

Role of right middle pulmonary vein in patients with paroxysmal atrial fibrillation

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摘要

Abstract

Right Middle Pulmonary Vein and AF. Introduction: Elimination of the ectopic foci from pulmonary veins (PVs) has proved to be a curative therapy for focal atrial fibrillation (AF). However, information about the importance of the right middle PV (RMPV) in initiation of AF and radiofrequency ablation of AF is limited. Method and Results: Forty-three patients (34 men and 9 women; age 65 ± 12 years) with drug-refractory paroxysmal AF underwent electrophysiologic study and catheter ablation for treatment of AF. Three-dimensional magnetic resonance angiography (MRA) of the PVs and left atrium (LA) was performed to determine the anatomic patterns of RMPV. Diameter of PV ostium was measured at the junction of the LA and each PV. MRA findings showed the following: (1) 36 (84%) of 43 patients had a discrete RMPV; (2) there are three drainage patterns of RMPV, including joining the proximal part (<1 cm from the ostium) of the right superior PV (RSPV), joining the right inferior PV (RIPV), and a separate RMPV ostium in the LA wall; and (3) the ostial diameter of RMPV was significantly smaller than RSPV and RIPV ($P < 0.01$). Electrophysiologic studies demonstrated that five AF foci arose from RMPV. The coupling interval between the ectopic beat of AF and sinus beat was longer in RMPV than RSPV (262 ± 45 msec vs 212 ± 47 msec; $P = 0.043$). All AFs from RMPV were ablated successfully. PV stenosis or AF recurrence from RMPV was not found during follow-up of 10 ± 4 months. Conclusion: RMPV was detected by MRA in >80% of paroxysmal AF patients. Ectopy from RMPV can initiate AF, and radiofrequency ablation of RMPV foci is feasible and safe..