# Sodium-glucose cotransporter-2 inhibitors and recurrence of venous thromboembolic events: observations from prospective real-world registry

KLINIČKA BOLNICA DUBRAVA

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## Background

Sodium-glucose cotransporter-2 (SGLT2) inhibitors are now well-recognized pharmacotherapeutic drugs that have demonstrated efficacy in lowering mortality and morbidity in a variety of cardiovascular and metabolic conditions. Current evidence from randomized trials found no association between SGLT2 inhibitors and risk of venous thromboembolic events (VTEs) among patients with type 2 diabetes. However, as far as the authors of this abstract are aware, no studies have looked into the relationship between SGLT2 inhibitors and recurrence of VTE events.

## Objectives

The aim of this study was to explore association between SGLT2 and the recurrence of VTE episodes.

## Methods

A real-world cohort of patients with pulmonary embolisms (PE) diagnosed between May 2013 and September 2023 was included in our study. We evaluated the incidence of VTE recurrence in a cohort of patients treated with SGLT2 inhibitors either before or subsequent to the original VTE episode, and in a cohort not treated with SGLT2 inhibitors. VTE recurrence was defined as two or more PE and/or deep vein thrombosis (DVT) incidents. We used the chi-squared test for statistical analysis, and a p-value of 0.05 was regarded as statistically significant.

## Figure 1.

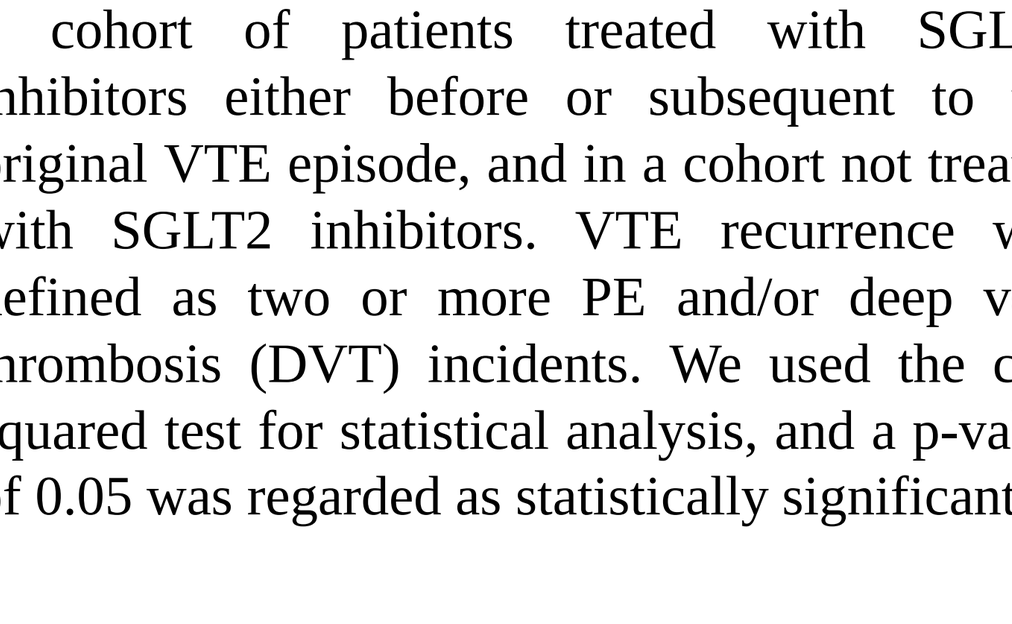


Figure 1. A chart displaying proportion of patient with recurrent VTE. VTE=venous thromboembolic event.

## Results

This registry-based study included 852 patients with a median age of 73 years (IQR 61-80) and a median follow-up period of 56.8 months (IQR 15.1-85.6). Recurrent VTE episodes occurred in 172 individuals (20%) and were less common in patients prescribed with SGLT2 inhibitor before or after index VTE evstatistically significant ($p$ =.887).ents, although this difference was not statistically significant ($p$ =.887).

## Figure 2.

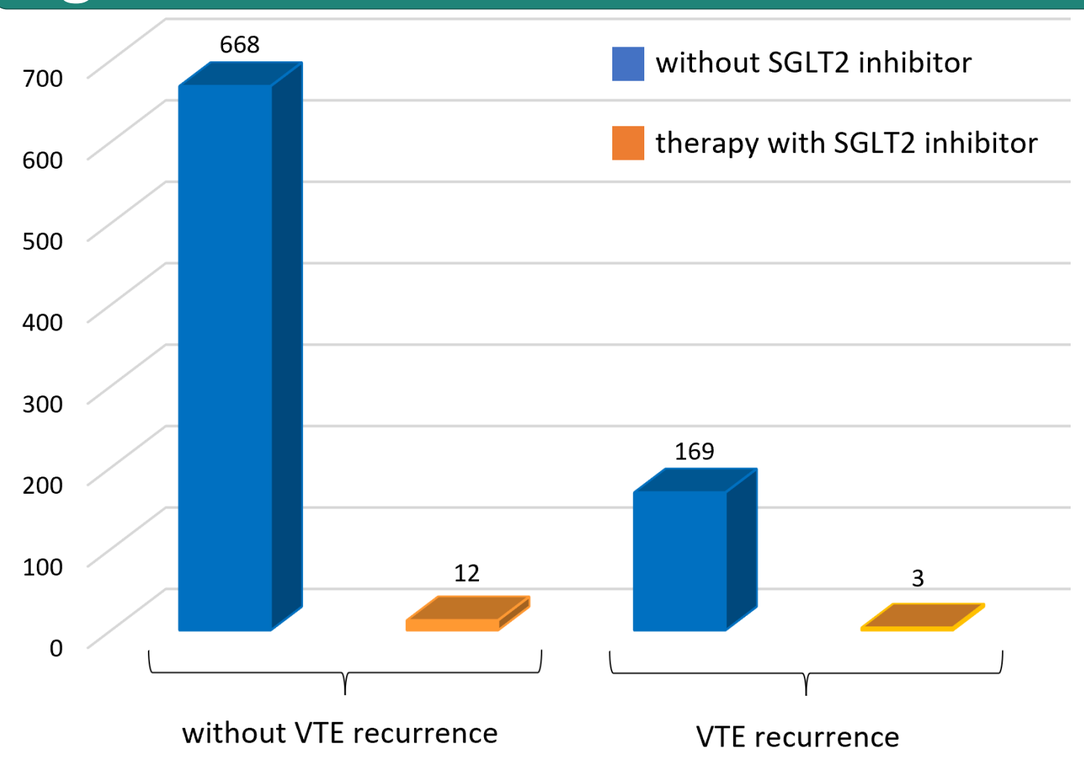


Figure 2. VTE reccurence depending on SGLT2 therapy. SGLT2=sodium-glucose cotransporter-2. VTE=venous thromboembolic event.

## Conclusion

There was a trend towards lower recurrence rate of VTE episodes in the group of patients treated with SGLT2 inhibitors. However, this sample included only few patients, considering that SGLT2 inhibitors are relatively new medications in the pharmacovigilance field. Additional research and larger sample sizes are required to investigate the potential beneficial effects of SGLT2 inhibitors on the recurrence of VTE.

**Keywords:** co-transporter-2 inhibitors

**Literature:**

1. Wang A, Yang K, Wang T, Zhang N, Tang H, Feng X. Effects of sodium-glucose cotransporter 2 inhibitors on risk of venous thromboembolism in patients with type 2 diabetes: A systematic review and meta-analysis. Diabetes Metab Res Rev. 2020 Jan;36(1):e3174.
2. Niklas Schmedt, Dirk Enders, Jochen Walker, Edeltraut Garbe, Antonios Douros, Sodium-Glucose Co-Transporter 2 Inhibitors and the Risk of Venous Thromboembolism in Patients with Type 2 Diabetes: A Cohort Study, The American Journal of Medicine, 134(5), 2021, 606-613.e6, ISSN.

**s:** recurrent venous thromboembolic incident, sodium-glucose