Dapagliflozin vs. empagliflozin in patients with chronic heart failure: a single-center registry analysis

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Introduction: The current guidelines of the European Society of Cardiology for the management of patients with heart failure denote two sodium-glucose co-transporter 2 inhibitors (SGLT2i) – dapagliflozin and empagliflozin - as the only pharmacological options with a disease-modifying effect in chronic heart failure (CHF) across the entire range of left ventricular ejection fraction (LVEF) values.[1] The aim of our study was to assess relative efficacy of dapagliflozin and empagliflozin in routinely treated CHF patients.

Patients and Methods: In this single-center registry analysis, prevalent and incident CHF patients with a wide range of left ventricular ejection fraction values started on dapagliflozin or empagliflozin in addition to other guideline-directed therapy were mutually balanced on a range of characteristics, and were assessed for incidence of a composite of all-cause death/major adverse cardiac events (primary outcome) over the initial 6 months of treatment, and for New Your Heart Association (NYHA) functional class at 6 months (secondary outcome). Frequentist and Bayes (with a moderately informed skeptical prior) estimates were generated for dapagliflozin vs. empagliflozin comparison.

Results: In both prevalent (dapagliflozin n=393, empagliflozin n=328) and incident (dapagliflozin n=124, empagliflozin n=116) patients, those prescribed dapagliflozin had somewhat higher incidence of the primary outcome and were more likely to present with a worse NYHA class at 6 months, but the estimates were imprecise. In the pooled data, primary events (102 in total) were more common in dapagliflozin-prescribed patients (frequentist estimate RR=1.519, 95%CI 1.239-1.861; Bayes RR=1.380, 95%CrI 0.981-1.944). Dapagliflozin-prescribed patients were also were more likely to have a worse NYHA class at 6 months (OR=1.540, 95%CI 1.208-1.962; Bayes OR=1.425, 95%CrI 1.098-1.781).

Conclusion: CHF patients prescribed with dapagliflozin apparently had poorer outcomes than those prescribed with empagliflozin over the initial 6 months of treatment. Data emphasize a need for a direct randomized comparison of the two treatments in this setting.

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LITERATURE

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