Comparison of Clinical Outcomes between Sinus Rhythm and Atrial Fibrillation in Heart Failure Patients with Cardiac Resynchronization Therapy

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Objectives: The purpose of this analysis was to evaluate the correlation between atrial fibrillation (AF) and clinical outcomes in heart failure (HF) patients implanted with a cardiac resynchronization therapy (CRT).

Methods: We implanted 20 CRT-pacemaker and 63 CRT-defibrillator in 83 HF patients from July 2004 to Mar 2010. We detected AF in 47 patients at implant or during follow-up period, and compared clinical outcomes (death, hospitalization for heart failure, and echocardiographic findings) between sinus group and AF group. Results: The baseline clinical characteristics were well matched. During a median follow-up period of 28.8 months, 19 patients in AF group died, as compared with 7 in sinus group (P=0.004), and 19 patients were hospitalized for heart failure, as compared with 7 in sinus group (P=0.004). A reduction of 43.8ml in LVEDV observed at follow-up echocardiography in sinus group, compared with a 12.9ml reduction in AF group, and a reduction of 37.6ml in LVESV observed in sinus group, compared with 14.0ml in AF group. We performed AV node ablation for 21 AF patients, and there was no significant difference between AV node ablation group and non-ablation group in overall risk of death. Conclusions: In HF patients with CRT, AF was associated with a worse prognosis in comparison with sinus rhythm.

Keywords: CRT, AF