New Predictor of Recurrence after Pulmonary Vein Isolation in Patients with Paroxysmal or Chronic Atrial Fibrillation

Shingo Maeda, Yasuteru Yamauchi, Hiroyuki Okada, Susumu Tao, Nobuyuki Kagiyama, Takaki Naito, Tetsuo Yamaguchi, Nobuhiro Hara, Yuji Konishi, Tomoyuki Umemoto, Takamichi Miyamoto, Tohru Obayashi

Department of Cardiology, Musashino Red Cross Hospital, Japan

Background: It is well known that left atrial (LA) enlargement, a low velocity of the LA appendage (LAA) and a long duration of atrial fibrillation (AF) represent the predictors of recurrence after pulmonary vein isolation (PVI). This study aimed to investigate a new predictor of recurrence after PVI in patients with paroxysmal (PAF) or chronic AF (CAF). Methods: The study included 211 consecutive patients with AF (PAF: n=141, CAF: n=70) that underwent a PVI procedure, and the CAF patients received an additional left atrial ablation. We evaluated the angle of the LA roof in addition to several parameters. The angle of the LA roof was measured by angiography of the LA before the PVI procedure. Results: During a mean follow-up period of 12±5 months, recurrences of AF were observed in 16% of the patients with PAF and 24% of those with CAF. The patients with recurrent AF had an obtuse angle of the LA roof, compared to the patients without recurrent AF in both the PAF and CAF groups, respectively (PAF: 141° vs. 130°, p<0.05, CAF: 160° vs. 147°, p<0.05). Conclusion: The angle of the LA roof became a new predictor for recurrence after PVI in patients with both PAF and CAF.

Keywords: atrial fibrillation, ablation, recurrence