Abstract: **P6360**

**Prognostic value of polypharmacy in patients with heart failure**

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**Topic(s):**
Acute Heart Failure – Epidemiology, Prognosis, Outcome

**Citation:**

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Nakajima Steel Pipe

Background: Polypharmacy creates an increased patient’s burden by drug-drug interactions and poor adherence. However, there are very few studies available evaluating the association of polypharmacy with hospital readmission in patients with heart failure (HF).

Purpose: The aim of this study was to investigate the impact of polypharmacy on hospital readmission for HF.

Methods: We enrolled 1253 patients who were hospitalized with acute heart failure (AHF) or acute exacerbation of chronic heart failure in the Kitakawachi Clinical Background and Outcome of Heart Failure Registry (KICKOFF Registry) from April 2015 to July 2018 (age 78.1±11.5 years, male 51.4%). Our Registry is a prospective multicenter community-based cohort study of HF patients in Japan. The inclusion criteria for the registry was a diagnosis of HF during hospitalization according to the Framingham criteria, and there were no exclusion criteria. From data at discharge, we collected data on clinical characteristics, medication schedule, and social backgrounds. We defined polypharmacy as the use of seven or more medications. The primary end point was HF rehospitalization within 1 year after discharge. Cox proportional hazards regression analysis was used to describe the association between polypharmacy and 1-year HF rehospitalization, controlling for potential confounding factors.

Results: In this study, the prevalence of polypharmacy was 59.7% of all patients. Patients with polypharmacy were more likely to have comorbidities such as hypertension, dyslipidemia, diabetes, chronic kidney disease, coronary artery disease and dementia. They also had lower EF (50.9±0.64 vs 53.6±0.80, p<0.01), compared to patients without polypharmacy. There was no significant difference in age, gender and BMI, compared to patients without polypharmacy. During the follow-up period, a total of 278 patients (24.9%) were readmitted for HF. In Kaplan-Meier analyses, hospital readmission for HF during 1-year follow-up was significantly higher in patients with polypharmacy (p<0.01) (figure). After adjusting for gender, age, EF, and the other co-morbidities, polypharmacy was independently associated with higher risk of rehospitalization for HF (hazard ratio 1.28, 95% confidence interval, 1.07-1.52, p<0.01).

Conclusion: Polypharmacy is an independent predictor of hospital readmission for HF. Our study suggests the need for developing an effective strategy to choose the appropriate drugs in patients with HF.
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Figure. Kaplan-Meier curves for the incidences of readmission for HF.