

Usefulness of H₂FPEF score as an independent predictor of heart failure development in patients with atrial fibrillation

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Background: The H₂ FPEF score, which based on simple clinical characteristics and echocardiography, enables discrimination of HFpEF from noncardiac causes of dyspnea.

Purpose: We sought to evaluate whether H₂ FPEF score predicts congestive heart failure (CHF) development in patients with atrial fibrillation (AF).

Methods: Among adult AF patients who underwent transthoracic echocardiography between July 2007 and December 2008, those with preserved left ventricular ejection fraction (LVEF) ($\geq 50\%$) were included and followed up to new-onset CHF events. Patients with a history of CHF, cardiac surgery, or significant left-sided valvular heart disease were excluded. The H₂ FPEF score was calculated from 6 variables (obesity = 2 points, treatment with ≥ 2 antihypertensive drugs = 1 point, AF = 3 points, echocardiographic pulmonary artery systolic pressure > 35 mmHg = 1 point, age > 60 years = 1 point, and echocardiographic E/e' ratio > 9 = 1 point). CHF was

ascertained using Framingham criteria. Cox-proportional hazards modeling was used to assess risk of CHF development.

Results: Of 562 AF patients, 367 (69 \pm 10 year old, 66% men) met all study criteria. Of whom, 37 (10%) developed CHF events during a mean follow-up of 56 \pm 43 months. The mean H₂ FPEF score was 5.50 \pm 1.14, and the number of patients with H₂ FPEF score ≥ 7 was 64 (17%). After adjusting for comorbidities in a multivariate model, H₂ FPEF score was significant predictor of new-onset CHF events both as continuous (HR=1.43, 95% CI: 1.05–1.96, $P < 0.05$) or categorical (H₂ FPEF score ≥ 7) (HR=2.32, 95% CI: 1.17–4.63, $P < 0.05$) variables. The Kaplan-Meier estimates of CHF-free survival stratified by H₂ FPEF status (≥ 7 or < 7) were shown in Figure.

Conclusion: H₂ FPEF score provides prognostic information for new-onset CHF development in patients with AF.

Kaplan-Meier Estimates of CHF-free Survival by H₂FPEF Status

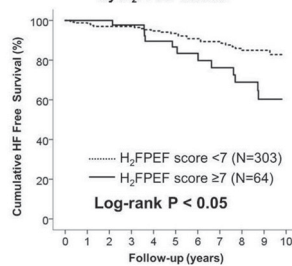


Figure 1