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 : Oral presentation
Abstract Submission No.: A-0046
Abstract Topic : Acute Kidney Injury

Early Diastolic Blood Pressure Variability Is Associated with Moderate-to-Severe Acute Kidney Injury After Acute Ischemic Stroke

WON HEE CHO[1], Young Lee[2]
[1]Department of Internal Medicine-Nephrology, VHS Medical Center, Korea, Republic of
[2]Department of Veterans Medical Research Institute, VHS Medical Center, Korea, Republic of

Objectives : Acute kidney injury (AKI) is a serious complication after acute ischemic stroke (AIS), associated with poor outcomes. While blood pressure variability (BPV) is a known risk factor for kidney function decline in chronic settings, its impact on AKI during the acute phase of stroke remains unclear. We aimed to investigate whether early diastolic blood pressure (DBP) variability during hospitalization predicts the incidence and severity of AKI in AIS patients.
Methods : We conducted a retrospective cohort study of 2,421 adults admitted with AIS to the Veterans Health Service Medical Center. DBP variability was quantified as the coefficient of variation of DBP (DBP-CV) using measurements from the first 72 hours. Outcomes were any AKI (Kidney Disease: Improving Global Outcomes [KDIGO] stage 1–3) and moderate-to-severe AKI (KDIGO stage 2–3) defined by creatinine criteria. Multivariable logistic regression adjusted for age, sex, baseline estimated glomerular filtration rate (eGFR), mean DBP, comorbidities, and stroke severity (National Institutes of Health Stroke Scale score).
Results : AKI occurred in 70 patients (2.9%), including 33 (1.4%) with KDIGO stage 2–3. DBP-CV was independently associated with stage 2–3 AKI (adjusted odds ratio 1.95 per 0.1-unit increase; 95% confidence interval 1.07–3.56; p=0.028) but not with any AKI (adjusted odds ratio 1.41; 95% confidence interval 0.91–2.18; p=0.128). The highest versus lowest DBP-CV quartile was associated with stage 2–3 AKI (adjusted odds ratio 4.30; 95% confidence interval 1.13–16.31; p=0.032). The association with stage 2–3 AKI was stronger in patients <75 years (odds ratio 6.30; p for interaction=0.002) and in those with baseline eGFR ≥60 mL/min/1.73 m² (odds ratio 3.01; p for interaction=0.054).
Conclusions : Early DBP variability after AIS is independently associated with moderate-to-severe AKI, particularly in younger patients and those with preserved baseline kidney function. DBP variability may represent a modifiable hemodynamic risk factor for severe AKI after AIS.

Table 1.jpg

Table 1. Multivariable logistic regression analysis for the association between DBP variability and AKI severity

Categories	OR (95% CI)	
AKI stages 1–3		p value
Continuous	1.41 (0.91–2.18)	0.128
Q2 (ref = Q1)	1.89 (0.71–5.03)	0.200
Q3 (ref = Q1)	2.84 (1.15–7.04)	0.024
Q4 (ref = Q1)	2.48 (1.00–6.15)	0.049
AKI stages 2–3		
Continuous	1.95 (1.07–3.56)	0.028
Q2 (ref = Q1)	2.29 (0.51–10.25)	0.278
Q3 (ref = Q1)	2.72 (0.67–11.07)	0.164
Q4 (ref = Q1)	4.30 (1.13–16.31)	0.032

Table 1.jpg