Prognosis Significance of Atrial Fibrillation in Patients Hospitalized for Acute Heart Failure

**Introduction**: Atrial fibrillation (AF) is a common comorbidity observed in patients with acute heart failure (AHF). While chronic heart failure patients with AF have a worse prognosis than those with sinus rhythm, little is known about its prognosis in AHF. The objective of this study is to assess short-term outcomes in patients with previously known AF hospitalized for AHF after discharge.

**Methods**: This is a retrospective cohort study of patients with AHF who were hospitalized at the tertiary care hospital between July 2017 and March 2018. Patients were divided into two groups by a history of AF from medical records. The co-primary outcomes were 30-day all-cause mortality and 30-day readmission rate. The secondary outcome was 180-day all-cause mortality. The AHF was defined by the Framingham criteria. Survival analysis and Cox regression were used to analyze the association between AF and outcomes.

**Result**: A total of 181 patients (aged 68.7 ± 13.5, 51.9% men) with a mean EF of 44.0 ± 19.4 were enrolled. Of these, 64 patients (35.4%) had a history of AF. The 30-day mortality, 30-day readmission rate, and 180-day all-cause mortality were 8.8%, 18.2%, and 16.6%, respectively. Kaplan-Meier survival analysis demonstrated that there was no statistically significant difference between the group with AF and group without AF. The Cox regression model revealed that, after adjusting for sex and age, the difference between these two groups remained statistically insignificant for all outcomes including 30-day mortality (HR 1.55, 95% CI 0.58-4.17, p=0.383), 30-day readmission rate (HR 0.49, 95% CI 0.21-1.12, p=0.094), and 180-day all-cause mortality (HR 0.99, 95% CI 0.46-2.11, p=0.971).

**Conclusion**: The previous history AF was not associated with short-term prognosis after discharge in patients hospitalized for AHF. However, further prospective studies are needed to confirm these outcomes.