Abstract citation ID: ehac779.121

Comparison of risk of hyperkalemia between SGLT2 inhibitors and DPP4-inhibitors in patients with type 2 diabetes

Miss MZ Wu, Ms QW Ren, Ms JY Huang, Miss YK Tse, Mr SY Yu, Mr LF Cheang, Mr HL Li, Doctor YH Chan, Professor HF Tse, Professor KH Yiu

University of Hong Kong-Shenzhen Hospital, Shenzhen, China; the University of Hong Kong, Hong Kong, China

Background: Hyperkalemia is a common complication and increases the risk of cardiac arrhythmias and mortality in patients with type 2 diabetes (T2DM), especially in those with diabetic nephropathy. We investigated the risk of hyperkalemia in patients initiated on SGLT2 inhibitors versus DPP-4 inhibitors among patients with T2DM.

Methods: This study included patients with T2DM who initiated on SGLT2 inhibitors or DPP-4 inhibitors between January 01, 2015 and December 31, 2019 from a territory-wide clinical registry in Hong Kong (Clinical Data Analysis and Reporting System [CDARS]). A multivariable cox proportional hazards analysis, adjusting for key confounders, was used to compare the risk of central laboratory-determined hyperkalemia (serum potassium $\geq$6.0mmol/L) and hypokalemia (serum potassium <3.5mmol/L), respectively, between SGLT2 inhibitors and DPP-4 inhibitors.

Results: 10193 new users of SGLT2 inhibitors were matched to 17305 new users of DPP-4 inhibitors. During the 2-year follow-up, there were 104 hyperkalemia events (incident rate [IR] = 5.17 per 1000 person-years) among SGLT2 inhibitors and 306 events (IR = 9.09 per 1000 person-years) among DPP-4 inhibitors, of which SGLT2 inhibitors were associated with a lower risk of incident hyperkalemia (Adjusted HR: 0.66 [95%CI 0.53-0.83], p<0.001), compared to DPP-4 inhibitors. The incident hypokalemia was similar between SGLT2 inhibitors and DPP-4 inhibitors (Adjusted HR: 0.91 [95%CI 0.81-1.03], P=0.13).

Conclusion: SGLT2 inhibitors reduced incident hyperkalemia, but without increasing incident hypokalemia compared to DPP-4 inhibitors.