25. Weekend Versus Weekday Admission and Adverse Events in Heart Failure Patients With and Without Atrial Fibrillation: The good, the Bad and the Ugly

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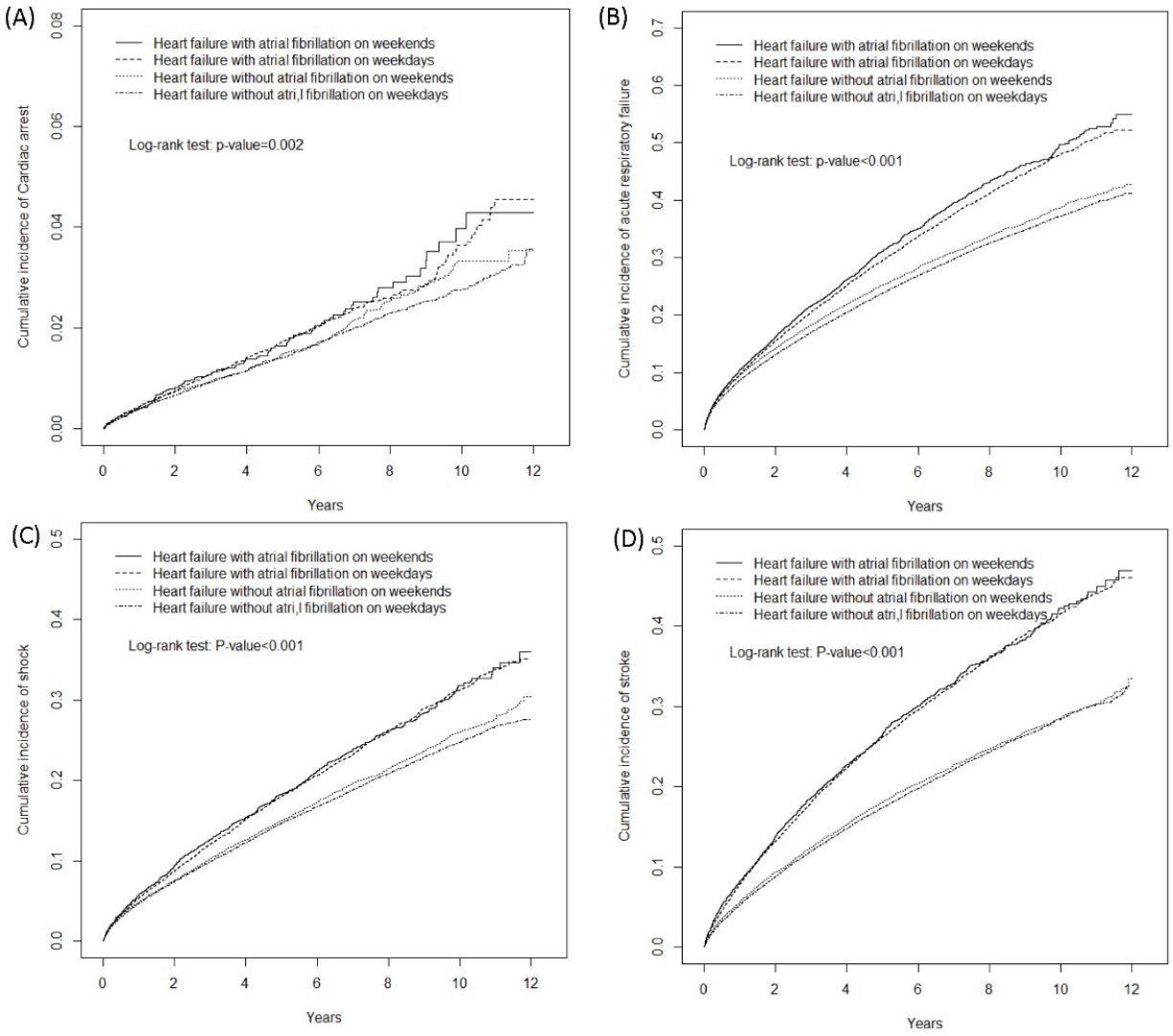
Body

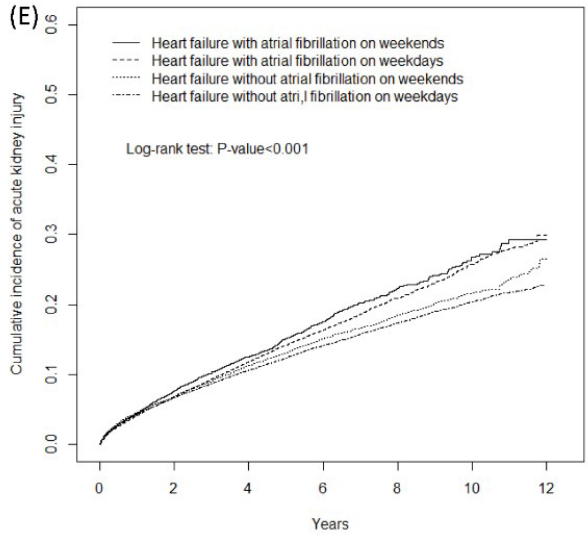
Purpose: We conduct this study to explore the associations of weekend and weekdays admission with the clinical events among heart failure (HF) patients with and without comorbid atrial fibrillation (AF).

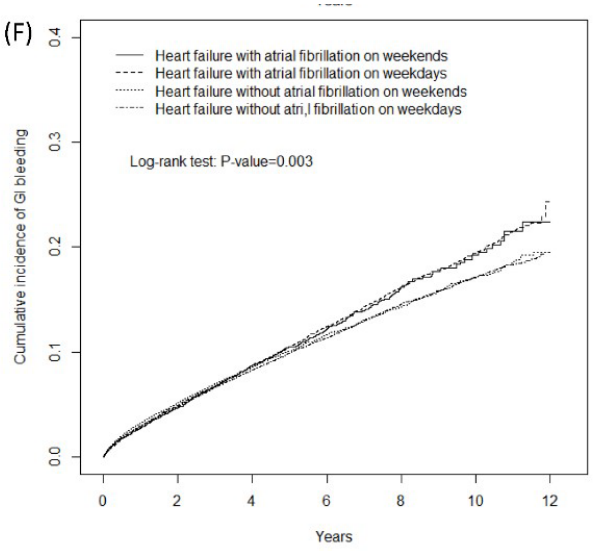
Methods: In this study, we recruited 57919 heart failure patients were hospitalized in weekends and 57919 heart failure patients were hospitalized in weekdays. There were 21467 and 21467 patients with atrial fibrillation in case cohort and control cohort respectively. The outcomes of interest included all-cause mortality, CV death (ICD-9-CM 390-459), and heart failure recurrence. Cox proportional hazard regression model was applied to estimate the hazard ratio. Variables found to be statistically significant in a univariable Cox proportional hazard regression model were further examined in a multivariable Cox proportional hazard regression model. The cumulative incidence curves were obtained by the Kaplan-Meier method and assessed by the Log-rank test.

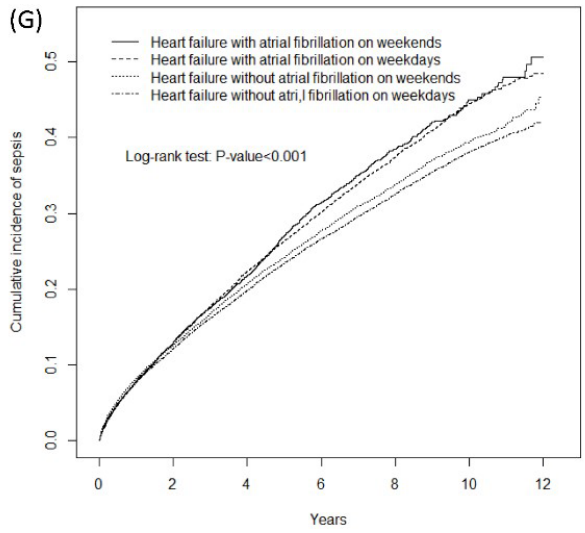
Results: HF patients with AF and hospitalized in weekends had the highest incidence rates of rehospitalization due to HF (233.8 per1000 person-years), and CV death (23.9 per 1000 person-years) among four groups. Kaplan-Meier method shows that HF patients with AF had the higher cumulative incidence of HF recurrence than that of patients without AF.

Conclusion: HF patients with AF and hospitalized in weekends are at highest risk of HF recurrence among these four groups.


(A)
Heart failure with atrial fibrillation on weekends
Heart failure with atrial fibrillation on weekdays
Heart failure without atrial fibrillation on weekends
Heart failure without atri,l fibrillation on weekdays
Log-rank test: p-value=0.002
Cumulative incidence of Cardiac arrest
Years
(B)
Heart failure with atrial fibrillation on weekends
Heart failure with atrial fibrillation on weekdays
Heart failure without atrial fibrillation on weekends
Heart failure without atri,l fibrillation on weekdays
Log-rank test: p-value<0.001
Cumulative incidence of acute respiratory failure
Years
(C)
Heart failure with atrial fibrillation on weekends
Heart failure with atrial fibrillation on weekdays
Heart failure without atrial fibrillation on weekends
Heart failure without atri,l fibrillation on weekdays
Log-rank test: P-value<0.001
Cumulative incidence of shock
Years
(D)
Heart failure with atrial fibrillation on weekends
Heart failure with atrial fibrillation on weekdays
Heart failure without atrial fibrillation on weekends
Heart failure without atri,l fibrillation on weekdays
Log-rank test: P-value<0.001
Cumulative incidence of stroke
Years







Clinical Implications: My study will help enable cardiovascular clinicians to be more familiar with impact of admission timing on HF patients with/without AF.