Objective To investigate the prognostic value of atrial fibrillation (AF) in patients with chronic systolic heart failure (CSHF).

Methods Data of in-hospital patients with CSHF were investigated between 2000 and 2010 from 12 hospitals in Hubei Province. Inclusion criteria: over 18 years of age, organic heart disease and with the symptom of heart failure (HF) including dyspnea and fatigue. We excluded from this series patients with a history of myocardial infarction in the prior 12 months, congenital heart disease, pericardial disease and the history of cancer. We used χ2 tests and t tests for descriptive analyses. Univariate Kaplan–Meier curve was performed to evaluate the difference in prognosis between AF and non-AF group. Multivariate Cox regression analysis was performed to determine the independent risk factors of all-cause mortality, cardiovascular mortality, HF mortality, sudden cardiac death (SCD) and thrombosis-related mortality, respectively. Statistical tests were evaluated with the use of 2-tailed 95% confidence levels, and tests with p<0.01 were considered significant. Data analyses were performed with the use of SPSS 13.0 for Windows, release 15, 2006 (SPSS, Chicago, Illinois, USA).

Results (1) 16,681 patients were enrolled in the present study of which AF accounted 6,807 (40.81%). (2) Over 5.82±1.63 years follow-up, 6,453 died. The result of univariate Kaplan–Meier curve shows there was significant difference in all-cause mortality, cardiovascular mortality, HF mortality and thrombosis-related mortality while not in SCD. (3) The result of multivariate Cox regression analysis showed AF was not the independent risk factor of all-cause mortality, cardiovascular
mortality, HF mortality or SCD. AF increased thrombosis-related mortality (HR 2.134, 95% CI 1.846 to 2.430, p<0.01).

**Conclusions** AF increase thrombosis-related mortality while not other end points in patients with CSHF which indicate AF correlated with adverse prognosis lies in its side-effect while not the arrhythmia.