Utility of TactiCath ablation catheter for pulmonary vein isolation in atrial fibrillation ablation

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Introduction: Pulmonary vein isolation (PVI) for atrial fibrillation (AF) is widely performed. We have been performed PVI with TactiCath (TC) ablation catheter (Abbot) which can visualize contact force of catheter tip for about two years. The primary aim of this study is to evaluate the utility of TC in PVI.

Methods: Between November 2016 and October 2017, 45 patients underwent an initial PVI for AF in our hospital. First, we investigated following data: age, sex, hypertension (HT), diabetes (DM), chronic renal failure (CRF), CHA2DS2-VASc score, echocardiographic measurement data (left ventricular end diastolic diameter, left ventricular end systolic diameter, left ventricular ejection fraction, left atrial diameter), types of AF (paroxysmal or persistent), PVI success rate, AF recurrence rate at one year after ablation, total delivered energy for PVI, procedure time, fluoroscopy time, and number of clinical complications. Second, We divided them into two groups: 25 cases using TC (TC group) and 20 cases not using TC (non-TC group), and compared between the groups. All statistical analyses were performed with Stat Flex Version 6.

Result: Among 45 patients, paroxysmal AF was 73%, PVI success rate was 97%, AF recurrence rate was 22% and no clinical complications occurred. The total delivered energy for PVI was significantly lower (P<0.001) and the number of persistent AF was significantly higher (P=0.02) in TC group.

Conclusion: PVI with TC reduced the total delivered energy for PVI than without TC. The usefulness of TC was suggested in PVI.