

KSN 2016 Abstract Submission

CKD & associated complications

The association of Sitagliptin treatment with all-cause mortality and renal outcomes in diabetic patients with chronic kidney disease

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Backgrounds: The association between Dipeptidyl peptidase 4 (DPP-4) inhibitors and cardiovascular outcomes was reported in large randomized control trials and cohort studies. However, limit data focus on renal outcomes. We investigated the effect of Sitagliptin on all-cause mortality and renal outcomes in a nationwide cohort of Chronic kidney disease (CKD).

Methods: Using data from the multidisciplinary team care pay for performance (P4P) program, a part of National Health Insurance Research Database, we identified CKD patients with diabetes mellitus (DM) between 2007 and 2011. We used intention-to-treat analysis and multivariate Cox proportional hazards to evaluate the association between Sitagliptin use and risks of death and renal outcomes, controlling for medical history, laboratory results, medications, and comorbidities. Patients were followed to death, end-stage renal disease, or the end of 2012. Residual confounding was assessed by sensitivity analysis.

Results: Cumulative mortality rates were lower for Sitagliptin-treated CKD patients with DM than for untreated patients (Incident rate ratio: 0.70, 95% confident interval [CI]: 0.58 - 0.85). Sitagliptin use was independently associated with lower all-cause mortality after multivariate adjustment (adjusted hazard ratio [aHR]: 0.80, 95% CI: 0.65 - 0.99). In multivariable analysis, Sitagliptin use was not significant difference in the risk of end-stage renal disease (aHR: 1.05, 95% CI: 0.91 - 1.20) in CKD patients with DM after adjusting for comorbidities, medications, and competing risk of mortality.

Conclusions: The Sitagliptin was associated with decreased risk of all-cause mortality but not end-stage renal disease in CKD patients with DM. More studies focus on kidney outcomes warrants further investigation.

Keywords: Chronic kidney disease, Dipeptidyl peptidase 4 inhibitors, mortality, end-stage renal disease