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400

REAL-WORLD SAFETY OF SGLT2 INHIBITORS, DPP-4 INHIBITORS, AND GLP-1 AGONISTS IN US VETERANS WITH AND WITHOUT CHRONIC KIDNEY DISEASE:

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While clinical trials have shown that SGLT2 inhibitors (SGLT2i) vs. placebo substantially reduce the risk of eGFR decline, ESRD, and mortality in CKD patients, there remain concerns regarding risk of potential complications based on data from the non-CKD population. We sought to examine the real-world safety of SGLT2i vs. other newer anti-glycemic medications (DPP-4 inhibitors [DPP4i], GLP1 agonists [GLP1a]) in patients with and without underlying CKD.

Among 92,269 US Veterans with diabetes receiving care from the VA healthcare system over 2004-18, we identified incident users of SGLT2i vs. DPP4i vs. GLP1a therapy, excluding combined users of the examined classes. In analyses stratified by presence vs. absence of underlying CKD defined by eGFR and albuminuria, we examined associations of SGLT2i vs. DPP4i vs. GLP1a use with risk of 1) infection-related hospitalization (including genitourinary [GU] infection hospitalization), 2) amputation, and 3) diabetic ketoacidosis (DKA) using multivariable Cox models.

In the overall cohort, compared to DPP4i, SGLT2i use was associated with lower risk of infection-related hospitalization (including GU-infection hospitalization), whereas GLP1a use demonstrated comparable risk. While SGLT2i use was not associated with higher risk of amputation, this therapy was associated with higher risk of DKA compared with DPP4i use. Similar findings were observed in analyses stratified by CKD vs. non-CKD status.

In a national cohort of US Veterans with diabetes, compared with DPP4i use, SGLT2i use was associated with lower risk of infectious hospitalization (including GU-related infection), yet was associated with higher risk of DKA.