中文題目：貧血為心房顫動病患不良心臟事件的獨立預測因子

英文題目：Anemia as an independent predictor of adverse cardiac outcomes in patients with atrial fibrillation

作者:李文賢 [1,2]，許栢超 [1,3]，朱俊源 [1]，李弘昊 [1]，李智雄 [1,3]，顏學偉 [1,3]，林宗憲 [1,3]，蘇河名 [1,2,3]，溫文才 [1,3]，賴文德 [1,3]，許勝雄 [1,3]

服務單位:高雄醫學大學附設中和紀念醫院心臟內科 [1]，高雄市立小港醫院 [2]，高雄醫學大學醫學系 [3]

## 前言

Anemia and echocardiographic systolic and diastolic parameters were useful in predicting cardiovascular outcomes in patients with atrial fibrillation (AF). However, there was no study to investigate the prognostic value of anemia in cardiovascular outcome prediction in AF patients if important echocardiographic parameters were known. Therefore, this study was designed to evaluate whether low hemoglobin was a useful parameter in prediction of poor cardiac outcome after adjustment for important echocardiographic parameters in AF patients.

## 材料及方法

This observational cohort study prospectively included patients with persistent AF referred for echocardiographic examinations at Kaohsiung Municipal Hsiao-Kang Hospital from April 2010 to June 2012. Persistent AF was defined as AF lasting for at least 7 days, which was confirmed by 12-lead eletrocardiography (ECG), 24-hour Holter ECG or ECG recording during echocardiographic examination. Patients with inadequate echocardiographic visualization and significant valvular heart diseases included moderate and severe mitral stenosis, moderate and severe aortic stenosis or regurgitation, and severe mitral regurgitation were excluded. Patients with acute or chronic bleeding and vitamin B12, folate, or iron deficiency were also excluded. Finally, 166 AF patients were included in this study. We measured many echocardiographic parameters by index beat method. Cardiac events were defined as death and hospitalization for heart failure. The association of hemoglobin with adverse cardiac events was assessed using Cox proportional hazards model.

## 結果

There were 49 cardiac events including 21 deaths and 28 hospitalizations for heart failure during an average follow-up of 20 (25th-75th percentile: 14-32) months. Multivariable analysis showed increased left ventricular mass index (LVMI) and decreased body mass index, estimated glomerular filtration rate, and hemoglobin (hazard ratio 0.827; P = 0.015) were independently associated with increased cardiac events. Additionally, the addition of hemoglobin to a Cox model consisting of important clinic variables, LVMI, left ventricular ejection fraction, and the ratio of transmitral E-wave velocity to early diastolic mitral annulus velocity resulted in a significant improvement in prediction of adverse cardiac events (P = 0.010).

**結論**

Hemoglobin was a useful parameter in predicting adverse cardiac events and could offer an additional prognostic benefit over conventional clinical and echocardiographic parameters in patients with AF.