

Empagliflozin versus dapagliflozin in heart failure patients – preliminary results from the Dubrava University Hospital Registry

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Background: There have been scarce data comparing cardiovascular outcomes between individual sodium-glucose cotransporter 2 (SGLT2) inhibitors¹⁻³. We aimed to compare the subsequent cardiovascular risk between individual SGLT2 inhibitors.

Patients and Methods: All patients diagnosed with or treated for heart failure (HF) at our hospital who were prescribed either dapagliflozin or empagliflozin were analyzed for the primary composite outcome of death from cardiovascular causes, non-fatal myocardial infarction, non-fatal stroke, hospitalization, or emergency room visit for worsening HF or atrial fibrillation (AF). The key secondary outcomes are individual primary events plus worsening peripheral artery disease and urinary tract infections.

Results: A total of 467 patients with median age of 69 years, 67.75% of which are men are included in Registry. During a mean follow up time of 191 days, the primary outcome occurred in 65 patients. 48 patients in whom primary outcome occurred were taking dapagliflozin while 17 patients in whom primary outcome occurred were taking empagliflozin. Currently we did not record enough of primary events to conclude if either dapagliflozin or empagliflozin is superior in reducing primary outcome. The risk for death from cardiovascular causes, death from any cause, developing non-fatal myocardial infarction, non-fatal stroke, AF, worsening renal function, new or worsening peripheral artery disease were not significantly different between the two when accounted for baseline characteristics. We confirmed the robustness of these results through multitude of sensitivity analyses.

Conclusion: When taking in account baseline characteristics currently we did not manage to demonstrate difference between empagliflozin and dapagliflozin in reducing risk for primary and secondary outcomes, but we hope to incorporate much more patients in the future. To our knowledge this is the first study comparing wide range cardiovascular outcomes in patients with HF treated with individual SGLT2 inhibitors using large-scale real-world data.

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LITERATURE

1. Packer M, Anker SD, Butler J, Filippatos G, Pocock SJ, Carson P, et al; EMPEROR-Reduced Trial Investigators. Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure. *N Engl J Med*. 2020 Oct 8;383(15):1413-1424. <https://doi.org/10.1056/NEJMoa2022190>
2. Anker SD, Butler J, Filippatos G, Ferreira JP, Bocchi E, Böhm M, et al; EMPEROR-Preserved Trial Investigators. Empagliflozin in Heart Failure with a Preserved Ejection Fraction. *N Engl J Med*. 2021 Oct 14;385(16):1451-1461. <https://doi.org/10.1056/NEJMoa2107038>
3. McMurray JJV, Solomon SD, Inzucchi SE, Køber L, Kosiborod MN, Martinez FA, et al; DAPA-HF Trial Committees and Investigators. Dapagliflozin in Patients with Heart Failure and Reduced Ejection Fraction. *N Engl J Med*. 2019 Nov 21;381(21):1995-2008. <https://doi.org/10.1056/NEJMoa1911303>