Abscence of junctional rhythm during successful slow-pathway ablation in patients with atrioventricular nodal reentrant tachycardia.

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摘要

Abstract

Background— The presence of junctional rhythm has been considered to be a sensitive marker of successful slow-pathway ablation. However, in rare cases, junctional rhythm was absent despite multiple radiofrequency applications delivered over a large area in the Koch's triangle, and successful ablation was achieved in the absence of a junctional rhythm.

Methods and Results— This study included 353 patients with AV nodal reentrant tachycardia (143 men and 210 women; mean age, 50±17 years) who underwent catheter ablation of the slow pathway. Combined anatomic and electrogram approaches were used to guide ablation. Inducibility of AV nodal reentrant tachycardia was assessed after each application of radiofrequency energy. Successful sites were located in the posterior area in 18 (90%) of 20 patients without junctional rhythm during slow-pathway ablation compared with 200 (60%) of 333 patients with junctional rhythm ($P<0.001$). The fast-slow form of tachycardia was more common in patients without than in those with junctional rhythm (30% versus 3%; $P=0.001$). At the successful ablation sites, patients with junctional rhythm had a higher incidence of a multicomponent or slow-pathway potential (51% versus 10%; $P<0.001$), a longer duration of the atrial electrogram (64±8 versus 50±9 ms; $P=0.04$), and a smaller atrial/ventricular electrogram amplitude ratio (0.29±0.18 versus 0.65±0.27; $P<0.001$) than those without junctional rhythm. Mean temperatures at successful sites (56±6°C versus 58±9°C; $P=0.57$) and incidence of transient AV block (2% versus 0%; $P=0.86$) were similar between patients with and without junctional rhythms. By multivariate analysis, location of ablation sites, atrial/ventricular electrogram amplitude ratio, absence of a multicomponent or slow-pathway potential, and occurrence of the fast-slow form of tachycardia were independent predictors of the absence of a junctional rhythm during successful slow-pathway ablation.