

NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

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Title

SGLT-2 inhibitor, cardiovascular risk and outcome in patients with comorbidity of hypertension and diabetes

Priority 1 (Research Category)

Cardiovascular disease

Presenters

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Abstract

Context: Two thirds of diabetes patients complicated with hypertension, and comorbidity increase 4-fold risk of atherosclerotic cardiovascular disease (ASCVD). Sodium-glucose transporter 2 (SGLT-2) inhibitors have been proved to decrease the cardiovascular adverse events in several large randomized controlled trials (RCTS), but evidence limited to patients with type 2 diabetes and ASCVD. Objective: This study aims to investigate the effects of SGLT-2 inhibitors on level of cardiovascular risk (evaluate by China-PAR) and hospitalization events in patient with comorbidity of hypertension and diabetes. Study design and analysis: This is a multiple-center retrospective real-world cohort study. Propensity score matching and multivariate Cox proportional hazard regression model were conducted. Setting or Dataset: Five electronic systems of community clinic. Population Studied: individuals with comorbidity of hypertension and type 2 diabetes. Intervention: Taking SGLT-2 inhibitors more than 3 months. Outcome Measures: Changes of China-PAR score and cardiovascular hospitalization events. Results: After propensity score matching, a total of 3546 individuals with average age of 70 years were included, and 388 (10.94%) individuals were treated by SGLT-2 inhibitors. During the 1 year follow-up, 607 (17.12%) and 453 (12.77%) individuals were hospitalized due to cardiovascular events and stroke, respectively. SGLT-2 inhibitors group had significant lower increment of China-PAR scores ($P=0.001$) compared to control group. Moreover, SGLT-2 inhibitors significantly decrease the all-cause hospitalization (HR 0.548, 95%CI 0.346-0.869, $P=0.010$), cardiovascular events hospitalization (HR 0.637, 95%CI 0.439-0.978, $P=0.043$), and stroke hospitalization (HR 0.466, 95%CI 0.275-0.781, $P=0.004$). Conclusions: SGLT-2 inhibitors are beneficial for inhibiting the increase of cardiovascular risk, and reducing cardiovascular event related hospitalization, especially stroke, in individuals with comorbidity of hypertension and type 2 diabetes.

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