KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Oral
Abstract Submission No. : OR-1286

Association of Blood Pressure with Mortality and Adverse Cardiovascular Outcome in Chronic Kidney Disease: The Results from KNOW-CKD Study

Jee Young Lee, Shinchan Kang, Hyung Woo Kim, Yooju Nam, Geun Woo Ryu, Seonyeong Lee, Jung Tak Park, Tae-Hyun Yoo, Shin-Wook Kang, Seung Hyeok Han
Department of Internal Medicine-Nephrology, Yonsei University College of Medicine, Korea, Republic of

Objectives: Optimal BP control is a major therapeutic strategy to reduce cardiovascular events and mortality in the management of CKD. Here, we comprehensively studied the association of BP with all-cause death and adverse cardiovascular outcome in patients with CKD.

Methods: Among 2,238 participants from the KoreaN cohort study for Outcome in patients With CKD (KNOW-CKD), 2,226 patients with baseline BP measurements were enrolled. The main exposures of interest were baseline and time-updated systolic BP (SBP) categorized by 10 mmHg; <120, 120-129, 130-139, and ≥140 mmHg. We also categorized diastolic BP (DBP) by 10 mmHg; <70, 70-79, 80-89, and ≥90 mmHg. The primary endpoint was all-cause deaths and cardiovascular outcome. The secondary endpoint was all-cause deaths and cardiovascular outcomes, separately. We used cause-specific hazard models for baseline BPs and time-varying Cox models for time-updated BPs.

Results: During median follow-up of 8007.3789 person-years, the primary composite outcome occurred in 190 (8.54%) participants with the corresponding incidence rate of 23.7 [95% confidence interval [CI], 20.6-27.4] per 1,000 patient-years. Multivariable-adjusted cause-specific model with baseline SBP did not show significant relationship with primary outcome. However, time-varying model showed graded association of time-updated SBP with risk of primary outcome. Compared with SBP <120 mmHg, the HRs (95% CI) for 120-129, 130-139, and ≥140 mmHg were 1.08 (0.51-2.30), 1.97 (0.05-1.00), and 2.07 (1.02-4.20), respectively. In time-varying model with SBP as a continuous measure, a 10 mmHg increase in time-updated SBP was associated with 15% higher risk of primary outcome. Time-updated DBP was also associated with increased risk of primary outcome. In secondary analyses, there was a graded association of time-updated SBP with risk of all-cause mortality. However, this association was not seen in the analysis for cardiovascular outcome.

Conclusions: Korean patients with CKD, higher SBP and DBP were associated with higher risk of composite outcome of all-cause mortality or cardiovascular outcome.