

(AF). The present study aimed at examining the efficacy and safety of PV antrum radial-linear ablation for the therapy of paroxysmal AF.

Methods and results This study consisted of 2 phases: pre-clinical phase using canine model with acutely induced AF (total 22 dogs), and clinical phase in patients with paroxysmal AF (n=56) in randomised control with conventional PV isolation. All the study animals and patients had inducible AF with rapid atrial pacing at baseline. Multiple radial-linear lesions were created from PV orifice to peri-PV area in the dogs or to antrum-left atrium (LA) junction in the patients. The dogs were followed up for up to 24 weeks, and the patients for up to 26 months (17.6±4.0 months). After ablation, the AF inducibility and duration were significantly decreased in the dogs by 89% and 91%, respectively. No AF was inducible immediately after PV antrum radial-linear ablation in the patients. During follow-up, 23 patients (82.1%) in PV antrum radial-linear ablation group and 16 patients (57.1%) in control group were free of recurrent AF and AT (p<0.05). There were significantly fewer patients on antiarrhythmics in PV antrum radial ablation group than that in control. The procedural time was significantly decreased in patients with radial ablation compared to those with PV isolation without complications.

Conclusion PV antrum radial-linear ablation might provide a simple and safe strategy for paroxysmal AF ablation with better long term outcome than PV isolation.

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**PULMONARY ANTRUM RADIAL-LINEAR
ABLATION FOR THERAPY OF ATRIAL
FIBRILLATION**

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Background Substrate abnormality in pulmonary vein (PV) antrum plays a critical role in maintaining atrial fibrillation