Efficacy and safety of catheter ablation combined with left atrial appendage occlusion in patients with atrial fibrillation

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Introduction: Catheter ablation is an effective therapy for symptomatic, drug-refractory atrial fibrillation (AF) patients. Left atrial appendage occlusion (LAAO) was an attractive alternative for stroke prevention. The concomitant catheter ablation and LAAO may be a feasible way to relieve symptom, reduce stroke and abolish anticoagulation simultaneously. The aim was to evaluate the feasibility and efficacy of the novel one-stop procedure.

Methods: Patients with AF at high risk of thromboembolic events and bleeding who underwent one-stop combined ablation and LAAO for drug-refractory and high risk of thromboembolic events were included. Follow-up was performed at 45-day, 6- and 12-month. Adverse events were recorded in the hospital's on-line information systems. Transoesophageal echocardiography was utilized to detect device-related thrombus and evaluate the device position and width of residual flow. Holter monitoring was performed to screening the recurrence of AF. Baseline and 1-year brain computed tomography were used to detect symptomatic and silent stroke.

Result: 238 patients underwent concomitant catheter ablation and LAAO and were included (mean age 69.4±7.5 years; 145 men). The mean CHA2DS2-VASc score was 3.9±1.6. Cryoballoon ablation (CBCA) was used in 99 patients and radiofrequency ablation (RFCA) was used in 139 patients. A mean follow-up of 26.2±10.1 months showed 54 documented atrial arrhythmia recurrence of AF. 2 patients died at 10-day and 6-month follow-up respectively. 3 patients have major bleeding and 5 patients has stroke (Table). Device thrombus occurred in 3 patients.

Conclusion: The one-stop combined LAAO and catheter ablation may be a feasible and efficacious therapeutic option to relieve symptom and reduce stroke simultaneously in patients with AF at high risk of thromboembolic events and bleeding.