Electrophysiologic characteristics of a dilated atrium in patients with paroxysmal atrial fibrillation and atrial flutter

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摘要

Abstract

This study investigated the difference of atrial electrophysiologic characteristics between a normal and dilated atrium and compared them among patients with paroxysmal atrial fibrillation and flutter. Twenty-seven patients with paroxysmal atrial fibrillation and 28 patients with paroxysmal atrial flutter were divided into four subgroups, according to the presence of a normal atrium or bilateral atrial enlargement. Thirty patients without atrial arrhythmia (20 patients with normal atrium and 10 patients with bilateral atrial enlargement) were included in control group. The atrial refractoriness in patients with a dilated atrium was longer than those with normal atrial size. In patients with paroxysmal atrial fibrillation and patients of control group, the P-wave duration and interatrial conduction velocity with or without atrial enlargement were similar. However, in patients with paroxysmal atrial flutter, P-APCS (86 +/- 10 ms vs. 73 +/- 9 ms, $p < 0.05$) and P-ADCS (109 +/- 9 ms vs. 95 +/- 9 ms, $p < 0.05$) in patients with a dilated atrium were longer than in patients with a normal atrium. The patients with paroxysmal atrial fibrillation or atrial flutter all demonstrated longer P-wave duration and interatrial conduction time than control group. Among the groups with a normal atrium or a dilated atrium, atrial refractoriness in patients with paroxysmal atrial flutter was shorter than that in control group. Moreover, in the patients with a normal atrium, the potential minimal wavelength in control group (6.6 +/- 1.7) was longer than that of paroxysmal atrial fibrillation (5.3 +/- 1.1), or atrial flutter (5.0 +/- 1.2). These

findings suggest that atrial electrophysiologic characteristics of a dilated atrium were different from those of normal atrium, and these changes were different between paroxysmal atrial fibrillation and flutter. Multiple factors are considered to be related to the genesis of atrial tachyarrhythmias