EFFECTIVENESS OF SGLT2 INHIBITORS ON ALL-CAUSE MORTALITY IN PATIENTS WILD-TYPE TRANSTYRETHIN AMYLOID CARDIOMYOPATHY NOT TAKING TAFAMIDIS

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1. Introduction

- Wild-type transthyretin cardiac amyloidosis (ATTRwt) is a progressive fatal cardiomyopathy with median survival of 3.6 years
- Experts recommend deprescribing beta blockers, ACEi/ARBs, and digoxin in ATTRwt. Efficacy of mineralocorticoid receptor antagonists is not yet established.
- Tafamidis, the approved medication shown to reduce ATTRwt mortality and hospitalization, is expensive – limiting its availability and use
- SGLT2i, a new pillar in heart failure management has not been studied in ATTRwt

2. Research Question

- Does SGLT2i reduce all-cause mortality in ATTRwt?

3. Methods

- Design: Propensity-matched Retrospective Cohort analysis
- Setting: Multicenter
  - >90 Large healthcare organizations enrolled in TriNetX database
  - >120 million deidentified patients electronic health records
- Inclusion:
  - Age > 50
  - Diagnosed with ATTRwt between January 2000 to December 2022
  - Not taking Tafamidis
- Cohorts balanced via 1:1 nearest neighbor propensity score matching (fig 1)
- Two cohorts:
  - (a) Taking SGLT2i
  - (b) NO SGLT2i group
- Outcome of interest: All-cause mortality over 3-year follow-up (fig 2)
- Analysis: Kaplan-Meier Survival Analysis at 95% confidence interval. Analysis done using R statistical package

Fig. 1: Cohorts before (left) and after (right) matching

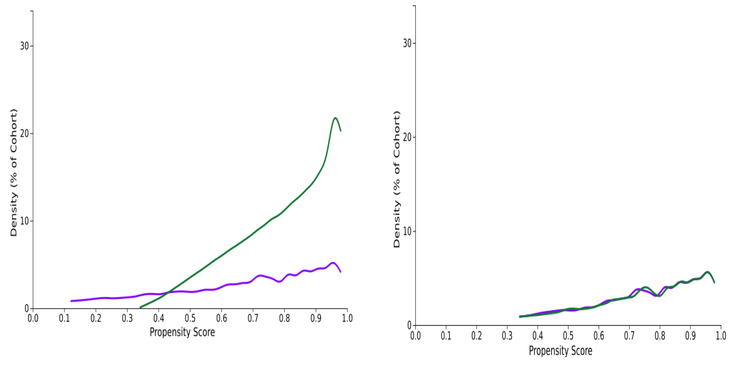
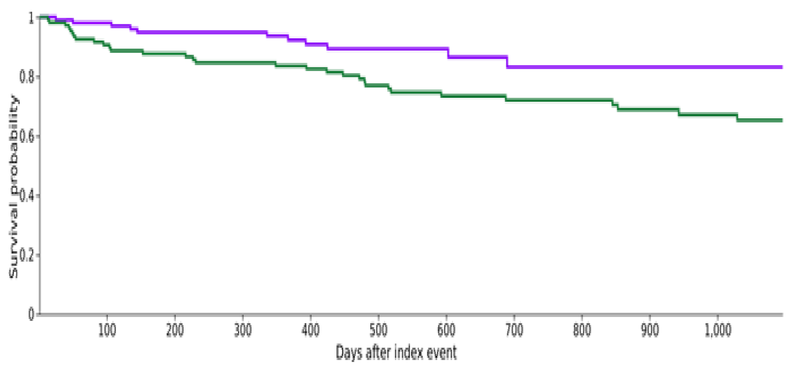
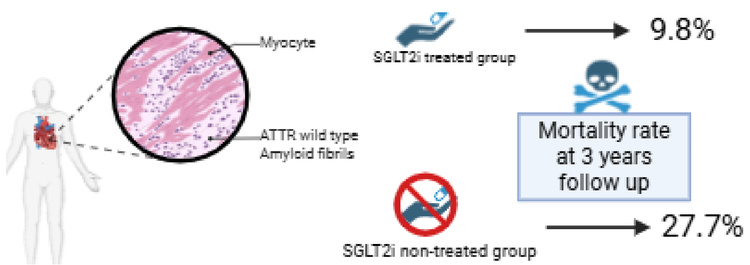


Fig. 2: Kaplan-Meier survival curve



Purple line: SGLT2i treated group; Green Line: NO SGLT2i group



4. Results

- Demographic:
  - Average age of patients was 76 years, 55.8% were White, 20.5% females
- Comorbidities:
  - Atrial arrhythmia (54%), hypertension (66.5%), type 2 DM (35.3%), CKD (33.9%)
- Medications:
  - loop diuretics (53.1%), ACEi/ARBs (18.3%), mineralocorticoid receptor antagonist (22.8%), beta-blocker (37%), statin (37.9%)
- Laboratory:
  - Creatinine in SGLT2i user vs non-user (1.3 ± 0.4 vs 1.4 ± 0.6), NT-pro-BNP (6015 vs 5029)
- Outcome at 3 years follow-up:
  - All-cause mortality rate in the SGLT2i cohort was 9.8% (11/112) versus 27.7% (31/112) in no SGLT2i group
  - SGLT2i lowers risk of all-cause death in ATTRwt by 55% (HR 0.45, 95% CI: 0.22 - 0.89, log-rank test p = 0.019)

5. Conclusion

SGLT2i is associated with reduced mortality in wild type ATTR cardiac amyloidosis

In patients with ATTRwt not taking Tafamidis, those treated with SGLT2i had a significantly higher survival probability than those not treated with SGLT2i (83.2% vs 65.3%, p = 0.019) over 3 years follow up.