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Improvement in ejection fraction predicts heart failure after catheter ablation for atrial fibrillation in patients with left ventricular systolic dysfunction: from the KPAF registry

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Introduction: The presence of atrial fibrillation (AF) in patients with reduced left ventricular ejection fraction (LVEF) is associated with increased risks of mortality and hospitalization for heart failure (HF). Although prior studies reported that catheter ablation (CA) for AF in low LVEF patients reduced risks of all-cause mortality and HF hospitalization, the predictors of worsening HF after ablation has not been adequately evaluated.

Purpose: The purpose of this study was to investigate the impact of improvement in LVEF after AF ablation on the incidence of subsequent HF hospitalization in patients with low LVEF.

Methods: The Kansai Plus Atrial Fibrillation (KPAF) Registry is a multicenter registry enrolling 5,013 consecutive patients undergoing first-time ablation for AF. The current study population consisted of 1,031 patients with reduced LVEF of <60%. We divided the study population into 3 groups ac-

cording to LVEF at follow-up: 678 patients (65.8%) with improved LVEF (≥ 5 U change in LVEF), 288 patients (27.9%) with unchanged LVEF ($-5 \leq$ change in LVEF < 5 U) and 65 patients (6.3%) with worsened LVEF (< -5 U change in LVEF).

Results: During the median follow-up of 1067 [879–1226] days, patients improved LVEF had lower rate of HF hospitalization, compared with those with unchanged and worsened LVEF (2.1%, 8.0%, and 21.5%, respectively, $P < 0.0001$). Recurrent atrial tachyarrhythmias were documented in 43.5%, 47.2% and 67.7%, respectively ($P = 0.0008$).

Conclusion: Among patients with reduced LVEF undergoing AF ablation, patients with subsequently improved LVEF in association with maintained sinus rhythm had markedly lower risk of HF hospitalization during follow-up as compared with those with unchanged or worsened LVEF.

Figure 1. Freedom from hospitalization for heart failure after catheter ablation for atrial fibrillation

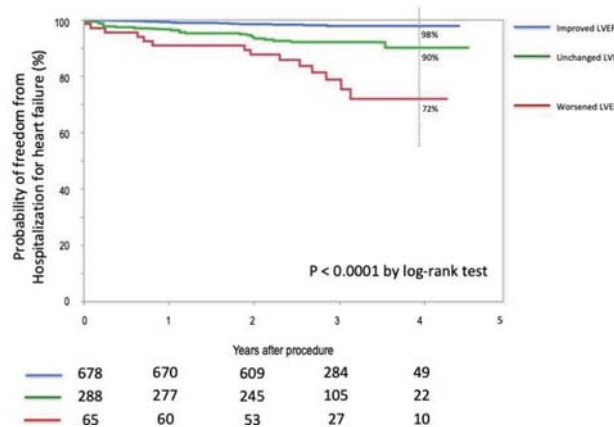


Figure 1