Objectives Atrial fibrillation (AF) is one of the most common cardiac arrhythmias, which is harmful to human health and
quality of life. AADs are limited in clinical because of their side effects, so in recent years, RFCA has become one of the effective treatments for AF whose clinical application is showing a clear upward trend. In order to explore the efficacy and safety of catheter ablation for AF, we have followed up the patients with AF undergoing catheter ablation in this study.

**Methods** A cohort of 39 patients with AF after RFCA from 2008 to 2011 was studied, 25 male and 14 female; the average age was 61.08±10.17 (36–74) years old. Among them, there were 32 cases with paroxysmal AF and seven cases with persistent AF. 19 cases were complicated with hypertension, six cases with coronary heart disease, seven cases with diabetes and two cases with cerebral infarction. All the patients suffered from obvious clinical discomfortable symptoms. Although treated by one to two kinds of AADs already, the effects were poor. CPVI was performed in the all of them (five cases recurred, 13.51%). The endpoint of the ablation was complete electronic isolation of all the pulmonary veins (PVs). The patients who were converted to sinus rhythm in the cause of ablation were validated by Lasso electrodes, and could not be evoked atrial arrhythmia again. However, those who were failed to be converted to sinus rhythm would be validated after electroversion. For those who weren’t isolated PVs completely, the conducted gap was initially posited by the mapping catheter, and the earliest fragmented potential was targeted for ablation till the complete electronic isolation of all the PVs.

**Results** (1) The results of catheter ablation: 37 cases were successfully achieved immediately the endpoint after the ablation. Surgery average time of operation was (174.89±35.05) min, average X-ray exposure time (33.62±16.44) min, average discharge time (40.78±11.61) min; No severe complications such as pulmonary vein stenosis, pericardial tamponade, cardio-esophagus fistula, stroke occurred during and after the procedure. One case with paroxysmal AF was converted to auricular flutter after ablation, who were failed to be converted to sinus rhythm by synchronised cardioversion, but converted after Marshall Ligament ablation; three cases with persistent AF undergoing ablation were turned to be sinus rhythm by cardioversion; one case with persistent AF undergoing ablation was converted to sinus rhythm by intravenous irapbullitt. Five cases developed atrial tachyarrhythmias in 5–7 days after ablation: four cases appeared paroxysmal AF with fast ventricular rate; one case appeared paroxysmal atrial tachycardia; another one was sinus bradycardia, junctional escape. All the patients didn’t suffer dyspnea, cough, haemoptysis and so on before discharge, moreover distention of jugular vein, pulsus paradoxus and pericardial rub were not found through physical examination. No severe complication happened during and after the procedure, and all of them maintained sinus rhythm before discharge. (2) Follow-up: 37 cases were followed-up after 6–12 months, average 6±2 months, only one case lost communication and one case died of congestive heart failure. Five cases recurred: one case with paroxysmal AF who recurred after simple CPVI refused re-ablation, decreased episode frequency and took amiodarone to maintain sinus rhythm. One patient who performed CPVI and atria sinistrum isthmus ablation, three cases with paroxysmal AF appeared atrial arrhythmia after RFCA, but they refused re-ablation temporarily because of decreasing episode frequency. 36 cases took warfarin according to monitoring INR periodically, while one case took warfarin only 2 months after ablation because of hemorrhinia. Dyspnea, cough related to pulmonary vein stenosis, and thromboembolism complications didn’t occur for all of the cases. The LAD of 29 cases recovered normal size (LAD≤35 mm) on cardiac ultrasound 3 months after ablation. The lower the preoperative LVEF is, the more obvious the improvement is after RFCA.

**Conclusions** Catheter ablation is safe and effective for treating AF.