

Comparison of procedural workflow, safety, and one-year efficacy of catheter ablation of atrial fibrillation using radiofrequency and pulsed-field energy

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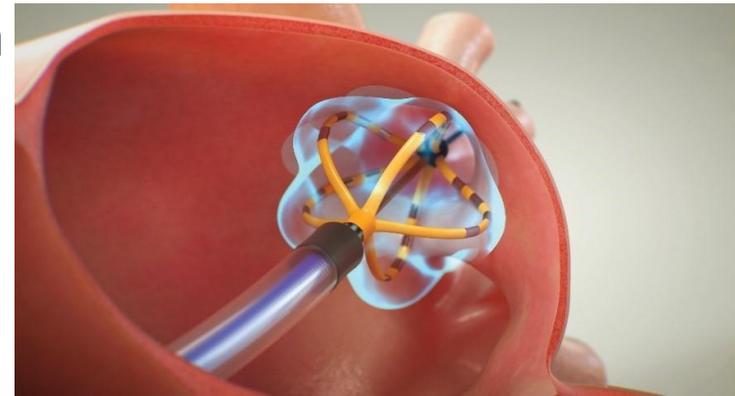


Introduction

- Pulsed-field ablation (PFA): Emerging technology for AF ablation.
- Radiofrequency ablation (RFA): Established method.
- Study Aim: Single-center comparison of PFA vs RFA.

Study Methods

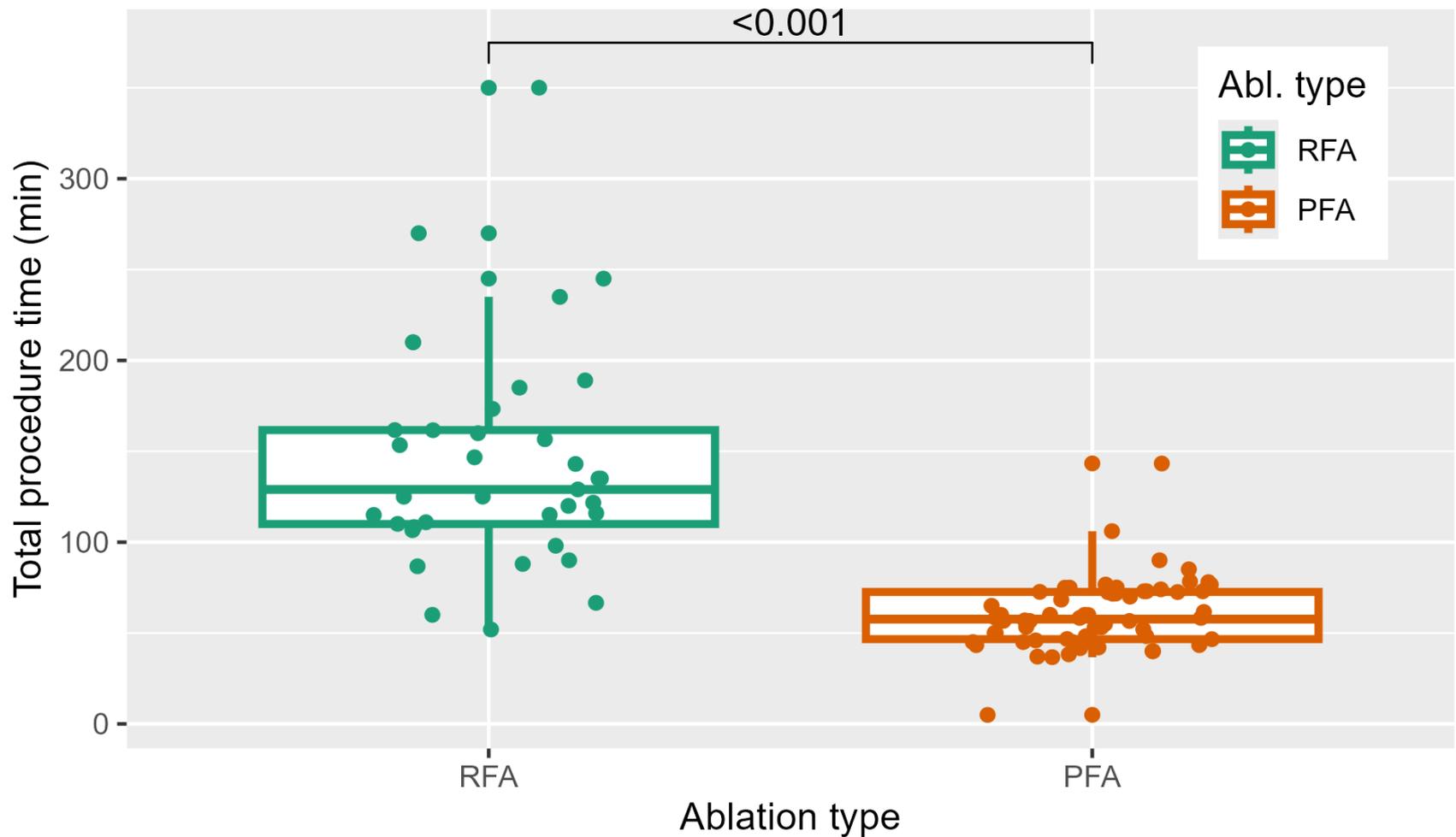
- Single center, non-randomized, cohort study.
- All consecutive patients were enrolled
- 159 patients: 95 PFA, 61 RFA.
- Paroxysmal AF: Only PVI.
- Non-paroxysmal AF: Posterior wall and MI isthmus in PFA group. In the RF group, additional ablations beyond PVI on the operator's discretion.
- 24-hour Holter monitoring and clinical check-up 3, 6, 9 and 12 months after AF ablation to assess SR maintenance.



Patient Characteristics

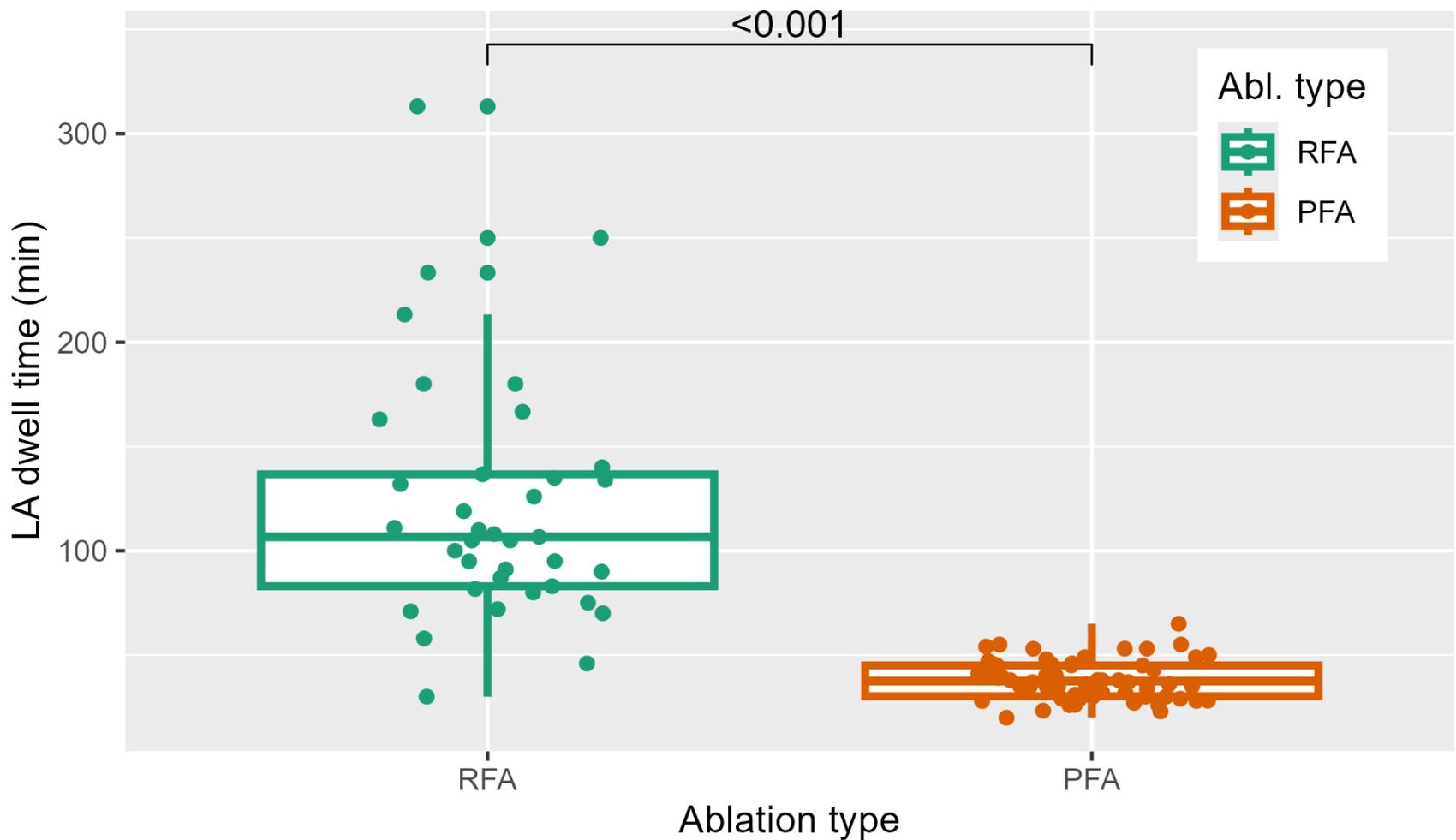
	PFA group 95	RFA group 61	p
Age	63.1± 12.7	64.5 ± 10.7	0.23
Male sex (%)	62 (65.3)	44(72.1)	0.27
Hypertension (%)	22 (66.7)	22 (68.8)	0.99
Diabetes mellitus (%)	6 (18.2)	10 (31.3)	0.26
Body mass index	29.9 ± 4.9	30.3 ± 5.2	0.20
CHA ₂ DS ₂ VASc score	2.39 ± 1.68	2.28 ± 1.69	0.79
Paroxysmal AF (%)	51(53.7)	29(47.5)	0.99
ECHOCardiography			
LV EF (%)	55.7 ± 4.8	58.2 ± 4.9	0.75
LA size (mm)	41.7 ± 5.8	43.3 ± 5.1	0.25
Medication			
Current AAD use (%)	15 (45.5)	17 (53.1)	0.62
Current anticoagulation (%)	32 (97.0)	30 (93.8)	0.61

Total procedure time by ablation modality



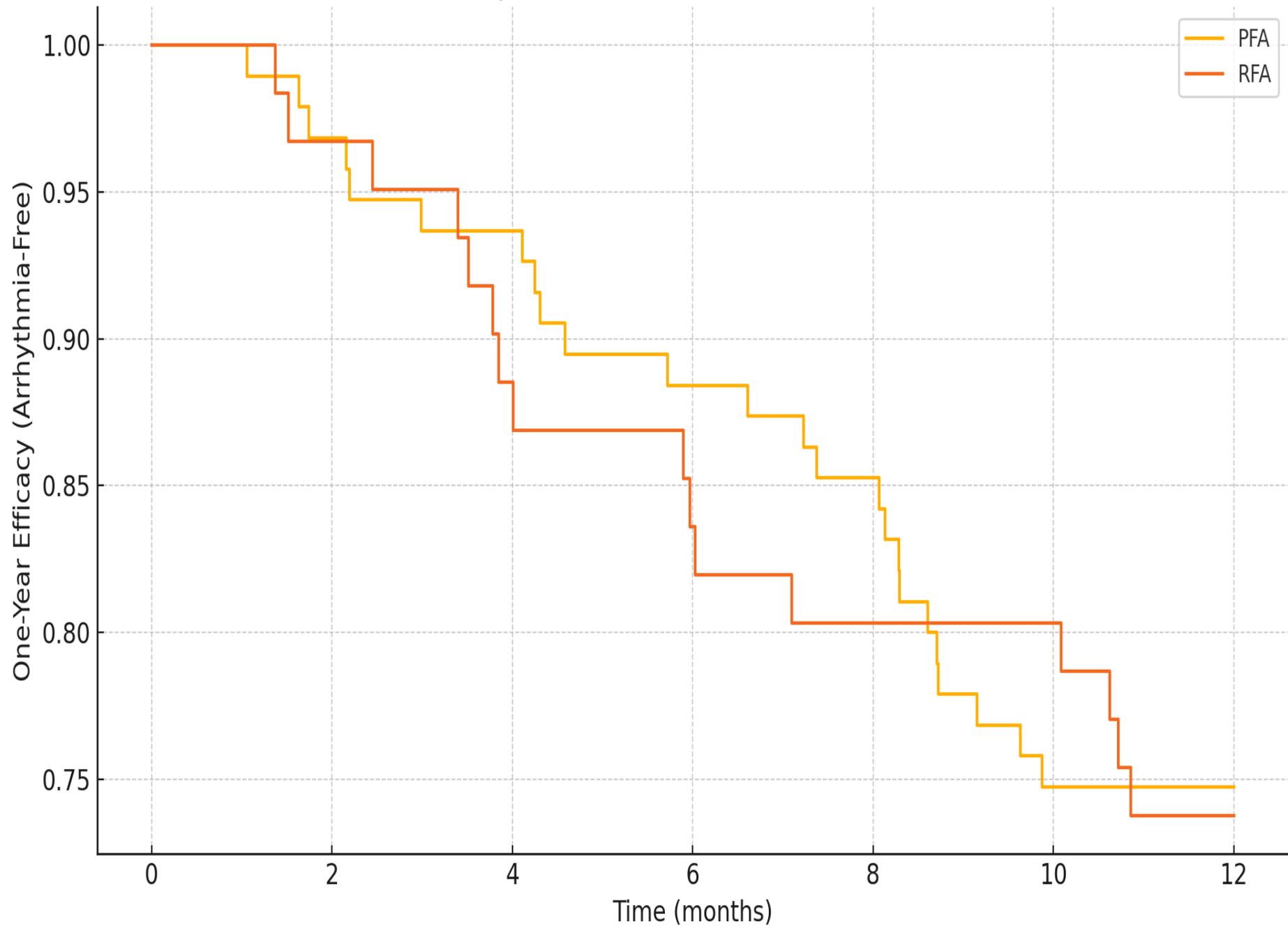
Wilcoxon

LA dwell time by ablation modality



Wilcoxon

Kaplan-Meier Curve: PFA vs RFA



Safety Profile

- Major adverse events: 1 in each group.
- Cardiac arrest (PFA), pericardial effusion (RFA).
- Very low complication rates overall.

Conclusion

- PFA associated with:
 - - Shorter procedural and LA dwell times.
 - - Similar safety profile.
 - - Comparable 1-year efficacy.

Thank you for your attention