

## **Cardiac Resynchronisation Therapy in Patients with Atrial Fibrillation**

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Background: Atrial fibrillation (AF) is the most common arrhythmia in patients with heart failure (HF) and represents an important comorbidity in these patients. Cardiac resynchronisation therapy (CRT) is used in patients with HF. Whether patients with AF benefit similarly from CRT as their counterparts in sinus rhythm is controversial.

Objectives: To characterize patients with and without AF who underwent CRT implantation and compare their clinical outcomes.

Methods and Results: We conducted a cohort analysis of 184 patients (144 men, 40 women; age range 57 to 79 years) who underwent CRT implantation during 2004-2008 in our institute. AF was documented in 71 patients (39% of patients, 65 men, 8 women). Patients with AF had more frequently chronic renal failure (52% vs. 38%;  $p=0.02$ ) and chronic obstructive pulmonary disease (22% vs. 11%;  $p=0.03$ ) as compared to patients without AF. There was no difference in one year mortality between patients with and without AF (13% vs. 15%;  $p=0.8$ ). In addition, there were no differences in complications rate after CRT implantation and in the rate of appropriate electrical shocks received. On univariate-analysis, factors associated with one year mortality in both groups were ischemic cardiomyopathy (O.R.= 9.9;  $p=0.025$ ), chronic renal failure (O.R.= 2.8;  $P=0.017$ ) and hemoglobin level (O.R.= 0.7;  $P=0.009$ ). In AF patients with CRT-D, the one year mortality was 6.5% as compared to 25.9% in AF patients with CRT-P ( $p=0.032$ ). Twelve patients with AF underwent AV- node ablation. The one year mortality of these patients was 8.3% as compared to 14.8% in AF patients without AV-node ablation ( $p=1.0$ ).

Conclusions: One year mortality of patients with HF and AF who undergo CRT implantation is not different than the 1-year mortality of patients without AF. In this retrospective cohort of AF patients, CRT-D was associated with lower mortality rate.