

5th International Conference on

Clinical & Experimental Cardiology

April 27-29, 2015 Philadelphia, USA

Prognostic implications of atrial fibrillation on patients admitted with acute decompensated heart failure and acute kidney injury

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Introduction: Patients with acute heart failure (AHF) & acute kidney injury (AKI) have increased hospital mortality and readmissions. The impact of atrial fibrillation (AF) in these patients has not been well studied. We examined the hypothesis that the presence of AF in patients with AHF and AKI will further increase mortality and rates of readmission.

Methods: Medical records of patients who were admitted with AHF and AKI between 2008 and 2010 (n=244) were reviewed. The patients were divided into two groups: patients with AHF and AKI with presence of AF (N= 66), and absence of AF (N=178). Presence of AF was confirmed using electrocardiogram on admission. AKI was defined as a rise of serum creatinine > 0.3 mg/dL above their baseline.

Results: We studied 244 patients with AHF and AKI (121 male and 123 female) with a mean age of 64.12 ± 16.4 ; 27% of patients had AF on admission. The 30 days in-hospital mortality, 90-days readmission and length of hospital stay were significantly higher in patients with AF compared to patients without AF (Table 1). In the multivariate logistic regression model the only independent predictors of mortality were left ventricular ejection fraction (odds ratio 0.963; 95 % CI 0.930 to 0.997; P = 0.032) and the use of angiotensin converting enzyme inhibitors (odds ratio 0.225; 95% CI 0.066 to 0.763; P = 0.017).

Conclusion: The presence of AF in patients with AHF and AKI is associated with increased mortality, readmission rates and length of hospital stay. Higher LVEF and the use of ACE inhibitors predicted better survival.

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