

Electrophysiologic characteristics and anatomical complexities of accessory atrioventricular pathways with successful ablation of anterograde and retrograde conduction at different sites.

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摘要

Abstract

INTRODUCTION: Catheter ablation may eliminate anterograde and retrograde accessory pathway conduction at closely adjacent but anatomically discrete sites. However, the mechanisms of this discrepancy, the electrophysiologic and anatomical characteristics, and information about systematic study from a large patient population are not available. The purpose of this study was to investigate the electrophysiologic characteristics and anatomical complexities of the accessory pathway in which anterograde and retrograde conduction was successfully ablated at different sites. **METHODS AND RESULTS:** Thirty-eight (10.9%) patients (19 men and 19 women; mean age 37 +/- 2.4 years) fulfilling the criteria of having separate ablation sites for anterograde and retrograde conduction were designated as group I, and the other 310 patients (215 men and 95 women; mean age 47 +/- 0.6 years) were designated as group II. The patients with right-sided free-wall pathways had the highest incidence (18.6%) of separate ablation sites. The anatomical distance between anterograde and retrograde directions (left anterior oblique view, 13 +/- 0.6 vs 8 +/- 0.9 mm, $P < 0.01$; right anterior oblique view, 17 +/- 0.6 vs 5 +/- 0.7 mm, $P < 0.01$), and incidence of conduction impairment in one direction after successful ablation of another direction (15% vs 78%, $P < 0.05$) differed significantly between left and right free-wall pathways. The mean distances obtained from left (7 +/- 0.4 vs

14 +/- 0.4 mm, P < 0.05) and right (7 +/- 1.1 vs 15 +/- 0.9 mm, P < 0.05) anterior oblique views were shorter in patients who had impairment of conduction properties than those in patients without impaired conduction after successful ablation of one direction. CONCLUSIONS: This study showed that anatomical and functional dissociation of the accessory pathway into anterograde and retrograde components was possible. Further study on the relation between electrophysiologic and pathologic characteristics would be helpful to confirm these findings.