

Electrophysiological mechanisms and catheter ablation of complex atrial arrhythmias from crista terminalis.

謝敏雄

Lin YJ; Tai CT; Liu TY; Higa S; Lee PC; Huang JL; Yuniadi Y; Huang BH; Lee KT; Hsieh MH

摘要

Abstract

Paroxysmal atrial fibrillation (PAF) can be initiated by ectopic activation from the crista terminalis. The crista terminalis conduction gap is also a critical isthmus in atrial reentrant arrhythmias like upper and lower loop reentry. The aim of this study was to investigate the mechanism and results of catheter ablation for complex atrial arrhythmias originating from the crista terminalis using the noncontact mapping system (NCM). The study population consisted of six patients (5 men, 1 woman; 70 +/- 9 years) with drug refractory PAF and typical/atypical atrial flutter. NCM identified the earliest ectopic activation originating from the crista terminalis in these six patients. The reentry circuit of atypical atrial flutter propagated around the upper crista terminalis in five patients, and lower crista terminalis in one patient. The reentry circuit of atypical atrial flutter and the initial reentry circuit of AF conducted through the crista terminalis gap in all patients. Radiofrequency applications were delivered on the sites of ectopy, which initiated AF. Substrate modification was also performed over the crista terminalis gap (six patients) and cavotricuspid isthmus (three patients) responsible for the reentry. During a mean follow-up of 9 +/- 5 months (range 5-18 months), five patients were free of AF without antiarrhythmic drugs, and one patient did not have AF or atrial flutter using propafenone. NCM demonstrated the mechanism of crista terminalis ectopy-initiating AF and associated typical/atypical atrial flutter. Catheter ablation of crista terminalis ectopy and substrate for the reentry guided by NCM successfully eliminated these atrial arrhythmias.

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