

Abstract Submission No.: A-0229

Medication Burden and Adverse Cardiovascular Events and Death in Patients Undergoing Maintenance Hemodialysis: A Nationwide Cohort Study

Cheol Ho Park¹, Bo Yeon Kim², Seoung Ju Oh³, So Young Han⁴, Jung Tak Park¹, Seung Hyeok Han¹, Tae-Hyun Yoo¹, Shin-Wook Kang¹, Hyung Woo Kim¹

¹Department of Internal Medicine-Nephrology, Severance Hospital, Korea, Republic of

²Department of Healthcare Review and Assessment Committee, Health Insurance Review and Assessment Service, Korea, Republic of

³Department of Quality Assessment Department, Health Insurance Review and Assessment Service, Korea, Republic of

⁴Department of Quality Assessment Management Division, Health Insurance Review and Assessment Service, Korea, Republic of

Objectives : High medication burden is associated with adverse outcomes. Although end-stage kidney disease (ESKD) patients have a substantial medication burden, the relationship between the number of medications in use and clinical outcomes in these patients remains unclear. In this study, the prognostic implications of medication burden and adverse outcomes was investigated in ESKD patients with maintenance hemodialysis (HD).

Methods : A total of 26,690 patients receiving maintenance HD who participated in the Periodic Hemodialysis Quality Assessment conducted by the Health Insurance Review and Assessment Service were analyzed. The main predictor was the number of routinely prescribed medications. The primary outcome was a composite of non-fatal cardiovascular events (myocardial infarction, stroke, or hospitalization for heart failure) or all-cause death (major adverse cardiac and cerebrovascular events, MACCE). The secondary outcomes were the individual components of the primary outcome.

Results : During a follow-up period of 146,749 person-years (median, 6.0 years), MACCE occurred in 17,573 (59.2%) patients. The incidence of MACCE increased gradually with a higher medication burden (84.7, 107.2, 130.2, and 168.9 events per 1000 person-years in Q1–Q4, respectively). In a multivariate Cox proportional hazard model, the adjusted hazard ratios (95% confidence intervals) for the second, third, and highest quartiles were 1.06 (1.01–1.10), 1.13 (1.08–1.19), and 1.29 (1.24–1.35), respectively, compared to the lowest quartile. Similar findings were observed in analyses examining the individual components of the primary outcome.

Conclusions : High medication burden was found to be associated with an increased risk of adverse cardiovascular outcomes and all-cause death in patients receiving maintenance HD. These findings suggest that a high medication burden could be a useful indicator of adverse clinical outcomes in patients receiving HD.