

Mechanisms of recurrent atrial fibrillation: comparisons between segmental ostial versus circumferential pulmonary vein isolation.

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摘要

Abstract

BACKGROUND: Electrical isolation of pulmonary veins (PVs) is an effective therapy for atrial fibrillation (AF). Both segmental ostial PV ablation and circumferential ablation with PV-left atrial (LA) block have been implicated to eliminate AF. However, the mechanism of the recurrent AF after undergoing either strategy remains unclear. **METHODS AND RESULTS:** Of the 73 consecutive patients with symptomatic AF that underwent PV isolation and had recurrences of AF, Group 1 consisted of 46 patients (age 56 +/- 13 years old, 35 males) who underwent PV isolation by segmental ostial PV ablation and Group 2 consisted of 27 patients (age 51 +/- 11 years old, 24 males) who underwent circumferential ablation with PV-LA block. In Group 1, the earliest ectopic beat or ostial PV potentials were targeted. In Group 2, circumferential ablation with PV-LA block was performed by encircling the extraostial regions around the left and right PVs. During the first procedure, all patients had PV-AF. There was no difference in the non-PV ectopy between Group 1 and Group 2. During the second procedure, the incidence of an LA posterior wall ectopy initiating AF was significantly lower (20% vs. 0%, $P = 0.01$) in Group 2. There was no difference in the PV ectopy initiating AF during the second procedure. **CONCLUSION:** Circumferential ablation of AF with PV-LA block may eliminate the LA posterior wall ectopy and decrease the incidence of LA posterior wall ectopy initiating AF during the second procedure.