POST-CABGDM

CLINICAL TRIAL SUMMARY

Presenters	University of Sao Paulo General Hospital
Objectives	To evaluate the efficacy and safety of empagliflozin in patients with type 2 diabetes mellitus (T2DM) undergoing elective on-pump coronary artery bypass grafting (CABG)..

https://clinicaltrials.gov/study/NCT04523064

TRIAL DESIGN

Investigator-initiated, Pragmatic, Single-center, Randomized, Open-label Trial With Blinded Outcome Adjudication

SAMPLE SIZE

145 patients with T2DM

INCLUSION CRITERIA

- Age > 18
- Type 2 diabetes mellitus
- Multivessel CAD documented by coronary angiography with formal indication for CRM.

METHODOLOGY

- A total of 145 patients with type 2 diabetes scheduled for elective on-pump CABG were randomized to receive either empagliflozin 25 mg daily plus standard care for at least 3 months (discontinued 72 hours before surgery; n = 71) or standard care alone (n = 74).
- The primary outcome was the incidence of postoperative acute kidney injury (AKI) within 7 days, based on creatinine criteria from AKIN, RIFLE, or KDIGO.
- Secondary outcomes included 30-day postoperative atrial fibrillation and type 5 myocardial infarction.
- Safety outcomes assessed within 30 days post-CABG included ketoacidosis, urinary tract infection, hospital-acquired pneumonia, and wound infection.

RESULTS

Acute kidney injury (AKI) occurred in 22.5% of patients in the empagliflozin group compared to 39.1% in the control group (relative risk [RR] 0.57; 95% CI 0.34–0.96; P = 0.03).

Rates of atrial fibrillation (15.4% vs. 13.5%; RR 1.15; 95% CI 0.52–2.53; P = 0.73) and type 5 myocardial infarction (1.4% vs. 4.1%; RR 0.35; 95% CI 0.04–3.26; P = 0.62) did not differ significantly between groups.

No significant differences in safety outcomes were noted. All three reported deaths occurred in the control group.

CONCLUSION

Preoperative use of empagliflozin in patients with T2DM undergoing on-pump CABG was linked to a lower risk of postoperative AKI without increasing adverse events. Further large-scale trials are needed to validate these findings.

Pitta FG, Lima EG, Tavares CAM, et al. Empagliflozin in Patients With Type 2 Diabetes Undergoing On-Pump CABG: The POST-CABGDM Randomized Clinical Trial. *Diabetes Care*. 2025;48(6):988-995. doi:10.2337/dc24-2807