Acute and long-term results of slow pathway ablation in patients with atrioventricular nodal reentrant tachycardia--an analysis of the predictive factors for arrhythmia recurrence.

Abstract:

BACKGROUND: Predictors of atrioventricular nodal reentrant tachycardia (AVNRT) recurrence after radiofrequency ablation including the importance of residual slow pathway conduction are not known. The aim of this study was to report the acute and long-term results of slow pathway ablation in a large series of consecutive patients with AVNRT and to analyze the potential predictors of arrhythmia recurrence with a particular emphasis on the residual slow pathway conduction after ablation. METHODS: The study included 506 consecutive patients with AVNRT (mean age 52.6 +/- 16 years, 315 women) who underwent slow pathway ablation using a combined electrophysiological and anatomical approach. The end point of ablation procedure was noninducibility of the arrhythmia. The primary end point of the study was the recurrence of AVNRT. RESULTS: Acute success was achieved in 500 patients (98.8%). After ablation, 471 patients (93%) were followed up for a mean of 903 +/- 692 days. Of the 465 patients with successful ablation, 24 patients (5.2%) developed AVNRT recurrences during the follow-up. No significant differences in the cumulative rates of AVNRT recurrence were observed in groups with or without
electrophysiological evidence of residual slow pathway conduction (P = 0.25, log-rank test). Multivariate analysis identified only age as an independent predictor of AVNRT recurrence (hazard ratio 0.96, 95% confidence interval 0.94-0.99, P = 0.004) with younger patients being at an increased risk for arrhythmia recurrence. CONCLUSIONS: Our study demonstrated that only younger age, but not other clinical or electrophysiological parameters including residual slow pathway conduction predicted an increased risk for AVNRT recurrence after slow pathway radiofrequency ablation.