Adherence to guidelines for diabetic patients with heart failure with reduced ejection fraction


Topic(s):
Chronic Heart Failure: Comorbidities

Citation:

Introduction:
Heart failure (HF) and diabetes mellitus (DM) are two major global chronic diseases which often coexist. Despite a large number of published clinical guidelines, the adherence to treatment guidelines in real world practice were seldom reported. This study aimed to investigate the adherence to diabetes treatment guidelines in patients with HF and reduced ejection fraction (HFrEF).

Methods:
Between 2015 and 2017, 345 diabetic patients with HFrEF in a HF referral center were recruited. Baseline characteristics, the prescription rates of diabetic medications and death from cardiovascular causes or unplanned hospitalization for HF in 2016, 2017 and 2018 were analyzed.

Results:
Among these diabetic patients with HFrEF (age 65.2±12.6 y/o, 71.6% male, mean LVEF 27.5±6.9%, mean BMI 26.2±4.6 kg/m2), the prescription rates of sodium-glucose co-transporter 2 (SGLT2) inhibitor increased from 10.8% in 2016 to 18.8% in 2017 and 26.3% in 2018 (p<0.001), whereas the prescription rates of metformin, dipeptidyl peptidase 4 inhibitor, sulfonylurea, alpha-glucosidase inhibitor and insulin did not change significantly over time. The prescription rates of metformin and SGLT2 inhibitor were significantly higher in patients treated by cardiologists than in those treated by endocrinologists and other specialists (65.5% vs. 40.4% and 40.4%, p<0.001; 32.6% vs. 10.7% and 1.5%, p<0.001, respectively). Compared to those who received metformin with or without SGLT2 inhibitor treatment, patients who were not treated with guideline-recommended anti-diabetic medications had higher annual event rate of death from cardiovascular causes or unplanned hospitalization for HF (10.1% vs. 30.7%, p<0.001). After multivariate analysis, prescription of guideline-recommended anti-diabetic drugs was associated with favorable outcomes (Odds ratio 0.39; 95% CI 0.25 to 0.59; p<0.001).

Conclusion:
Adherence to treatment guidelines for diabetic patients with HFrEF is suboptimal and diverse among different specialists. Moreover, prescription of guideline-recommended anti-diabetic drugs was associated with better clinical outcomes. Our finding emphasizes the importance of training and collaboration in the management of these patients.