

中文題目：第二型糖尿病病患使用第二型鈉-葡萄糖轉運蛋白抑制劑及二肽基肽酶-4 抑制劑發生心房顫動發生風險之比較

英文題目：The risk of new-onset atrial fibrillation in patients with type 2 diabetes mellitus treated with sodium glucose cotransporter 2 inhibitors versus dipeptidyl peptidase-4 inhibitors

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### **Background:**

In type 2 diabetes mellitus (T2DM) patients with/without established cardiovascular diseases, sodium glucose cotransporter 2 inhibitors (SGLT2is) reduce the risk of hard cardiovascular endpoints. Whether SGLT2is are associated with a lower risk of new-onset atrial fibrillation (AF) in T2DM patients is unclear. In this study, we aimed to evaluate the risk of new-onset AF associated with the use of SGLT2is compared to dipeptidyl peptidase-4 inhibitors (DPP4is) among a longitudinal cohort of diabetic patients.

### **Methods:**

Medical data from a multi-center healthcare provider in Taiwan was used in this study. We included a total of 21,480 and 22,989 patients treated with SGLT2is and DPP4is, respectively, from June 1, 2016 to December 31, 2018. We used propensity-score weighting to balance covariates across study groups. Patients were followed up from the drug index date until the occurrence of new-onset AF, discontinuation of the index drug, or the end of the study period, whichever occurred first.

### **Results:**

Overall, 56%, 42%, and 2% of the patients were treated with empagliflozin, dapagliflozin, and canagliflozin, respectively. Linagliptin (51%) was prescribed in most patients in the DPP4i group, followed by sitagliptin (24%), saxagliptin (13%), vildagliptin (8%) and alogliptin (4%). The use of SGLT2is was associated with a lower risk of new-onset AF compared with DPP4is after propensity-score weighting [adjusted hazard ratio: 0.69; 95% confidential interval: 0.64-0.74;  $P < 0.001$ ].

Subgroup analysis revealed that the use of SGLT2is was associated with a lower risk of new-onset AF compared with DPP4is across several subgroups including old age,

the presence of congestive heart failure, cardiovascular disease, overweight patients, hemoglobin A1c 8%, and chronic kidney disease. The advantage of SGLT2is over DPP4is persisted with different SGLT2is (dapagliflozin or empagliflozin) and either low- or standard-dose SGLT2is.

**Conclusions:**

Among T2DM patients in real-world practice, SGLT2is were associated with a lower risk of new-onset AF compared with DPP4is.