Weight loss early after discharge predicts the risk of rehospitalization in non-obese patients with heart failure preserved ejection fraction

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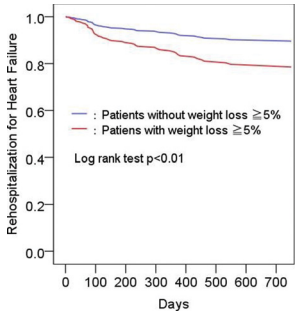
Background: Weight loss (WL) has been considered as a prognostic factor in heart failure with reduced ejection fraction (HFrEF). However, the prognosis and associated factors of WL in heart failure with preserved ejection fraction (HFpEF) have remained unclear.

Purpose: This study aimed to examine the prevalence, prognosis, and clinical characteristics of worse prognosis based on the identified WL after discharge in HFpEF.

Methods: The study was conducted as a part of a multicenter cohort study (Flagship). The cohort study enrolled ambulatory HF who hospitalized due to acute HF or exacerbation of chronic HF. Patients with severe cognitive, psychological disorders or readmitted within 6-month after discharge were excluded in the study. WL was defined as ≥5% weight loss in 6-month after discharge and HFpEF was defined as left ventricular ejection fraction (LVEF) ≥50% at discharge. Age, gender, etiology, prior HF hospitalization, New York Heart Association (NYHA) class, brain natriuretic peptide (BNP) or N-terminal-proBNP (NT-proBNP), anemia (hemoglobin; male <13g/dL, female <12g/dL), serum albumin, Geriatric Depression Scale, hand grip strength and comorbidities were collected at discharge. Patients were stratified according to their body mass index (BMI) at discharge as non-obese (BMI <25) or obese (BMI ≥25). We analyzed the association between WL and HF rehospitalization from 6 month to 2 years after discharge using Kaplan-Meier curve analysis and Cox regression analysis adjusted for age and gender, and clinical characteristics associated to worse prognosis in WL using logistic regression analysis adjusted for potential confounders in HFpEF.

Results: A total of 619 patients with HFpEF were included in the analysis. The prevalence of WL was 12.9% in 482 non-obese and 15.3% in 137 obese patients. During 2 years, 72 patients were readmitted for HF (non-obese: 48, obese: 24). WL in non-obese independently associated with poor prognosis (hazard ratio: 2.2: 95% confidence interval: 1.13–4.25) after adjustment for age and sex, while WL in obese patients did not. Logistic regression analysis chose age (odds ratio 1.02 per 1 year; 1.00–1.05), anemia (2.14; 1.32–3.48), and BNP ≥200pg/mL or NT-proBNP ≥900pg/mL (1.83; 1.18–2.86) as independent associated factors for worse prognosis of WL in non-obese patients.

Conclusion: In HFpEF, WL in early after discharge in non-obese elderly patients may be a prognostic indicator for HF rehospitalization. HF management including WL prevention along with controlling anemia is likely to improve prognosis in this population.



Kaplan Meier survival curves