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CARDIOVASCULAR EVENTS AND MORTALITY IN KOREAN PATIENTS WITH CHRONIC KIDNEY DISEASE: RESULTS FROM KNOW-CKD cohorts

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Objectives: There are lack of studies regarding the incidence of major adverse cardiovascular events (MACE) in Asian pre-dialysis population. This study was conducted to analyze the incidences of MACE and death in Korean CKD population, using the data from a multicenter prospective cohort.

Methods: This is a longitudinal analysis from a multicenter prospective cohort study, entitled KNOW-CKD. Among a total 2,238 patients enrolled, 59 patients without follow-up data were excluded and, finally, 2,179 patients were included in the longitudinal analysis. MACE was defined as any of the following events - acute myocardial infarction, unstable angina, receiving percutaneous coronary artery intervention or coronary bypass graft surgery, ischemic or hemorrhagic stroke and congestive heart failure during the follow-up.

Results: Mean age of the study population was 53.6±12.2 years and 38.7% were female. At enrollment, mean eGFR was 53.2±30.7 ml/min/1.73m² and the prevalences of CVD and DM were 6.0% and 33.4%, respectively. During median 4.1 years of follow-up, the incidences of MACE, all-cause death and composite outcome were 17.2, 9.6 and 24.5 per 1,000 patient-year (PY). The incidences of MACE, death and composite outcome were higher in diabetic patients compared to non-diabetics (p<0.001) (Table). The incidence rate increased as CKD stages advanced, for MACE (p=0.001), death (p<0.001) and composite outcomes (p<0.001). (Figure) Using multivariate Cox regressions analysis, male gender, older age (≥ 50 years) and DM were statistically significant risk factors for both MACE and composite outcome. For the composite outcome, the CKD stages G4 (HR 2.3, p=0.025) and G5 (HR 2.3, p=0.004) showed significant increased hazard ratios over CKD stage G1.

Conclusions: The incidences of MACE, all-cause death and composite outcome were 17.2, 9.6 and 24.5 per 1,000 PY, respectively, in Korean non-dialysis dependent CKD patients. Older age (≥ 50 years), DM, and advanced CKD stages were significant risk factors for composite outcome.

Incidence of outcomes according to CKD stages

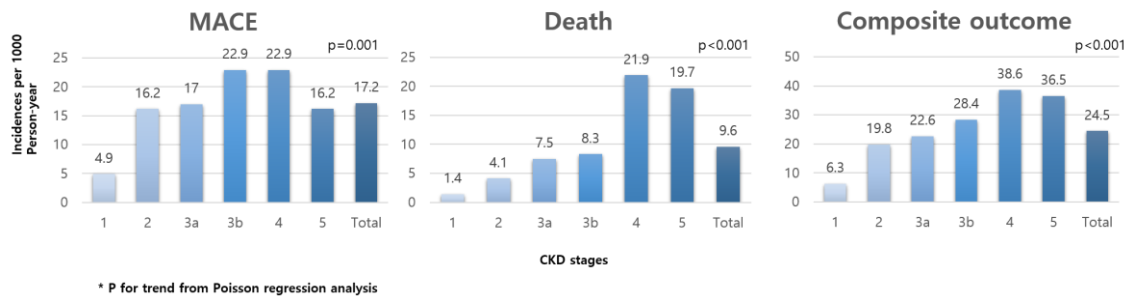


Table 1. Incidence of outcomes in KNOW-CKD population

	Total (n=2179)	DM (n=728)	Non-DM (n=1451)	P-value
Composite outcome	24.5	41.5	17	<0.001
All-cause Death	9.6	16.6	6.4	<0.001
MACE	17.2	29.7	11.6	<0.001