

# **Recurrent atrial flutter and atrial fibrillation after catheter ablation of the cavotricuspid isthmus: a very long-term follow-up of 333 patients.**

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摘要

## **Abstract**

Introduction: Radiofrequency catheter ablation of the cavotricuspid isthmus is an effective therapy for typical atrial flutter (AFL), however, the long-term recurrence of AFL and early or late occurrence of atrial fibrillation (AF) are not well defined. This study investigated the long-term (up to 68 months) outcome of patients with typical AFL after catheter ablation of the cavotricuspid isthmus. Methods: This study included 380 patients with typical AFL, who received linear ablation of the cavotricuspid isthmus. They were followed up at the outpatient clinic. A questionnaire was used to evaluate the symptoms suggestive of tachyarrhythmias, and 12-lead ECG, Holter monitoring and event recorders were used to confirm the diagnosis of tachyarrhythmias. Results: At the end of study, 47 patients lost follow-up, so that 333 patients were enrolled into final analysis. Ten (3%) patients had failed ablation of typical AFL. Univariate analysis showed that left atrial dimension was the only factor related to failed ablation. During the long-term follow-up period of  $29 \pm 17$  months (range 7 to 68 months), 29 (9%) patients had recurrent AFL, including 15 with typical and 14 with atypical AFL. Univariate and multivariate analyses showed that incomplete isthmus block and inducible atypical AFL were the independent predictors of recurrent typical and atypical AFL, respectively. One hundred and two (31%) patients developed AF, including 48 with early occurrence of AF (within 3 months after ablation), and 54 with late occurrence of AF (greater than 3 months). Univariate and multivariate analyses showed that prior history of AF and inducible AF were independent predictors of early occurrence of AF, and prior history of AF was the only independent predictor of late occurrence of AF. Conclusions: Linear ablation of the cavotricuspid isthmus is an effective therapy with low recurrence rate for patients with typical AFL. However, one-third patients had early or late occurrence of AF.