

# Long-term outcome of radiofrequency catheter ablation for typical atrial flutter: risk prediction of recurrent arrhythmias. J. Cardiovasc.

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摘要

## Abstract

**INTRODUCTION:** Little is known about the predictors of recurrent atrial flutter or fibrillation after successful radiofrequency ablation of typical atrial flutter. In addition, there is only limited evidence suggesting that elimination of atrial flutter would modify the natural history of atrial fibrillation in patients who experienced both of these arrhythmias. The aims of the present study were to investigate the long-term results of radiofrequency catheter ablation and to examine the predictors for late occurrence of atrial fibrillation in a large population with typical atrial flutter.

**METHODS AND RESULTS:** The study population consisted of 144 patients (mean age 56 +/- 18 years) with successful ablation of clinically documented typical atrial flutter. In the first 50 patients, successful ablation was defined as termination and noninducibility of atrial flutter; for the subsequent 94 patients, successful ablation was defined as achievement of bidirectional isthmus conduction block and no induction of atrial flutter. The clinical and echocardiographic variables were analyzed in relation to the late occurrence of atrial flutter or fibrillation. Over the follow-up period of 17 +/- 13 months, 14 (9.7%) patients had recurrence of typical atrial flutter. In the first 50 patients, 8 (16%) had recurrence of atrial flutter, compared with only 6 (6%) of the following 94 patients. Patients with incomplete isthmus block had a significantly higher incidence of recurrent atrial flutter than those with complete isthmus block (6/16 vs 0/78,  $P < 0.0001$ ) in the following 94 patients. There was no predictor for recurrence of atrial flutter after successful ablation as determined by univariate and multivariate analysis. Although successful ablation of atrial flutter eliminated atrial fibrillation in 45% of patients with a prior history of atrial fibrillation, 31 (21.5%) of 144 patients undergoing this procedure developed atrial fibrillation during the follow-up period. Univariate analysis revealed that three clinical variables were related to the occurrence of atrial fibrillation: (1) the presence of structural heart disease; (2) a history of atrial fibrillation before ablation; and (3) inducible sustained atrial fibrillation after ablation. By multivariate analysis, only a history of atrial fibrillation and inducible sustained atrial fibrillation could

predict the late development of atrial fibrillation after atrial flutter ablation.  
CONCLUSION: Radiofrequency catheter ablation of typical atrial flutter is highly effective and associated with a low recurrence rate of atrial flutter, but atrial fibrillation continues to be a long-term risk for patients undergoing this procedure. The presence of structural heart disease and prior spontaneous or inducible sustained atrial fibrillation increases the risk of developing atrial fibrillation.