Risk factors of all-cause mortality in patients with hypertrophic cardiomyopathy after pacemaker implantation

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Introduction: Our study is aimed to investigate the predictors of long-term all-cause mortality in patients with hypertrophic cardiomyopathy (HCM) after pacemaker implantation.

Methods: We retrospectively examined 103 patients who were diagnosed with HCM and underwent pacemaker implantation from November 1, 2002 to June 1, 2013. Demographic parameters, clinical data including affiliated diseases, laboratory examination, echocardiographic parameters and medications at baseline were analyzed.

Result: One hundred and three patients (52 males, mean age 57.0 ± 15.9 years) were included. Atrial fibrillation (42.5%), hypertension (27.7%) and diabetes mellitus (13.8%) were the most common affiliated diseases at baseline. During a mean follow-up of 7.3 ± 3.4 years, 9 patients upgraded to implantable cardiac defibrillators (ICD) and 25 patients died, 17 of whom were due to cardiovascular diseases. Dual-chamber pacemaker were implanted in 88 patients (85.4%) received, 85 of whom (96.8%) received consecutive right ventricular apical pacing. In univariate Cox regression models, ischemic heart disease (IHD), left ventricular outflow tract obstruction (LVOTO), left atrial diameter (LAD), left ventricular end-diastolic diameter (LVEDD), left ventricular ejection fraction (LVEF), heart rate (HR), warfarin usage and dual-chamber pacing were associated with all-cause mortality (p<0.10). In multivariate analysis, only IHD (HR = 4.751; 95%CI = 1.206-18.717; P = 0.026) was an independent risk factor of all-cause mortality.

Conclusion: IHD was a significant risk factor of all-cause mortality in HCM patients after pacemaker implantation.