

**Heart Failure and Cardiomyopathies****THE IMPACT OF GLUCAGON LIKE PEPTIDE-1 AGONIST THERAPY ON HEART RATE IN ADVANCED SYSTOLIC HEART FAILURE: AN ANALYSIS FROM THE FUNCTIONAL IMPACT OF GLP-1 FOR HEART FAILURE TREATMENT STUDY**

Poster Contributions

Poster Hall, Hall C

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Background: Despite favorable outcomes with the glucagon like peptide-1 (GLP-1) agonist liraglutide in patients with increased cardiovascular risk, the Functional Impact of GLP-1 for Heart Failure Treatment (FIGHT) study reported that liraglutide was not associated with post-hospitalization clinical stability in patients with advanced systolic heart failure (HF). Recognizing that GLP-1 agonists have been associated heart rate (HR) elevation, we hypothesized that increased chronotropy with liraglutide is associated with worse HF outcomes.

Methods: In FIGHT, patients with systolic HF and recent HF hospitalization were randomized to liraglutide (n=154) vs placebo (n=146) for 180 days. The current post-hoc analysis compared change in HR from day 0 to day 30 between liraglutide and placebo groups. Mixed models using random intercept and random slope examined change in HR over time by treatment group. Cox proportional hazard models examined the association between change in HR (day 0 to 30) and death/HF hospitalization (day 30 to 180, adjusted for age, sex, diabetes, creatinine). A linear regression model examined the association between change in HR and day 180 glomerular filtration rate (GFR).

Results: Median change in HR from day 0 to 30 was +1 bpm (IQR -8, 8) for placebo (n=129) vs +3 (-5 to 12) liraglutide (n=135, p=0.031 for liraglutide HR change). Mixed models showed the change rate in HR from day 0 to 30 was significant for liraglutide subjects (parameter estimate +4.0 bpm, p=0.001), but not for placebo. Change in HR was significantly associated with day 180 GFR (parameter estimate -4.6 per 10 bpm HR increase, p<0.001, n=199). There was no significant association between change in HR from day 0 to 30 and death/HF hospitalization (adjusted hazard ratio, 1.015, 95% CI 0.997-1.032, p=0.102).

Conclusions: Liraglutide increased HR at day 30. Early HR increase was associated with worsened renal function at day 180, but the analysis was underpowered to determine if there was an association between change in HR and death/HF hospitalization by day 180.