Renal and Blood Pressure Effects of Dapagliflozin in Recently Hospitalized Patients with Heart Failure with Mildly Reduced or Preserved Ejection Faction: Insights from the DELIVER Trial

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Background

- Sodium-glucose cotransporter-2 inhibitors (SGLT2i) improve clinical outcomes in patients with both acute decompensated and chronic heart failure (HF).
- DELIVER showed dapagliflozin reduced HF events or CV death in patients with HFmrEF or HFpEF including among stabilized patients who were recently hospitalized.
- Patients recently hospitalized for HF often have unstable hemodynamics & may experience worsening renal failure, while also facing elevated risk for recurrent HF events.
- How the renal & hemodynamic effects of SGLT2i may differ according to the setting of initiation in patients with HFmrEF/HFpEF has not been well characterized.

Objectives

To evaluate the effects of dapagliflozin vs. placebo on 1)acute and chronic eGFR slope, 2)early blood pressure changes, and 3) renal and hypovolemic adverse events.

Methods

DELIVER Population:
NYHA II-IV, LVEF>40%, + structural heart disease, ↑ NP

6,263 Patients randomized → R → Dapagliflozin N=3,131 / Placebo N=3,132

1º Outcome

Worsening HF or CV Death

HR 0.82; p<0.001
95% CI 0.73-0.92

Subacute Population

DELIVER included 654 patients with recent HF hospitalization within 30 days of randomization

Results

Figure 1 Treatment Effects of Dapagliflozin vs. Placebo on All Cause and Cause-Specific Hospitalizations According to Recent HF Hospitalization Status

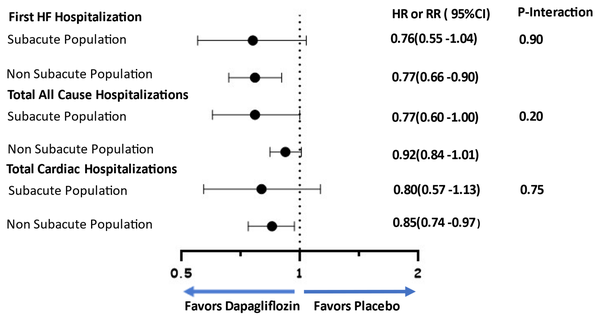


Figure 2 Distribution of eGFR Among Patients With and Without Recent HF Hospitalization

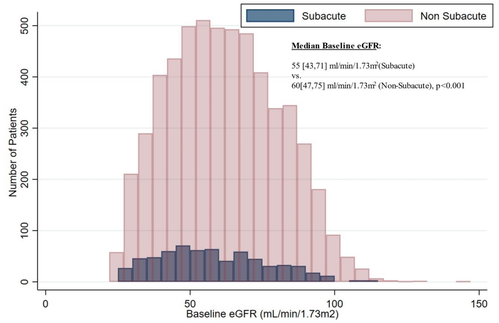


Figure 5. One Month Change in Systolic Blood Pressure in Patients With and Without Recent HF Hospitalization

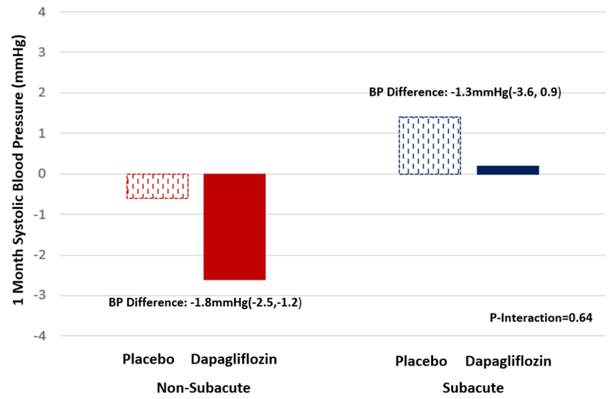
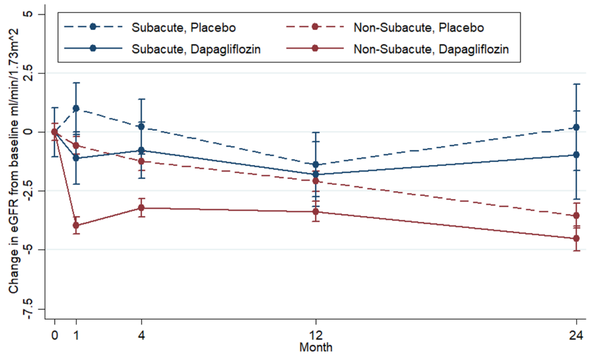
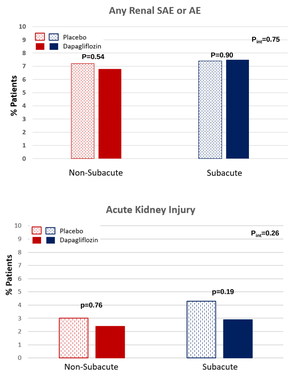


Figure 3. Change in eGFR From Baseline Over Time According to Treatment Assignment in Patients With and Without Recent Heart Failure Hospitalization



	Non Subacute Population			Subacute Population			P-Int
	Placebo	Dapagliflozin	Difference	Placebo	Dapagliflozin	Difference	
Acute Slope (1 month)	-0.6 (-0.9,-0.2)	-4.0(-4.3,-3.6)	-3.4(-3.9,-2.9)	+1.0(-0.5,+2.6)	-1.0(-2.4,+0.4)	-2.0(-4.1,+0.1)	0.12
Chronic Slope (>1month)	-0.11(-0.1,0.08)	-0.03(-0.05,0.0)	+0.08(+0.04,+0.12)	+0.01(-0.1,+0.1)	-0.06(-0.04,+0.2)	0.03(-0.1,+0.2)	0.57
Total Slope	-0.14(-0.15, 0.12)	-0.09(-0.10,-0.07)	+0.04(+0.01,+0.07)	-0.03(-0.11, 0.04)	-0.003(-0.07,+0.08)	+0.02(-0.12,+0.16)	0.66

Figure 4. Selected Renal SAE or AE



Conclusions

- Dapagliflozin consistently reduced all-cause, cardiac related, and HF-specific hospitalizations and slowed long-term eGFR decline in patients recently hospitalized with HF with mildly reduced or preserved ejection fraction.
- Initiation of dapagliflozin had minimal effects on BP and did not increase renal or hypovolemic serious adverse events regardless of setting of initiation.
- These data suggest that the benefit to risk ratio favors initiation of dapagliflozin in the high-risk population of stabilized patients hospitalized or recently hospitalized for HF

Simultaneous Publication

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