of 90 patients were finally enrolled as research subjects. H3K18 and Cyclin-D1 were measured using ELISA kits (human Cyclin-D1 kit and human histone acetylase H3K18ac [H3K18ac] kit).We investigated associations between plasma H3K18 and Clyclin concentrations and all-cause mortality.
Results : Plasma H3K18 and cyclin D1 levels were positively correlated. Patients were divided into two groups based on their H3K18 and cyclin D1 concentrations. After adjusting for sex, body mass index, Acute Physiology and Chronic Health Evaluation II, and SOFA score, the groups with higher H3K18 and cyclin D1 levels on day 0 (D0), D3, and D5 had significantly higher in-hospital mortality (H3K18: $P = 0.033$, $P = 0.018$, $P = 0.016$; cyclin D1: $P = 0.024$, $P = 0.029$, $P = 0.034$). Receiver operating characteristic curve analysis indicated that H3K18 and cyclin levels were best at predicting mortality, with day 1 (D1) showing the strongest predictive performance. Addition of plasma H3K18 and cyclin D1 to conventional prognostic indices significantly improved the predictive value for mortality on D1 (AUC, 0.851; 95% CI, 0.795–0.907).
Conclusions : Plasma levels of H3K18 and cyclin D1 were significant predictors of prognosis in patients with sepsis-associated acute kidney injury in the ICU.