KSN 2018
Seoul, Korea · May 17 - 20

Abstract Type : Poster
Presentation No. : PAK 009

What is the Optimal Blood Pressure in Patients with Acute Kidney Injury?

Seon Ha Baek[1], Ho Jun Chin[2], Ki Yong Na[2], Dong-Wan Chae[2], Sejoong Kim[2]
[1]Department of Internal Medicine-Nephrology, Hallym University Dongtan Sacred Heart Hospital, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, Seoul National University Bundang Hospital, Korea, Republic of

Objectives: Blood pressure (BP) is an important target for kidney injury, but few data showed optimal BP in patients with acute kidney injury (AKI) relative to severe AKI or mortality.

Methods: We performed a retrospective cohort study of 1612 patients who had their creatinine levels measured (≥ 1 measurement) during admission for a period of 1 year (January 1, 2013 through December 31, 2013) at tertiary hospital and were diagnosed with AKI by Kidney Disease Improving Global Outcomes (KDIGO) definition based on serum creatinine criteria. We excluded patients with missing BP data, pre-existing end stage renal disease and intensive care unit admission during hospitalization. Average systolic BP was categorized into 10-mmHg increments (within 48 hours after development of AKI). The primary outcome was a composite of severe AKI or 90-day mortality.

Results: The composite outcome rate for patients was 18.7 % (302/1612). The relationship between BP and composite outcome followed a U-shaped curve, with an increased event rate at both low and high BP values. Average SBP after AKI predicted for composite outcome after adjustment for baseline variables (reference SBP ≥ 140mmHg, <100mmHg, hazard ratio [HR] 0.925, P = 0.761; 100-110mmHg, HR 0.863, P = 0.484; 110-120mmHg, HR 0.624, P = 0.017; 120-130mmHg, HR 0.570, P = 0.005; 130-140mmHg, HR 0.864, P = 0.472).

Conclusions: After AKI, a U-shaped curve association existed between average systolic BP within 48hr after AKI and composite outcome with lowest event rates in the systolic BP range of approximately 110 to 130mmHg, which suggests that too low or too high of systolic pressure (especially <110 or > 140mmHg) may be dangerous.