KSN 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Abstract Submission No. : 9084

Metformin use and cardiovascular outcomes in patients with diabetes and chronic kidney disease: A nationwide cohort study

Hyoungnae Kim
Soonchunhyang University Seoul Hospital, Korea

Metformin has been shown to not increase the risk of lactic acidosis in patients with chronic kidney disease (CKD) recently. Thus, the criteria for metformin use tended to expand in this population. However, the relationship between metformin use and clinical outcomes remains controversial in CKD. This study conducted with 97,713 diabetes patients with estimated glomerular filtration rate < 60 mL/min/1.73 m^2. The primary outcome was major adverse cardiac and cerebrovascular events (MACCE), and the secondary outcomes were all-cause mortality and incident end-stage renal disease (ESRD). The risk of MACCE was significantly higher in the metformin users than in the non-users (hazard ratio [HR], 1.20; 95% confidence interval [CI], 1.14–1.26; P < 0.001). However, metformin users had a lower risk of all-cause mortality (HR, 0.78; 95% CI, 0.74–0.81; P < 0.001) and ESRD (HR, 0.44; 95% CI, 0.42–0.47; P < 0.001) than did non-users. Furthermore, the relationships between metformin use and clinical outcomes remained consistent in the propensity score matching analysis and in the subgroup analysis with adequate adherence to anti-diabetes medication. In conclusion, treatment with metformin was associated with an increased risk of MACCE in patients with diabetes and CKD. However, metformin users had a lower risk of all-cause mortality and ESRD than did non-users. Therefore, cautious metformin use is needed in patients with CKD.