Acquired pulmonary vein stnosis after radiofrequeny catheter ablation of paroxysmal atrial fibriilation

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摘要

Abstract

INTRODUCTION: Elimination of the initiating focus within the pulmonary vein (PV) using radiofrequency (RF) catheter ablation is a new treatment modality for treatment of drug-refractory atrial fibrillation. However, information on the long-term safety of RF ablation within the PV is limited. METHODS AND RESULTS: In 102 patients with drug-refractory atrial fibrillation and at least one initiating focus from the PV, series transesophageal echocardiography was performed to monitor the effect of RF ablation on the PV. There were 66 foci in the right upper PV and 65 foci in the left upper PV. Within 3 days of ablation, 26 of the ablated right upper PVs (39%) had increased peak Doppler flow velocity (mean 130+/-28 cm/sec, range 106 to 220), and 15 of the ablated left upper PVs (23%) had increased peak Doppler flow velocity (mean 140+/-39 cm/sec, range 105 to 219). Seven patients had increased peak Doppler flow velocity in both upper PVs. No factor (including age, sex, site of ablation, number of RF pulses, pulse duration, and temperature) could predict PV stenosis after RF ablation. Three patients with stenosis of both upper PVs experienced mild dyspnea on exertion, but only one had mild increase of pulmonary pressure. There was no significant change of peak and mean flow velocity and of PV diameter in sequential follow-up studies up to 16 (209+/-94 days) months. CONCLUSION: Focal PV stenosis is observed frequently after RF catheter ablation applied within the vein, but usually is without clinical significance. However, ablation within multiple PVs might cause pulmonary hypertension and should be considered a limiting factor in this procedure.

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