The relationship of atrial fibrillation and clinical features with prognosis in patients with acute decompensated heart failure

Reo Hata
Hiroshi Tasaka
Masatomo Ozaki
Mitsuru Yoshino
Yuuichi Kawase
Takeshi Tada
Kazushige Kadota

Introduction: Atrial fibrillation (AF) is a predictor of poor prognosis in patients with acute decompensated heart failure (ADHF). However, little is known its impact of long-term prognosis and the subgroups related to a higher risk of poor prognosis.

Methods: We retrospectively analyzed the consecutive 1318 patients hospitalized for ADHF and discharged alive in the Kurashiki Congestive Heart Failure registry (with a median [IQR] age of 81 [72-87] years, and of whom, 587 [44.5%] were women). They divided them into two groups based on the presence of AF (AF group; n=639 and non-AF group; n=679). The clinical outcome measure is composite endpoint defines as cardiac death and HF hospitalization.

Result: During follow-up period [median 469 days], 362 events were occurred (cardiac death: n=110, HF hospitalization: n=311, both: n=59). The AF group had significantly higher age, female sex, prevalence of patients with previous HF hospitalization, stroke, dementia (AF group vs. non-AF group: 79.3 ± 11.0 vs. 77.1 ± 12.8, p=0.001, 48% vs. 42%, P=0.03, 29% vs. 16%, P=<0.001, 17% vs. 12%, P=0.023, 26% vs. 19%, P=0.003, respectively). The cumulative event rate was significantly higher in the AF group than in the non-AF group (p=0.004). After multivariate adjustment, the risk of clinical outcome measure was significantly higher in the AF group than in the non-AF group (hazard ratio [HR], 1.34; 95% confidence interval [CI], 1.11 to 1.71; p = 0.03). Subgroup analysis in AF group was performed to further stratify the risk. Cox proportional hazards model showed that renal dysfunction (estimated glomerular filtration rate <45ml/min/m2) (HR, 1.48; 95% CI, 1.07 to 2.03; p=0.017), hyponatremia (<135mEq/L) (HR, 1.77; 95% CI, 1.22 to 2.59; p=0.003), and the history of HF hospitalization (HR, 2.20; 95% CI, 1.63 to 2.96; p<0.001), hypoalbuminemia (<3.5g/dL) (HR, 1.48; 95% CI, 1.08 to 2.04; p=0.015) were independent predictors of cardiac events.

Conclusion: AF is associated with worse prognosis in ADHF patients. Renal dysfunction and hyponatremia, and the history of HF hospitalization were independent predictors of cardiac death and HF hospitalization.