

Sodium-glucose cotransporter-2 inhibitors after heart transplantation

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BACKGROUND

Sodium-glucose cotransporter-2 inhibitors (**SGTL2i**): dapagliflozin and empagliflozin, are widely used to manage adult patients with type 2 diabetes mellitus (DM), heart failure (HF), in all ejection fraction subgroups, and slowing the progression or reducing the risk failure of kidney disease.

In recent years, safety and efficacy have been published on their use in kidney transplant patients, however, there is no evidence in heart transplant (HT) recipients.

PURPOSE

To evaluate safety, tolerability and effectiveness of SGTL2i in HT recipients.

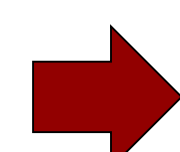
MATERIAL AND METHODS

- Retrospective descriptive cohort study
- Patients included:** All adults undergoing HT from January 2016 to July 2023 treated with SGLT2i in a tertiary hospital
- Demographic, clinical and pharmacological data were recorded.
- Outcome measures:** Body Mass Index (BMI), glycated hemoglobin (HbA1c) and Creatinine at baseline and 6 months, adverse events and number of hospitalizations in patients with HF after SGLT2i initiation
- Statistical analysis:** Wilcoxon test to compare the evolution of efficacy variables (BMI, HbA1c, creatinine) at baseline and 6 months after starting glyflosines was applied

RESULTS

Demographic, clinical and pharmacological results

154 HT recipients screened



28 patients were on SGLT2i



21.4%

Age: 62.1 [50.9 – 63.4] years old

Dapagliflozin: 9 (32.1%)
Empagliflozin: 19 (67.9%)



Median time from HT to SGLT2i initiation was 20 [4-40] months.

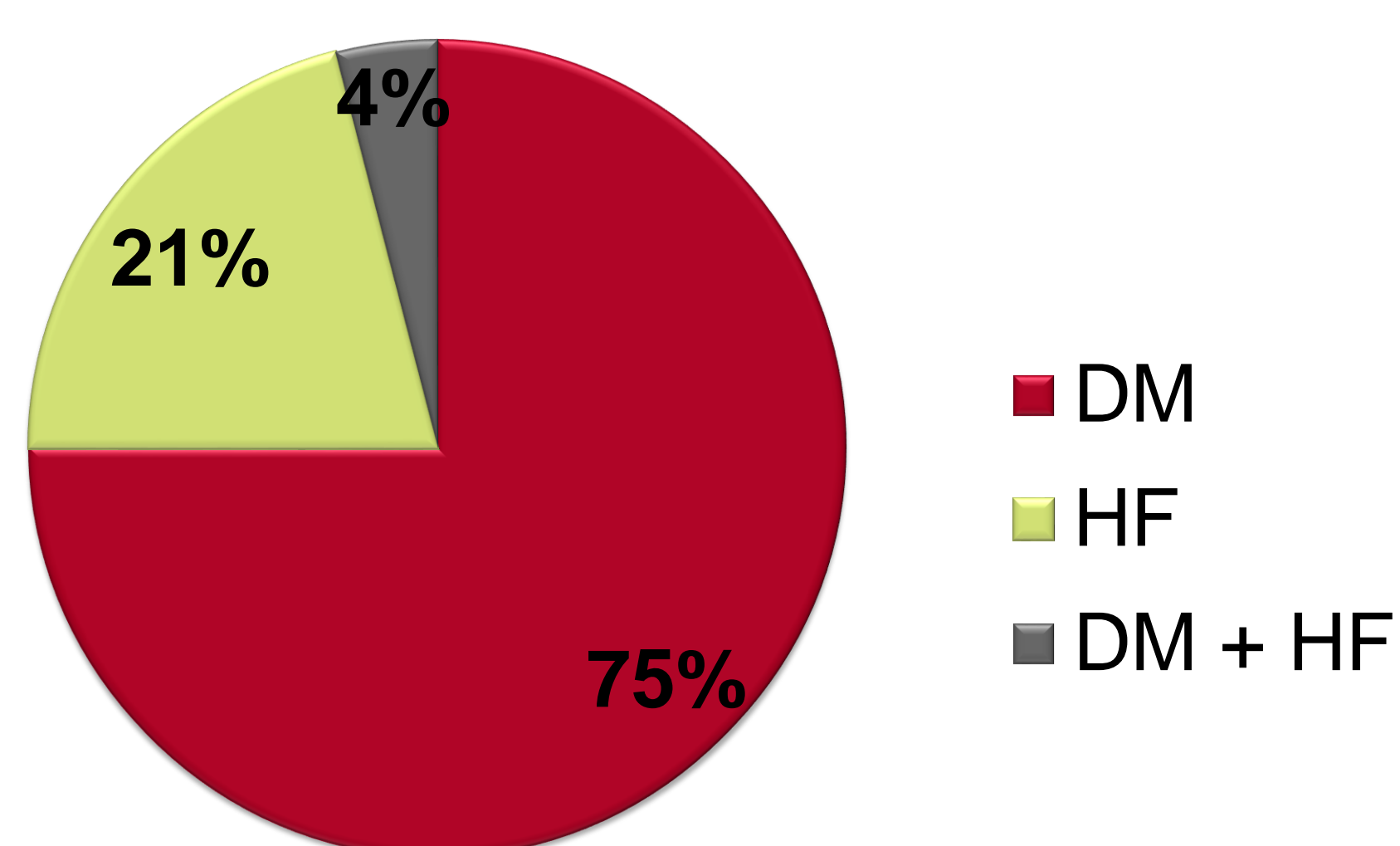


Figure 1. Indications of SGLT2i

22 (78.6%) were DM (DM and DM+HF)

- 18 (81.8%) patients were on a combined hypoglycemic therapy.
- 7 (25.0%) patients developed it after HT.

Effectiveness

Variable	Median (IQR)	p-value
HbA1c	-0.85 (-6.10; 0.00)	< 0.001
BMI	1.36 (-2.26; 0.80)	0.064
Creatinine	3.00 (-11.00; 33.00)	0.402

Table 1: Wilcoxon Test comparing variables at baseline and at six months.

The non-parametric test for paired data showed that only HbA1c was significantly reduced after SGLT2i initiation.

Safety and tolerability

Adverse Events: 3 (10.7%) patients:

- ✓ 2 patients suffered urinary tract infections.
- ✓ 1 patient suffered head instability.

2 patients discontinued SGLT2i, one after 4 months due to intolerance and the other after 11 months because of HbA1c normalization.

CONCLUSIONS

Our results show that SGLT2i are well-tolerated in HT recipients. Although these data are consistent with findings in renal recipients¹, further investigation is needed.

Literature Cited

Kanbay M, Demiray A, Afsar B, Karakus KE, Ortiz A, Hornum M, et al. Sodium-glucose cotransporter 2 inhibitors for diabetes mellitus control after kidney transplantation: Review of the current evidence. *Nephrology (Carlton)*2021;26(12):1007–17.



A10 - DRUGS USED IN DIABETES

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