

HEART RATE, SYSTEMATIC INFLAMMATION AND PROGNOSIS IN PATIENTS WITH PERSISTENT ATRIAL FIBRILLATION

ACC Poster Contributions

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Background: Previous studies have shown positive relationship between heart rate (HR) and cardiovascular mortality in healthy subjects as well as hypertensive patients with sinus rhythm. Although clinical guidelines recommend HR between 60-80 beats/min as “optimal” rate control in patient with atrial fibrillation (AF), relationship between HR and prognosis in patients with persistent AF is unclear.

The aims of this study were (1). to investigate whether HR predicts prognosis of persistent AF and (2). to identify determinants of HR in patients with persistent AF.

Methods: A total of 405 patients (281 male) with persistent AF were enrolled. Patients were divided into two groups according to HR; slow HR group (n=202, HR<80 beats/min) and rapid HR group (n=203, HR≥80 beats/min) at rest. Long-term prognosis was compared between the 2 groups. Primary end-point was all-cause death. Secondary end-point was a composite of cardiovascular events (cardiac death, heart failure, acute coronary syndrome and stroke). To identify predictors of HR, clinical characteristics, laboratory data, and medications were compared between slow and rapid HR group.

Results: During follow-up period (mean 38 months), all-cause death was documented in 21 (10.4%) of 202 patients in the slow HR group and 45 (22.2%) of 203 patients in the rapid HR group (p<0.001). Cardiovascular events were documented in 39 (19%) in the slow HR group and 61 (30%) in the rapid group. By multivariate analysis, HR was an independent predictor of all-cause death (odds ratio 2.14, p=0.001) and cardiovascular events (odds ratio 1.02, p=0.03). Clinical characteristics and medications were not significantly different between the 2 groups. On the other hand, CRP was significantly higher in rapid HR group than in slow HR group (0.18±0.29 vs 0.32±0.40mg/dl, p<0.001). By multivariate analysis, CRP was an independent predictor of rapid HR (odds ratio 4.56, p=0.001).

Conclusions: HR predicts prognosis in patients with persistent AF. Systemic inflammation, as documented by elevated CRP, may be related to HR.