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Effect of rhythm control therapy for asymptomatic atrial fibrillation

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Background/Introduction
Cather ablation (CA) for atrial fibrillation (AF) as rhythm control therapy has widely spread. However, the indication of CA for the patients with asymptomatic AF is controversial (2016 ESC Guidelines for the management of atrial fibrillation developed in collaboration with EACTS).

Purpose
This study was aimed to examine the effect of CA for asymptomatic AF patients.

Methods
In a total of 522 consecutive patients who were hospitalized for the initial CA for AF, 123 patients (23.6%) who were asymptomatic were retrospectively analyzed. "Asymptomatic AF" was defined when the patients had no complaints during the medical interviews. Quality of life (QOL) was evaluated with the AF QOL Questionnaire score (AFQLQ, invented by the Japanese Society of Electrocardiology) before CA and at 1 year after a single CA.

Results
A total of 79 patients were persistent AF (64.2%). Sinus rhythm maintenance rate at 3 years after CA was 57.0% in a single session and 84.8% in multiple sessions. In cardiac echo data at baseline, 3 months, 6 months, and 1 year after CA, left ventricular ejection fraction (LVEF) and left atrium diameter (LAD) were improved in the initial three months after a single CA (LVEF; 62.8±8.0%?64.4±6.5%, p=0.045, LAD; 39.7±6.1mm?35.3±7.0mm, p=0.0002). In LA volume measured with CT before and after CA, LA reverse remodeling was observed (102.7±32.3ml?72.4±24.1ml, p<.0001). In AFQLQ2 (severity of symptoms), there was no significant difference (16.3±2.2?15.9±1.7 out of 18, p=0.69). However, in AFQLQ1 (frequency of symptoms) and AFQLQ3 (limitations of activities and mental anxiety), the score was improved (20.2±4.5?23.4±1.1 out of 24, p<.0001 and 47.6±7.8?51.3±6.1 out of 56, p=0.0001). Moreover, in low LVEF patients (LVEF<50%, n=8), LVEF was remarkably improved (44.1±4.0%?56.3±10.8%, p=0.034).

Conclusions
The improvement of LVEF and LA reverse remodeling can be expected at the early stage after CA, because of the reduction of AF burden. Moreover, the further improvement of QOL can be expected after CA, even in the patients with "asymptomatic" AF.