The impact of catheter ablation for patients with asymptomatic atrial fibrillation: subanalysis of kansai plus atrial fibrillation (kpaf) registry

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Background: Catheter ablation (CA) of atrial fibrillation (AF) for symptomatic patients improves the quality of life and prognosis of patients with heart failure. However, the impact of CA for asymptomatic patients is still controversial.

Purpose: We aimed to investigate the clinical outcomes of CA of AF for asymptomatic patients compared to those for symptomatic patients.

Methods: A total of 5,013 patients from the Kansai Plus Atrial Fibrillation (KPAF) Registry who underwent CA were screened. The patients were divided into three groups by type of AF; paroxysmal (PAF), persistent (PEAF) and long standing (LSAF) and the patients in each type of AF were divided into two groups: asymptomatic and symptomatic. The primary endpoint was recurrent supraventricular tachyarrhythmias lasting for more than 30 seconds during follow-up 4 years after CA. The secondary endpoint was a composite of cardiovascular, cerebral, and gastrointestinal events during follow-up 4 years after CA. The incidence of complications related to CA between asymptomatic and symptomatic patients was also evaluated. Kaplan–Meier analysis was employed to estimate the primary and secondary endpoints. The statistical differences in primary and secondary endpoints between asymptomatic and symptomatic patients were evaluated using a log–rank test. The impact of symptom due to AF on the primary and secondary endpoint was evaluated using a Cox hazard analysis. The difference in incidence of complications between asymptomatic and symptomatic patients was evaluated using a chi–square test.

Results: In this study population, PAF was the most frequent at 64.4%, followed by PEAF (22.7%) and LSAF (13.0%). There were some significant differences in the baseline characteristics between asymptomatic and symptomatic patients in each type of AF. The proportion of male was significantly higher in asymptomatic patients than symptomatic patients in PAF (81.2% versus 67.2%, $p<0.001$) and PEAF (86.4% versus 74.3%, $p<0.001$). Left atrial diameter was larger in asymptomatic patients than symptomatic patients only in PAF (40±6mm versus 38±6mm, $p<0.001$). In all types of AF, there was no significant difference in primary endpoint between asymptomatic and symptomatic patients as follows: 37.5% versus 40.6% (p=0.6) in PAF, 45.2% versus 55.1% (p=0.09) in PEAF and 59.3% versus 63.6% (p=1.0) in LSAF. There was also no significant difference in secondary endpoint between asymptomatic and symptomatic patients: 7.1% versus 6.8% (p=0.7) in PAF, 5.4% versus 8.7% (p=0.3) in PEAF and 4.4% versus 5.1% (p=0.5) in LSAF. In a Cox hazard analysis, the symptom did not affect both of the primary and secondary endpoints in each type of AF. In regard to the incidence of complications related to CA, there was no significant difference between asymptomatic and symptomatic patients in each type of AF.

Conclusion: CA of AF for asymptomatic patients can be safe and can lead to equivalent outcomes as well as symptomatic patients.