

**Progressive remodeling of the atrial substrate--a
novel finding from consecutive voltage mapping in
patients with recurrence of atrial fibrillation after
catheter ablation.**

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摘要

Abstract

BACKGROUND: Atrial substrate properties have been demonstrated to be related to atrial arrhythmias. This study investigated whether the atrial substrate exhibits progressive remodeling in patients with recurrence of atrial fibrillation (AF) after catheter ablation. METHODS AND RESULTS: Fifteen consecutive AF patients (52 +/- 12 years old, 12 males) underwent the same mapping technique (NavX, St. Jude Medical, Minnetonka, MN, USA) and same ablation technique for primary AF and recurrence of AF (170 +/- 66 days after the first procedure). The bipolar mean peak-to-peak voltage (PPV) of the global left atrium during sinus rhythm significantly decreased in the second procedure (2.25 +/- 0.62 vs. 1.79 +/- 0.60 mV, P = 0.008). Also, the percentage of the surface area of the low voltage zone (LVZ; less than 0.5 mV) in the left atrium increased from 6 +/- 4% to 13 +/- 6% (P = 0.001) in the second procedure. There was no significant change in the right atrial bipolar mean PPV or surface area of the LVZ in the second procedure. CONCLUSION: Atrial substrate remodeling with a progressive decrease in the left atrial voltage was demonstrated in patients with recurrent AF.