Improvement in quality of life in patients that underwent catheter ablation for persistent atrial fibrillation.

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**Introduction:** Maintenance of the sinus rhythm (SR) is an important component in management of patients with atrial fibrillation (AF) frequently leading to better quality of life (QOL). However, whether use of catheter ablation would lead to better QOL in comparison to antiarrhythmic (AA) drugs is largely unclear.

**Methods:** The Keio interhospital Cardiovascular Studies (KiCS) AF Registry is an observational and multicenter outpatient-based AF registry. In this registry, the electro-cardiograms were recorded after the initial and 1st year outpatient visit. For QOL evaluation, the participating patients were asked to answer internationally-validated questionnaire (AFEQT), which comprises 4 subsets that include 20 questions concerning symptom, daily activity, treatment concern and satisfaction, at the time of registration and at the 1st year. For the present analysis, we divided patients with persistent AF into 4 groups; patients who underwent catheter ablation and maintained sinus rhythm (group 1), patients who underwent catheter ablation and had non-sinus rhythm at the 1 year follow-up (eg. AF or atrial tachycardia [AT]: group 2), patients who maintained sinus rhythm by AAs (group 3) and patients who did not undergo catheter ablation or AA treatment (group 4). The total QOL scores were compared by one-way ANOVA between these four groups. Also, the scores were compared between each group by Tukey test.

**Result:** Overall, 1040 patients with persistent AF were analyzed. 432 patients completed 1-year follow-up (107 patients were in group 1, 22 in group 2, 50 in group 3 and 253 in group 4). Although total AFEQT scores at baseline showed no difference between the four groups (77±16 vs. 79±13 vs. 78±16 vs. 78±16, respectively: Figure 1a), the scores in group 1 were better than the others at 1 year follow-up (91±14 vs. 78±13 vs. 84±14 vs. 82±14 [p<0.01]; Figure 1b). Importantly this trend could be seen in the subgroup of patients who had better QOL (AFEQT scores equal to or more than 80 at baseline: 90±5 vs. 90±6 vs. 91±5 vs. 90±6 at baseline and 95±10 vs. 88±10 vs. 86±9 vs. 86±10 at 1 year [p<0.01]).

**Conclusion:** Maintaining SR by catheter ablation is associated with better QOL for persistent AF patients in comparison to AA therapy.