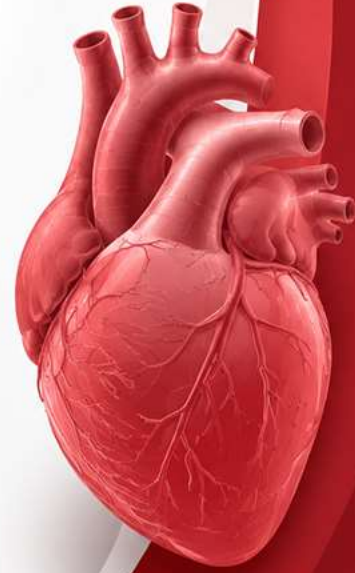


AYIN ÖNE ÇIKANLARI..Temmuz 2026



Asemptomatik
Hafif semptomatik
50 yaş altı genç
Remodelling





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KARDİYOLOJİ
DERNEĞİ



TÜRK
KARDİYOLOJİ
DERNEĞİ
Aritmi Birliği

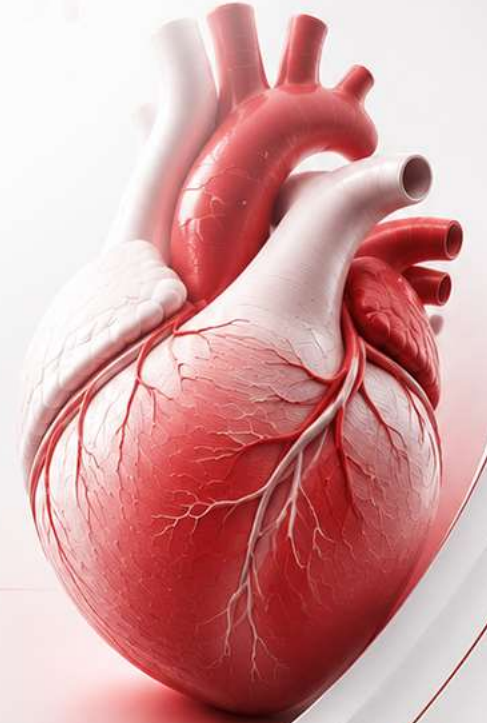
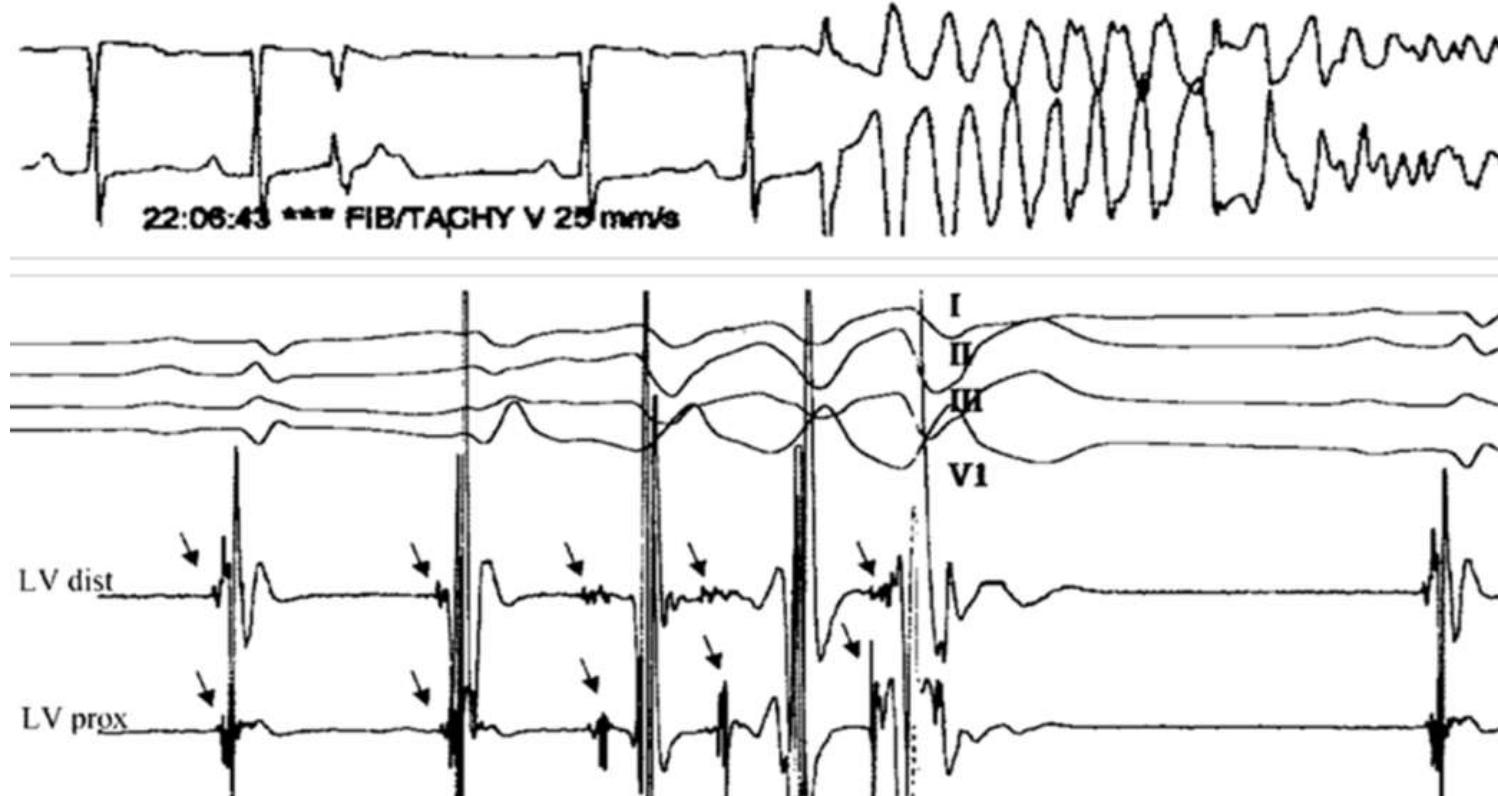
HeartRhythm



Iconic Figure

Initiation of ventricular fibrillation from the Purkinje system

Michel Haissaguerre, MD





From bench to bedside: The clinical relevance of atrial electrical remodeling in atrial fibrillation therapy

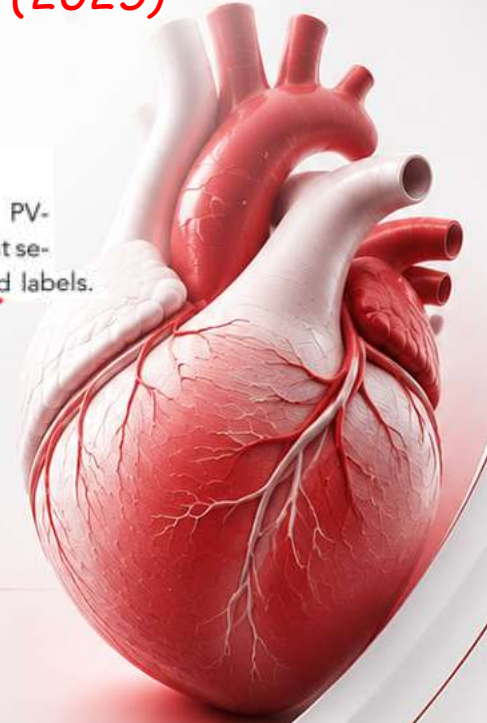
Antonio Frontera, MD, PhD,¹ Alessia Chiara Latini, MD,² Philipp Krisai, MD,³ Vincenzo Battaglia, MD,² Lisa Amalie Gottlieb, MD, PhD,⁴ Konstantinos Vlachos, MD,⁵ Lorenzo Gigli, MD,¹ Fabrizio Guarracini, MD, PhD, FHRS,¹ Matteo Baroni, MD,¹ Alberto Preda, MD,¹ Marisa Varrenti, MD, PhD,¹

STABLE-SR (2017) ERASE-AF (2022) SUPPRESS-AF (2025) TAILORED-AF (2025)

LVAs, typically defined as bipolar voltage of <0.5 mV during sinus rhythm, are increasingly recognized as hallmarks of advanced electrical and structural remodeling. In line with the 2024 European Heart Rhythm Association consensus, the clinical benefit of systematically targeting LVAs remains uncertain, and therefore, sinus-rhythm LVA ablation should be regarded as an “area of uncertainty” rather than routine practice.

PV- vs non-PV-dependent AF

A mechanism-based framework distinguishing PV-dependent from non-PV-dependent AF can refine patient selection and procedural strategy beyond duration-based labels.



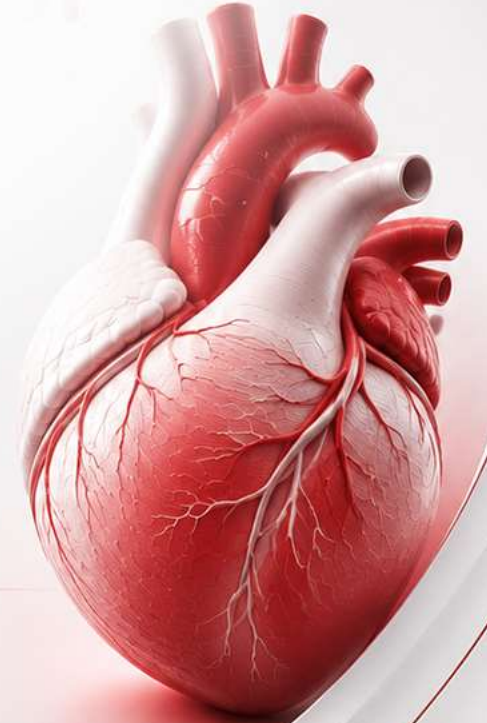


Asymptomatic atrial fibrillation: Clinical characteristics, outcomes, and prognostic impact of rhythm control ^e

Xiaodong Peng, MD,^{1,4} Qifan Li, MD,^{1,4} Xiaoxia Liu, MD,^{1,4} Liu He, MD,¹ Nian Liu, MD,¹

. Over recent decades, growing evidence has indicated a similar risk of stroke in patients with AF with or without symptoms.

Three key findings were identified in this study: (1) 8.6% of patients in the China-AF registry had asymptomatic AF, with a higher likelihood of being male and having nonparoxysmal AF, a longer AF duration, and left ventricular eccentric hypertrophy; (2) AF-related symptoms were not associated with cardiovascular outcomes; and (3) rhythm control showed no difference in its effect on cardiovascular outcomes between asymptomatic and symptomatic patients.





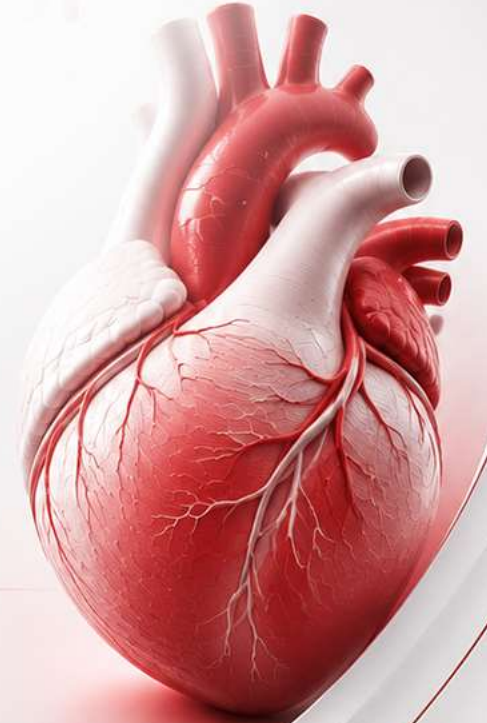
Exercise capacity and quality-of-life improvements after catheter ablation in patients with clinically asymptomatic persistent atrial fibrillation ^e

Tomoki Fujisawa, MD, PhD, Hiroshi Kawakami, MD, MPH, PhD, Keisho Kurokawa, MD,

Accumulating data suggest that the absence of symptoms does not necessarily indicate a benign disease course.

symptom classification relied on routine clinical assessment and patient self-report, which may have resulted in underrecognition or misclassification.

Although randomized evidence for hard clinical end points is awaited, including the ongoing **ASYM Study** (iRCTs052220038), the present results provide supportive rhythm-control strategies in carefully selected patients with asymptomatic PeAF.





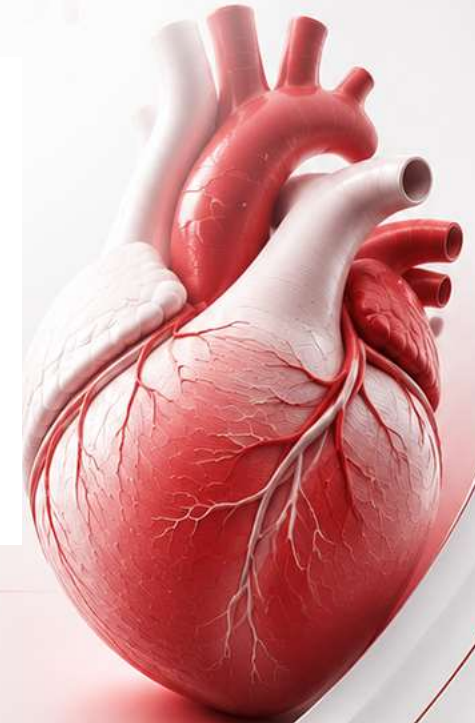
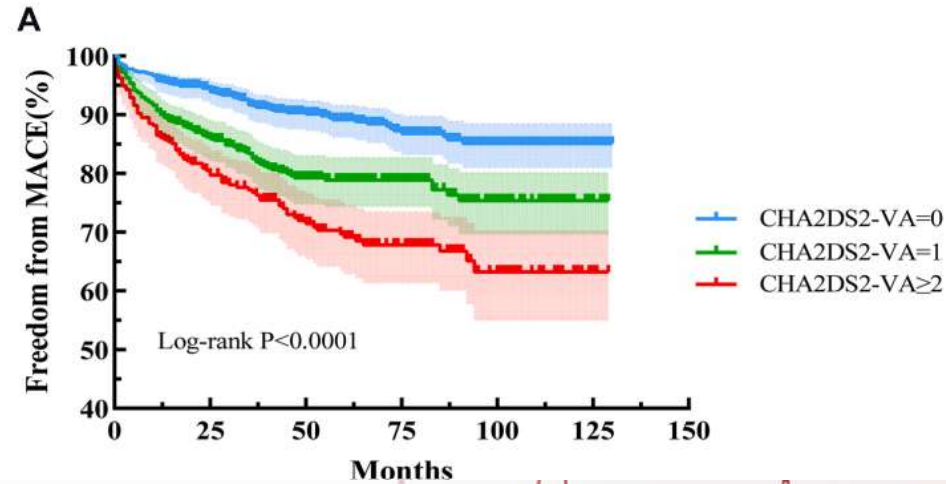
Atrial fibrillation in patients ≤ 50 years: Clinical characteristics, treatment, risk of ischemic stroke, and outcomes ^e

You Shi, MMed,^{1,3} Mingjie Lin, PhD,^{1,2,3} Zimeng Shen, MMed,¹ Wenqiang Han, MD,¹ Runtian Zhang, MMed,¹ Kai Zhang, PhD,¹ Jingquan Zhong, MD, PhD, FHRS^{1,2}

Main findings were: (1) Despite rising NOAC utilization, over 50% of patients at elevated risk (scores = 1, ≥ 2) discontinued therapy; (2) The incidence of MACE was significantly higher in patients with $\text{CHA}_2\text{DS}_2\text{-VA} \geq 2$

In the entire cohort, 604 patients discontinued anticoagulation. Among them, 366 patients who underwent CA and had a $\text{CHA}_2\text{DS}_2\text{-VA}$ score < 2 discontinued treatment in accordance with guideline recommendations. However, among the 112 patients with a $\text{CHA}_2\text{DS}_2\text{-VA}$ score ≥ 2 only one discontinued because of a hemorrhagic stroke; the remainder self-discontinued. This finding suggests poor anticoagulation adherence among the high-risk stroke subset of young patients with AF in our hospitalized cohort.

The European Heart Rhythm Association survey¹ revealed that rhythm control is preferred by many European centers, especially in young patients and in patients with first-detected AF episode.





Pulmonary vein isolation in early-onset atrial fibrillation (age ≤ 50 years):
A multicenter comparison of pulsed-field ablation vs thermal energy
sources ^e

Matea Liskij, MD,^{1,2} Sanober Safi,³ Jonas Brügger, MD,^{1,2} Corinne Isenegger, MD,^{1,2}

Study population

 n = 368

 1st PVI

 Age 46 years

 17% female

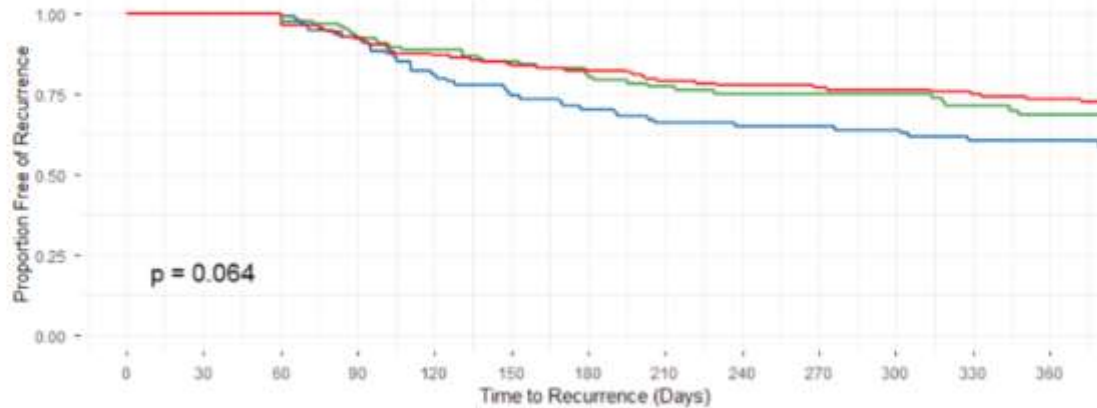
 63% paroxysmal AF

Results

 **PFA**
n = 119

 **Cryo**
n = 95

 **RFA**
n = 154



Median procedure duration

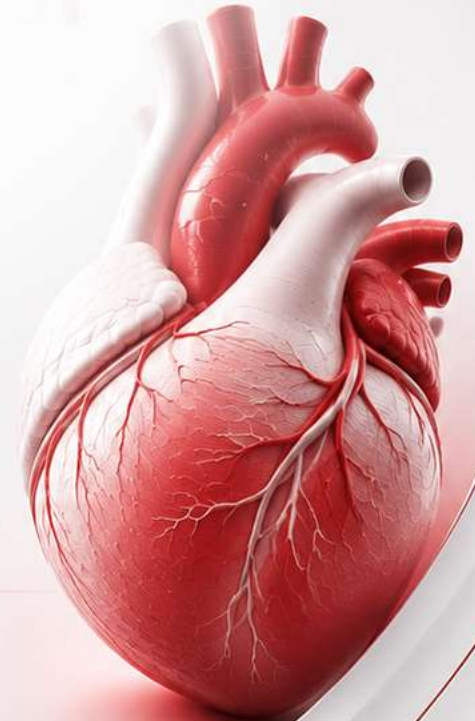
59 min PFA | 63 min Cryo | 94 min RFA

0.8% complications overall

0% PFA | 1.1% Cryo | 1.3% RFA

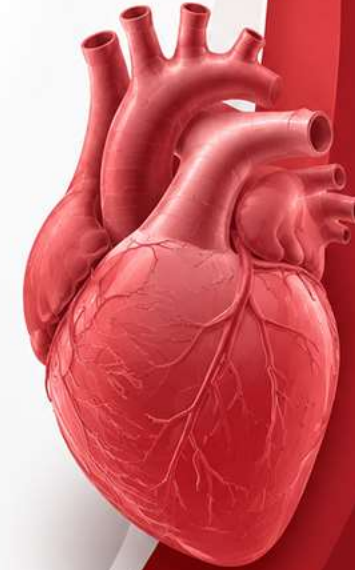
1-year recurrence-free survival

69% PFA | 61% Cryo | 73% RFA



PFA & Hemoliz & AKI

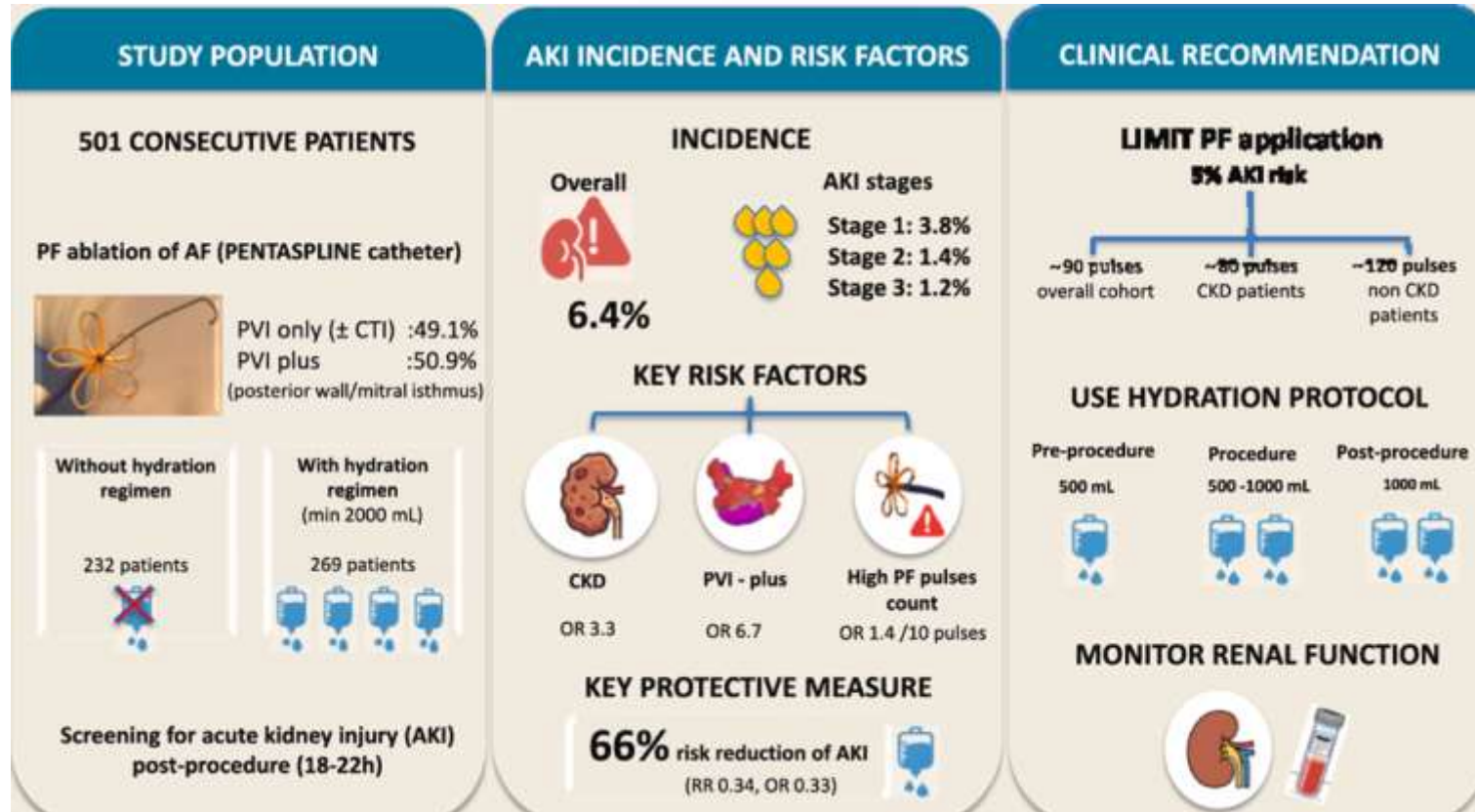
Post-PFA haemolysis and occasional AKI has been observed, correlated with high number of applications, particularly with higher-voltage systems. The incidence appears to vary across PFA platforms, likely reflecting differences in waveform characteristics, voltage amplitude, and catheter design. The risk of AKI may be reduced with optimal pre-ablation hydration. Based on available evidence, the number of PFA applications should be chosen mindfully and pre-ablation hydration may be appropriate, especially in patients with pre-existing chronic kidney disease.



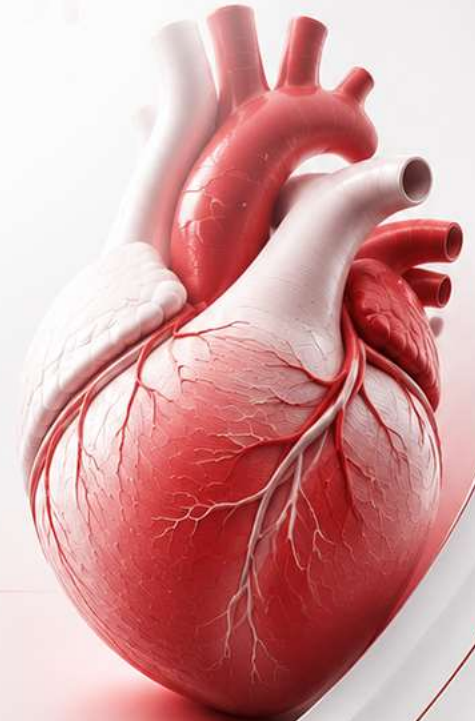


Acute kidney injury related to pulsed field ablation of atrial fibrillation:
Protective role of the protocol-based hydration regimen ^e

Martin Skamla, MD,^{1,2} Adrian Bystriansky, MD, MPH,¹ Eva Kubalova, MSc,¹ Jozef Martinek, MSc, PhD,
Gabriela Kaliska, MD, CSc,¹ Matej Samos, MD, PhD,² Pavel Osmančik, MD, PhD³

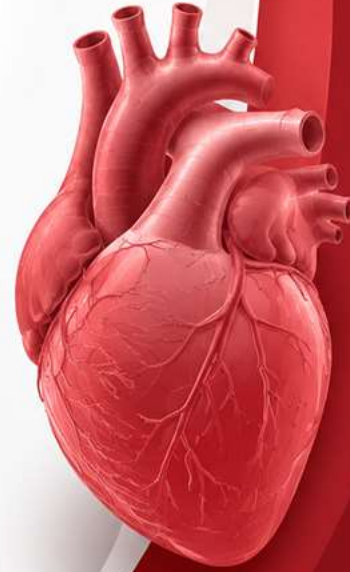


This protocol consisted of at least 2000 mL of fluids (normal saline). The initial 500 mL was administered 1 hour before the procedure began, 500- 1000 mL during the ablation itself, depending on the duration of the procedure, and 1000 mL was administered post- procedure over 4-5 hours.



PFA & Roof line/PB/CTI

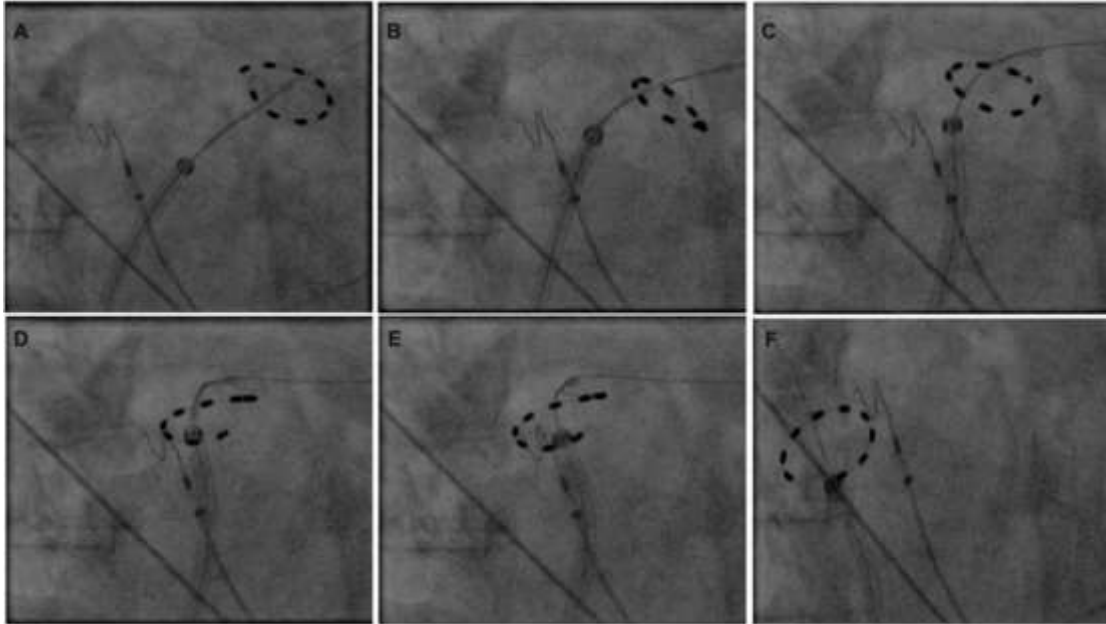
In summary, CTI ablation with PFA currently seems to be limited by proximity-induced right coronary artery spasm and should only be performed under high dose of IV nitroglycerine prophylaxis.



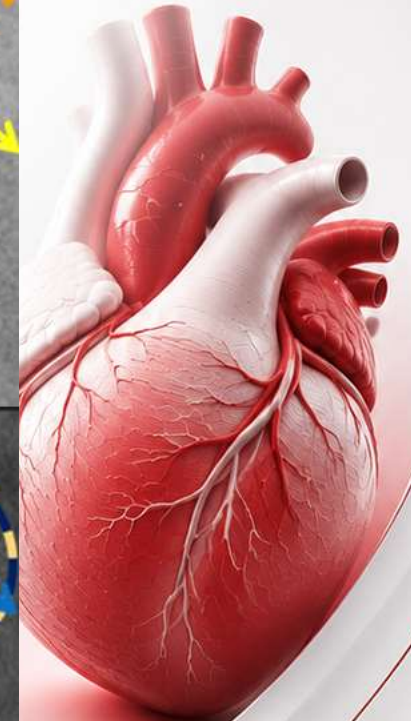
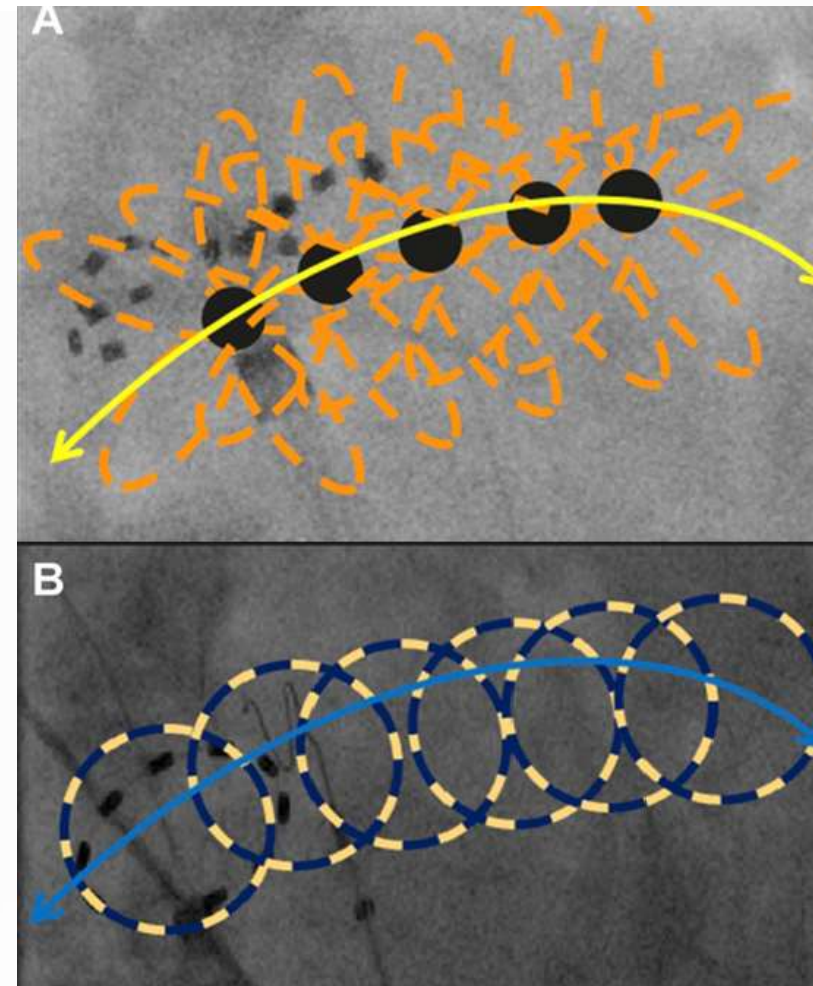


Comparative 1-year outcomes of pentaspline versus circular array pulsed field ablation for pulmonary vein isolation with adjunctive atrial lines ^e

Joerg Yogarajah, MD,¹ Philipp Beaujean, MD,¹ Julie Hutter, MD,¹ Patrick Kahle, MD,¹



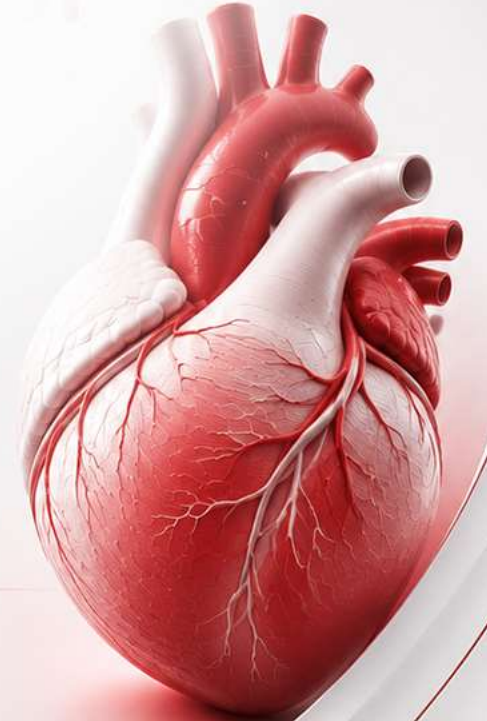
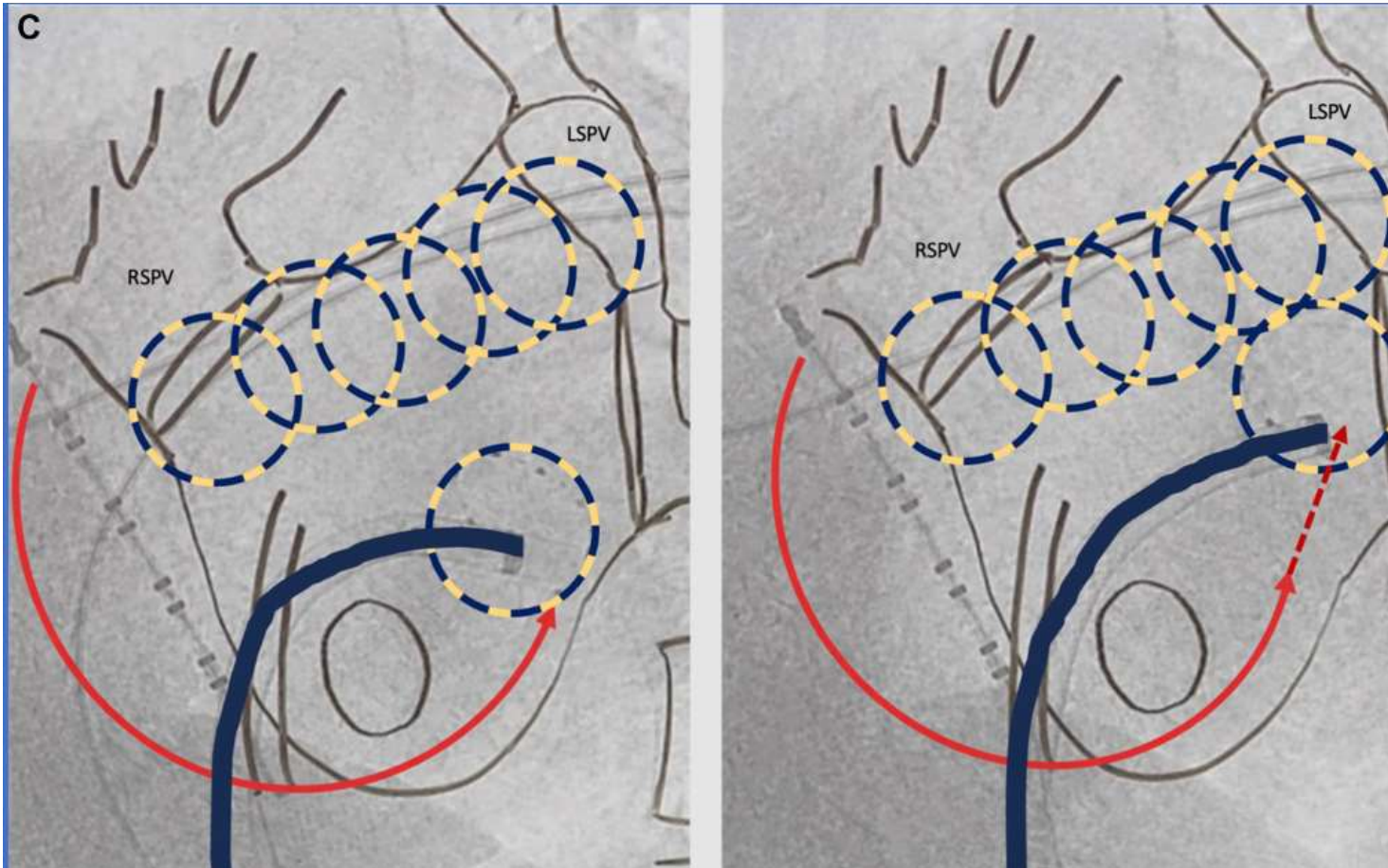
The end point was complete PVI and bidirectional LA roof conduction block, confirmed in SR using differential pacing. The PFA catheter was positioned at both the caudal and cranial regions of the posterior LA wall. Baseline pacing in SR was conducted at the right atrial upper septum with a cycle length of 500 ms. Activation times were measured at the caudal and cranial posterior LA wall regions near the LA roof. LA roof conduction block was confirmed by observing caudocranial ascending activation patterns at the posterior LA wall and a conduction delay exceeding 150 ms adjacent to the ablation site





Comparative 1-year outcomes of pentaspline versus circular array pulsed field ablation for pulmonary vein isolation with adjunctive atrial lines ^e

Joerg Yogarajah, MD,¹ Philipp Beaujean, MD,¹ Julie Hutter, MD,¹ Patrick Kahle, MD,¹





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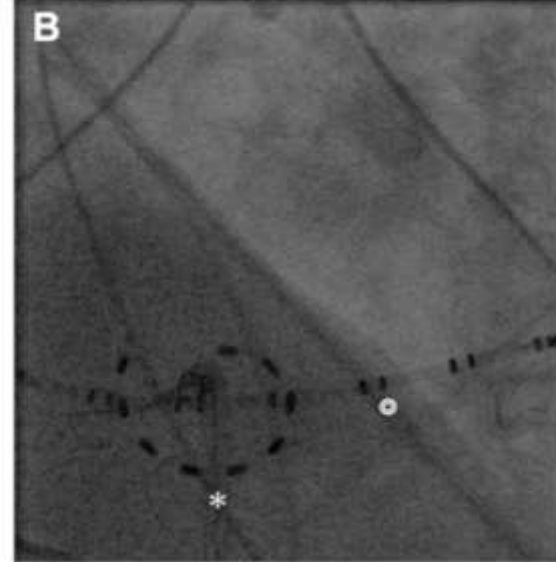
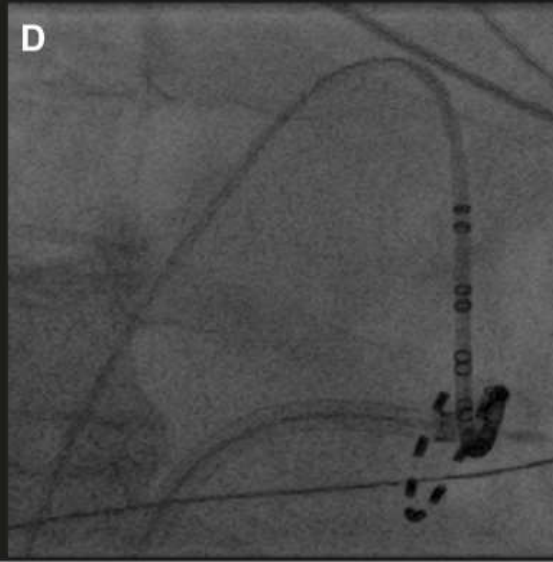
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Heart*Rhythm*

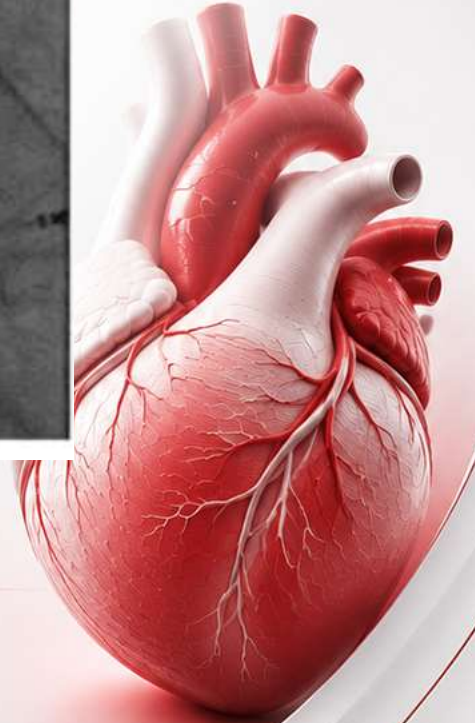


Comparative 1-year outcomes of pentaspline versus circular array pulsed field ablation for pulmonary vein isolation with adjunctive atrial lines ^e

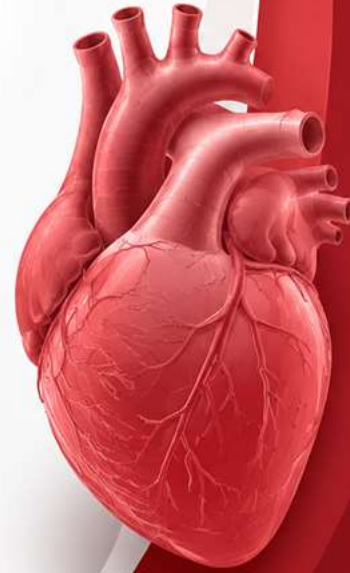
Joerg Yogarajah, MD,¹ Philipp Beaujean, MD,¹ Julie Hutter, MD,¹ Patrick Kahle, MD,¹



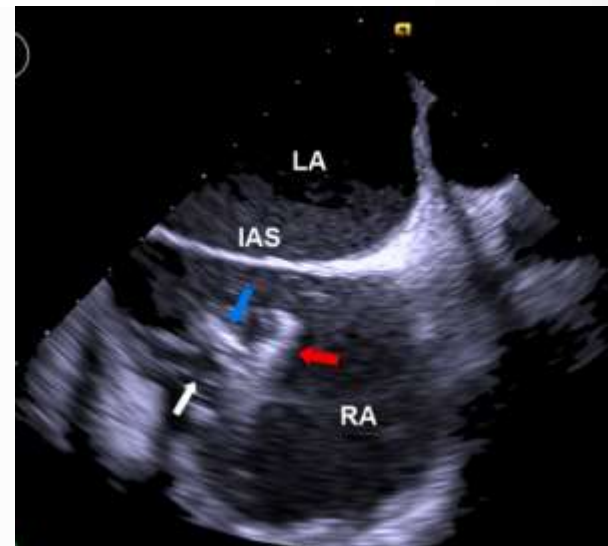
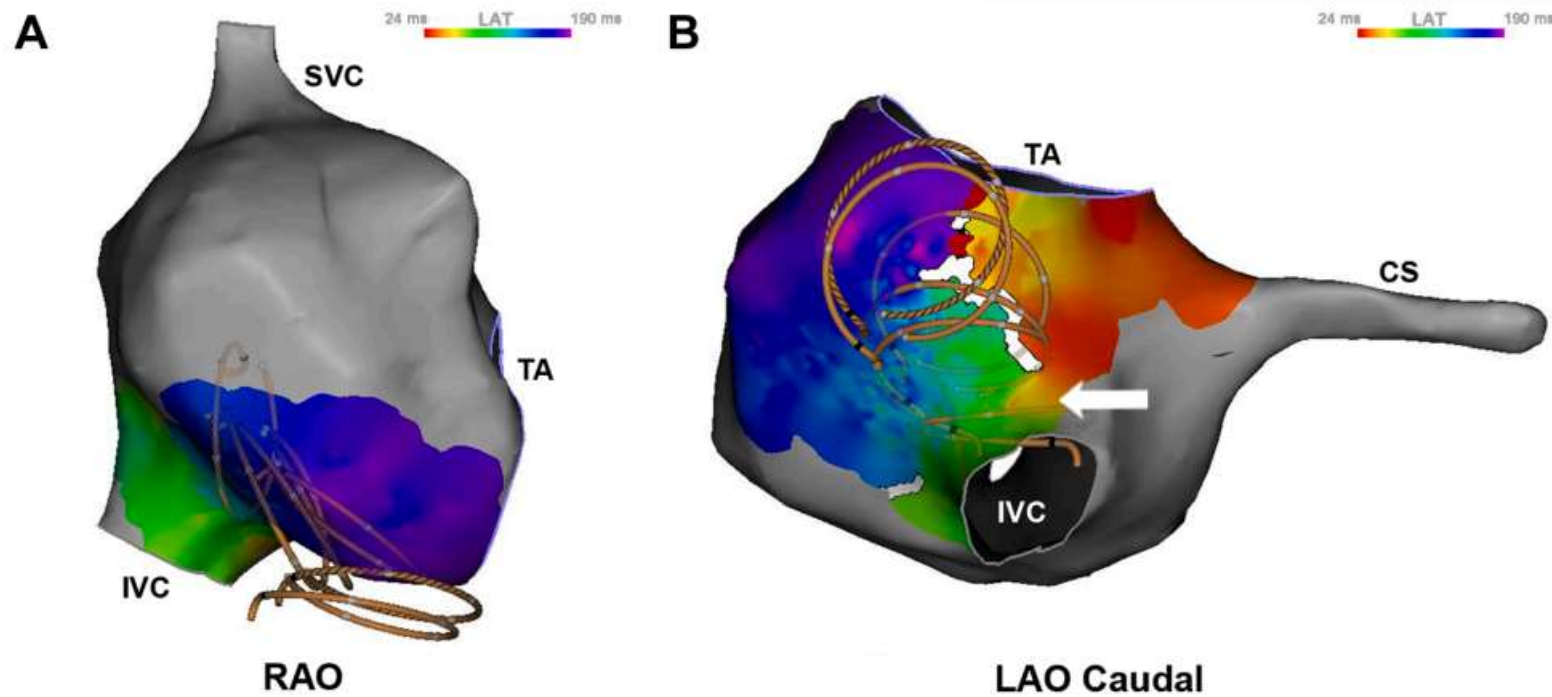
Our results suggest that patients with concomitant typical AFL can be effectively treated with PFA in a single procedure using a single energy modality. Additionally, LARA may represent a viable strategy for patients with persistent AF and enlarged left atria.



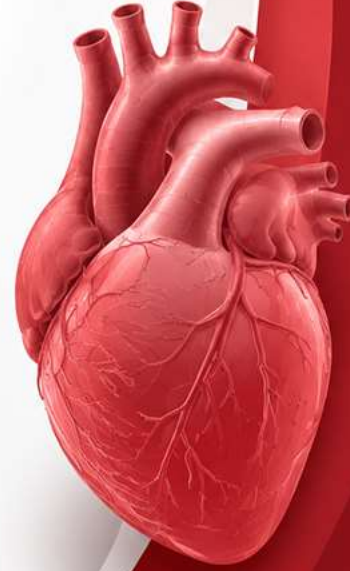
PFA & entrapment



JACC: Clinical Electrophysiology

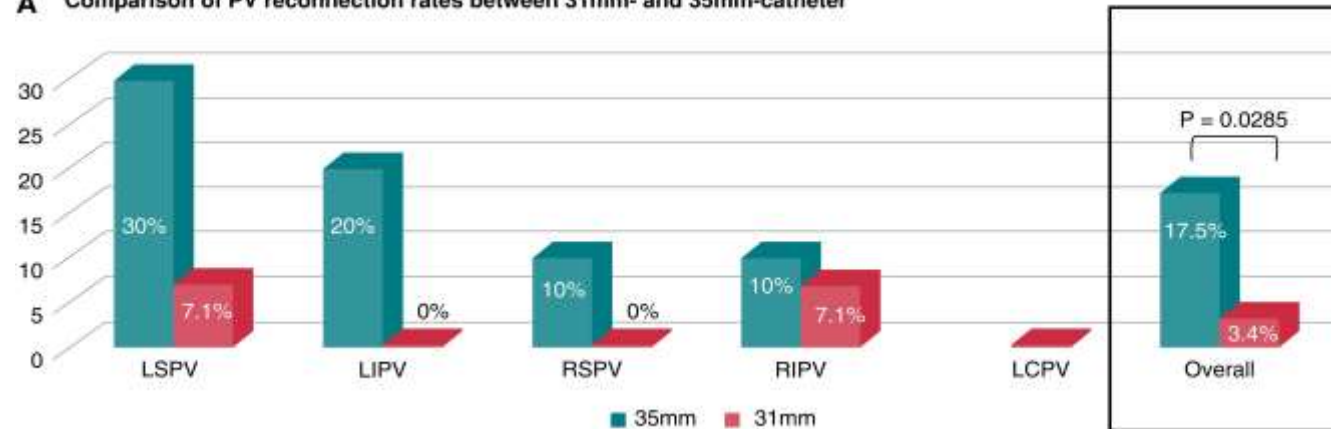


PFA & Gap lokalizasyonu

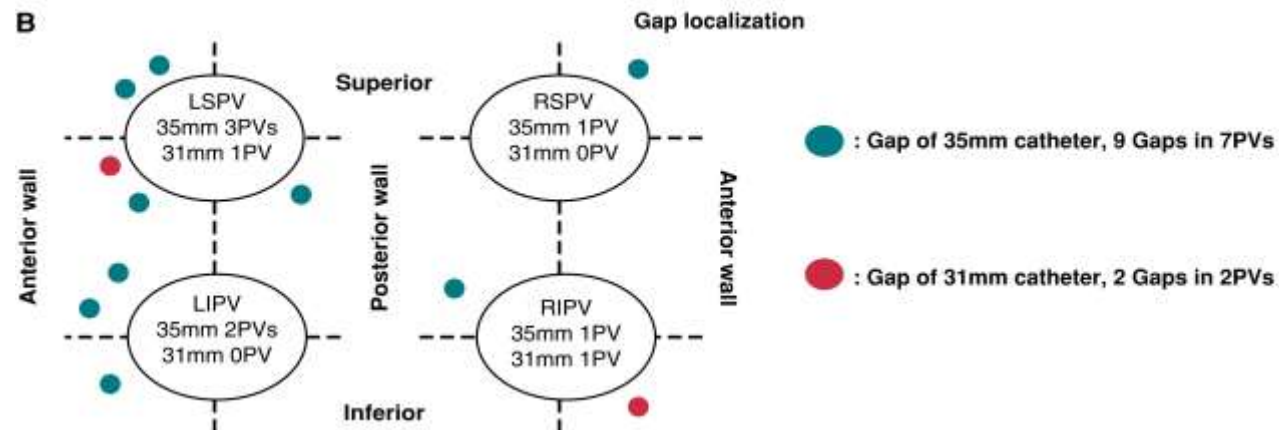




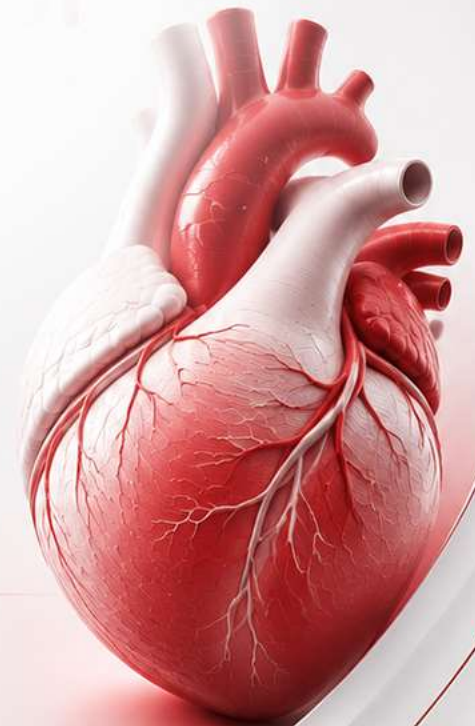
A Comparison of PV reconnection rates between 31mm- and 35mm-catheter



B



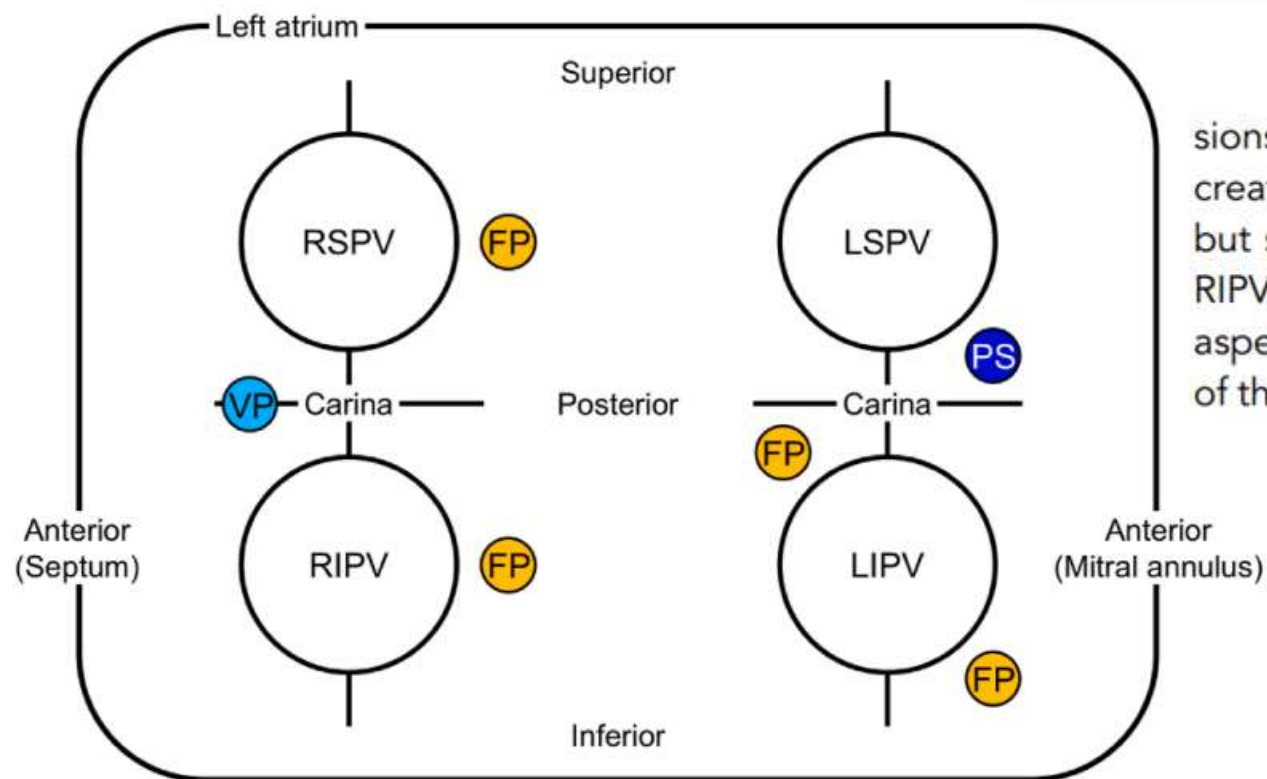
In remapping studies, higher reconnection rates were observed at the LSPV and RIPV with potential differences between different PFA systems.





Lesion area, ablation time, fluoroscopic time, and short-term outcomes among 3 pulsed field ablation systems

Hikaru Masuda, MD,¹ Koichi Nagashima, MD, PhD, FHRS,¹ Naoya Matsumoto, MD, PhD,²



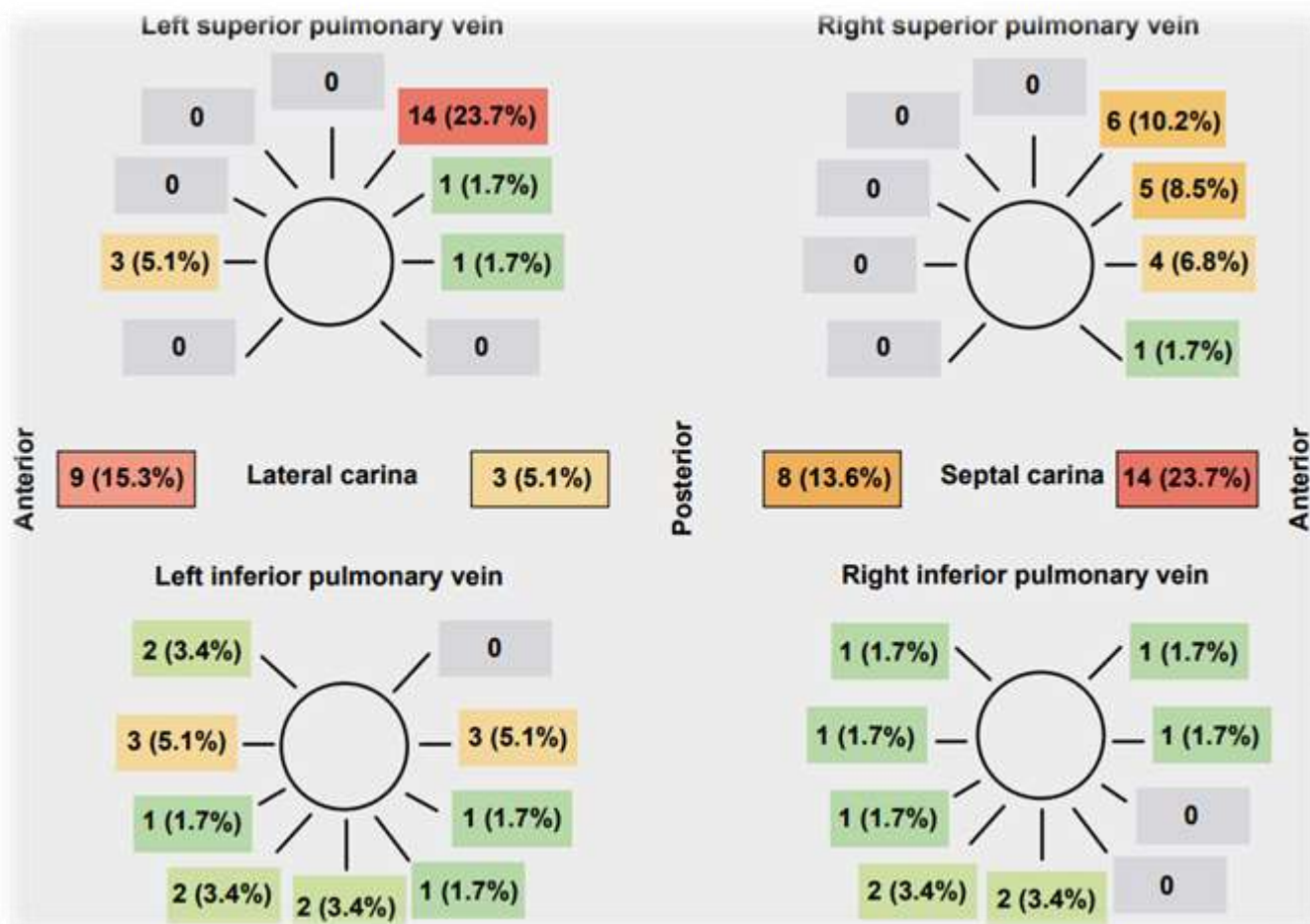
The FP system created larger lesions at the posterior aspect of the RIPV. The VP system created broader lesions at the posterior aspect of the LIPV, but smaller lesions at the posterior aspect of the RSPV and RIPV. The PS system created greater lesions at the posterior aspect of the RSPV and smaller lesions at the anterior aspect of the LSPV.

Therefore, when using each system, operators should be aware of these device-specific lesion patterns and consider intentionally expanding the ablation coverage in regions where smaller lesions are anticipated—such as the posterior aspect of the RIPV with VP and the anterior aspect of the LSPV with FP.

CONCLUSION Despite similar total lesion areas, the PFA systems showed distinct lesion patterns. FP had the shortest procedure time, VP the lowest radiation exposure, and PS the least haptoglobin reduction, potentially indicating less hemolysis.

Pulmonary vein reconnection patterns after pentaspline pulsed field ablation for atrial fibrillation

Alexander Lucius , Stephan Kische , and Stefan Mueller 



With regard to anatomical lesion gap distribution, reconnection occurred predominantly in the posterior-superior segment of the LSPV/roof junction, the anterior part of the RSPV, and in both carina regions (predominantly anterior)

Therefore, after preliminary evaluation of these results, we changed our workflow by applying two extra PFA applications in 'flower' configuration to each carina, positioning the catheter slightly more roofwards at the LSPV, and applying additional anterior torque during RSPV ablation.



Optimized Workflow for Pentaspline PFA and Its Impact on PVI Durability: Evidence From Systematic Remapping



Paroxysmal or persistent AF patients
Index PVI procedures using pentaspline PFA catheter
Fluoroscopy-only and Fluoro+EAM guided ablation
>30-day systematic remapping

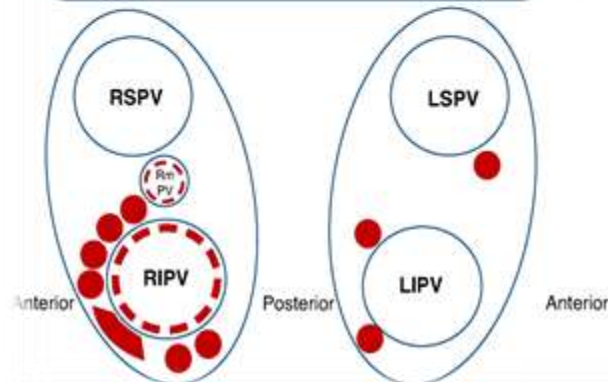
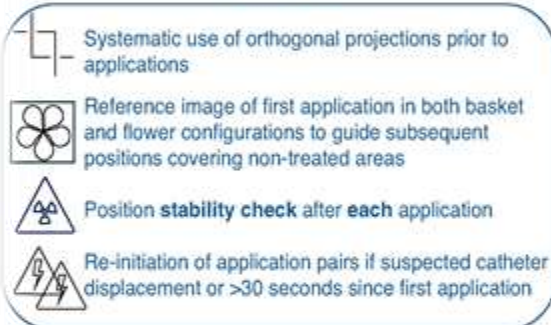


No prior cardiac CT or intraprocedural imaging
Propofol-based deep sedation (Propofol)
Same-day discharge
Progressive workflow refinement (3 Phases) to increase PVI durability

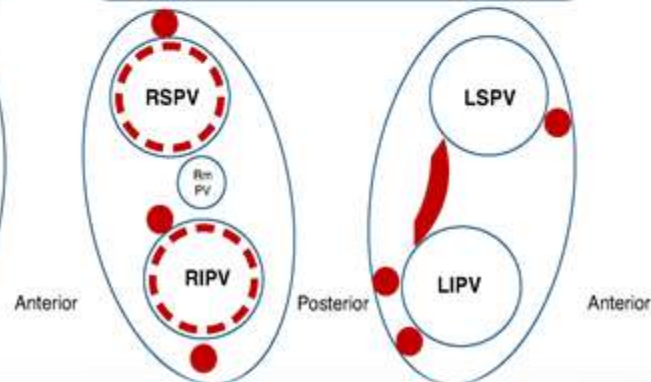
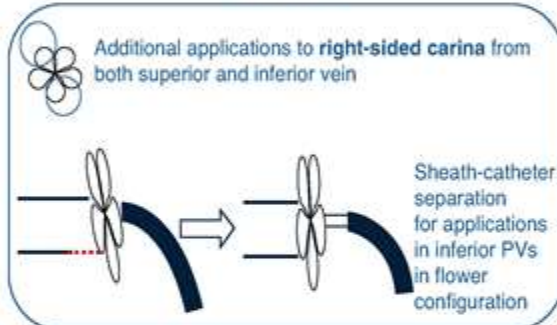


118 patients enrolled, 94 remapped
PVI durability (per vein / per patient):
Phase 1: 89.8% / 60.0%
Phase 2: 92.9% / 76.5%
Phase 3: 99.2% / 96.7%

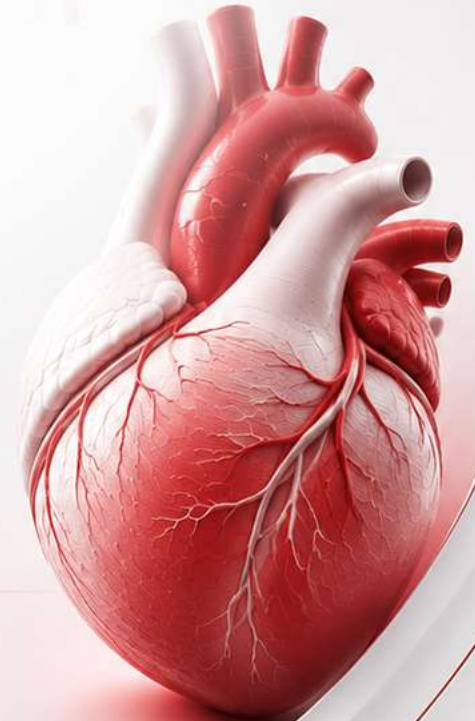
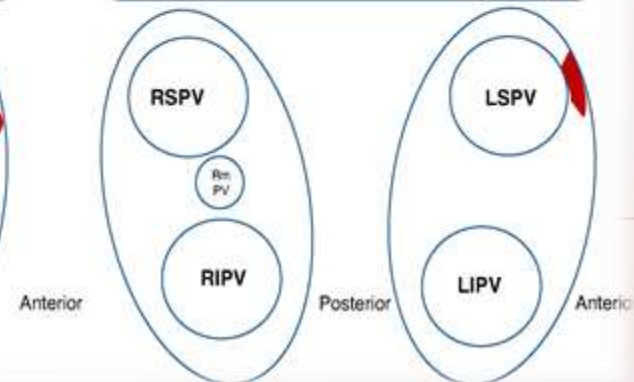
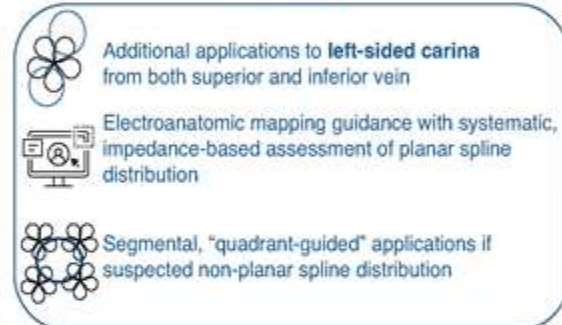
Phase 1



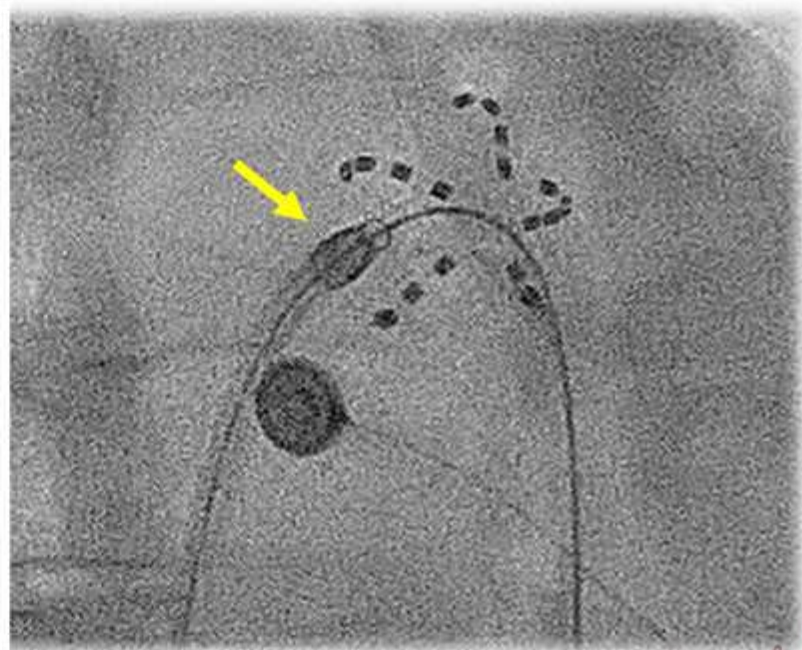
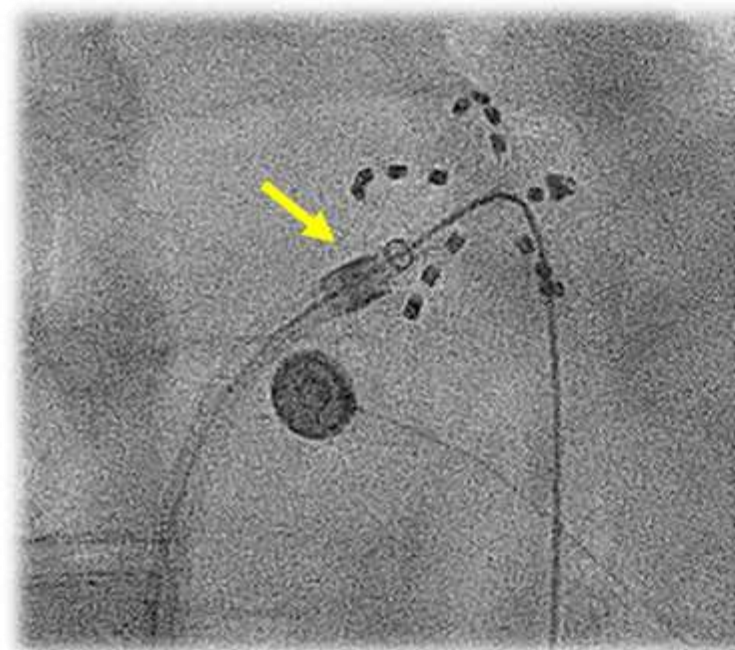
Phase 2



Phase 3



Optimized Workflow for Pentaspline PFA and Its Impact on PVI Durability: Evidence From Systematic Remapping



Phase 1

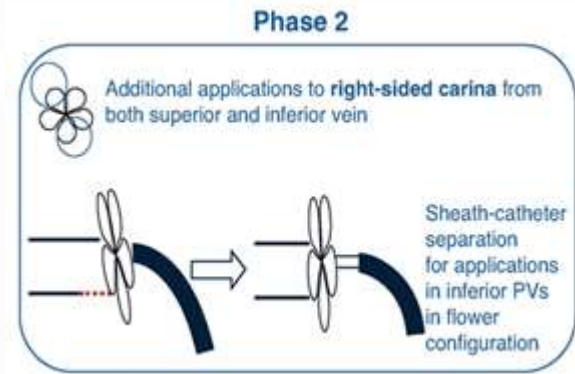
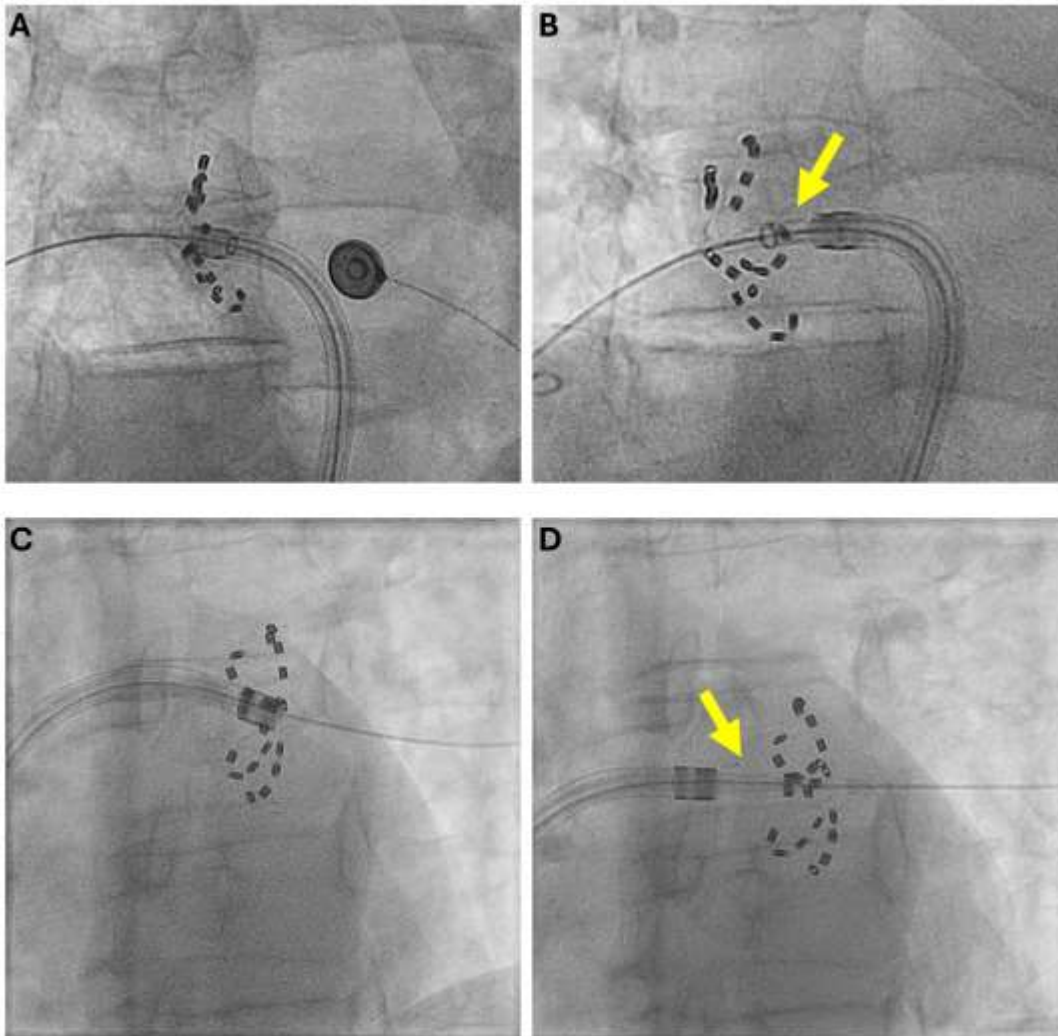
-  Systematic use of orthogonal projections prior to applications
-  Reference image of first application in both basket and flower configurations to guide subsequent positions covering non-treated areas
-  Position stability check after each application
-  Re-initiation of application pairs if suspected catheter displacement or >30 seconds since first application

Phase 1. Systematic, double-projection, fluoroscopy-only approach

The 31-mm Farawave catheter was navigated exclusively by fluoroscopic guidance following a systematic protocol using two complementary projections—left anterior oblique (LAO) 30° and right anterior oblique (RAO) 20°, with an additional 20°caudal tilt for superior PVs—prior to each set of PFA applications. For each vein, the goal of the ipsilateral fluoroscopic projection was to ensure contact and, in a flower configuration, to prevent splines from being inadvertently placed inside the vein. The goal of the contralateral projection was to ensure proper sheath-catheter-guidewire alignment

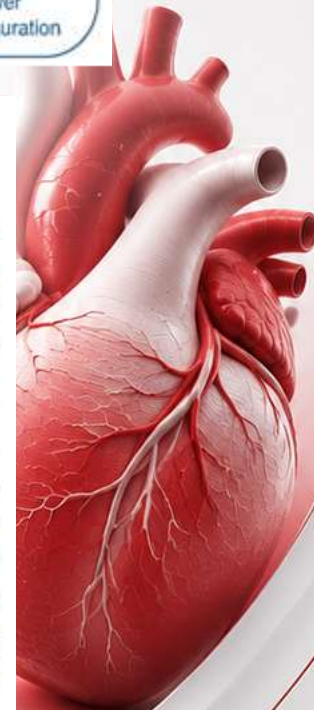
and to ensure applications were properly delivered on the whole circumference of the ostium and antrum of each vein. To ensure this, a reference image of the first application was acquired and displayed on a reference screen. This served to check catheter stability between the first and second application of each pair, as well as to guide spline positioning in subsequent applications, aiming to cover all inter-spline spaces observed in the initial position. This was applied both to basket and flower configurations

Optimized Workflow for Pentaspline PFA and Its Impact on PVI Durability: Evidence From Systematic Remapping



Phase 2. Systematic, double-projection, fluoroscopy -only optimized approach

This phase maintained the systematic approach described in Phase 1, **adding two refinements** to address the potential causes for the gaps identified in chronic remapping. **First**, to reduce gaps at the right-sided carina and anterior-superior aspect of the right inferior PV, applications were delivered to the right-sided carina from both the superior—applying posterior torque and adding sheath deflection—and inferior—anterior torque and reducing sheath deflection—PVs. **Second**, to reduce gaps at the inferior aspect of the inferior PVs, catheter advance to contact the PV antrum in flower configuration was performed by progressing the catheter itself and using the sheath in a 90° angle to provide direction (see [Supplementary material online, Figure S2](#)), instead of progressing the sheath to push the flower directly towards the tissue, as this was interpreted to potentially facilitate displacement from the interior rim of inferior PVs.



Optimized Workflow for Pentaspline PFA and Its Impact on PVI Durability: Evidence From Systematic Remapping

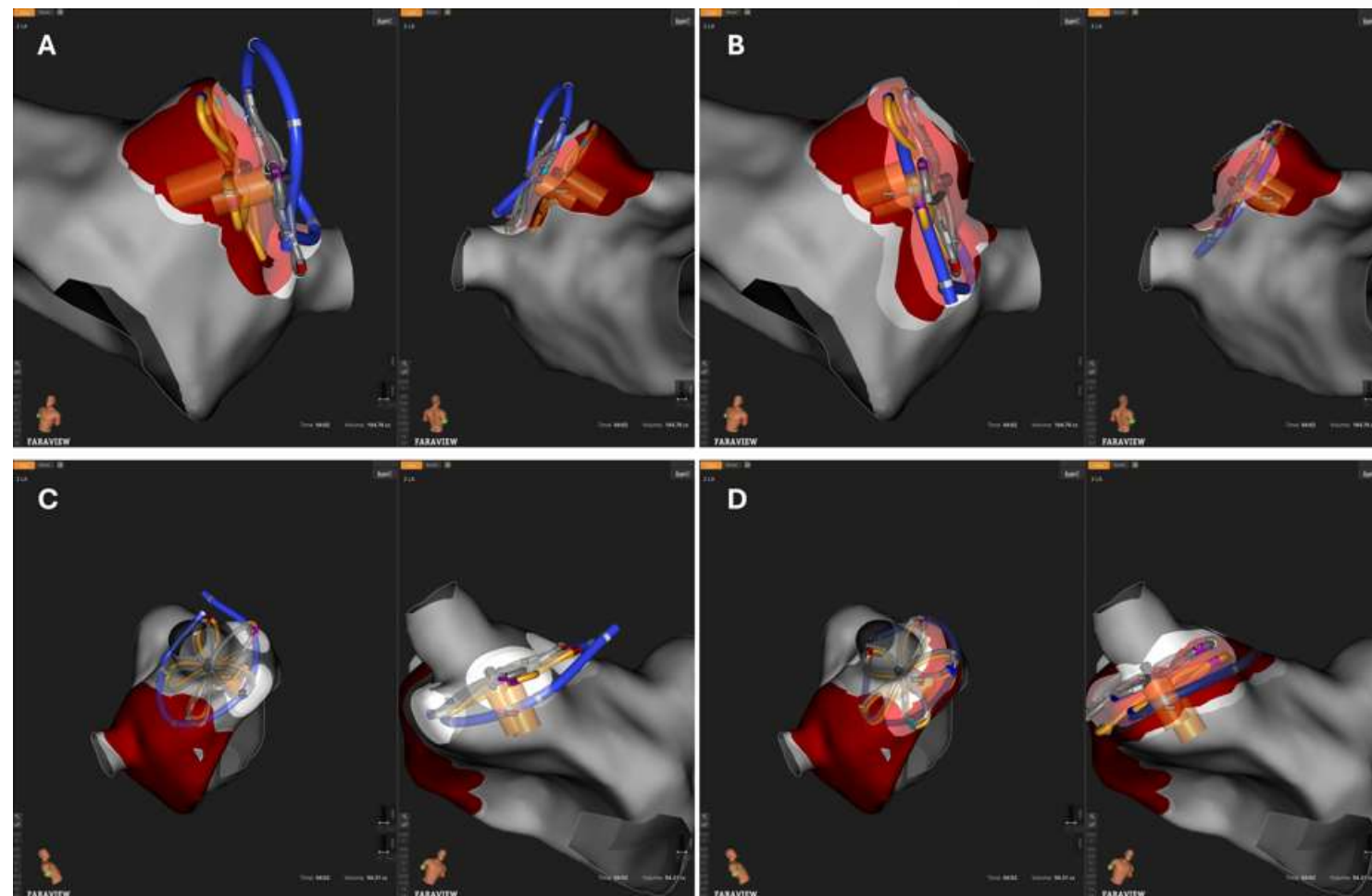
Phase 3

- Additional applications to **left-sided carina** from both superior and inferior vein
- Electroanatomic mapping guidance with systematic, impedance-based assessment of planar spline distribution
- Segmental, "quadrant-guided" applications if suspected non-planar spline distribution

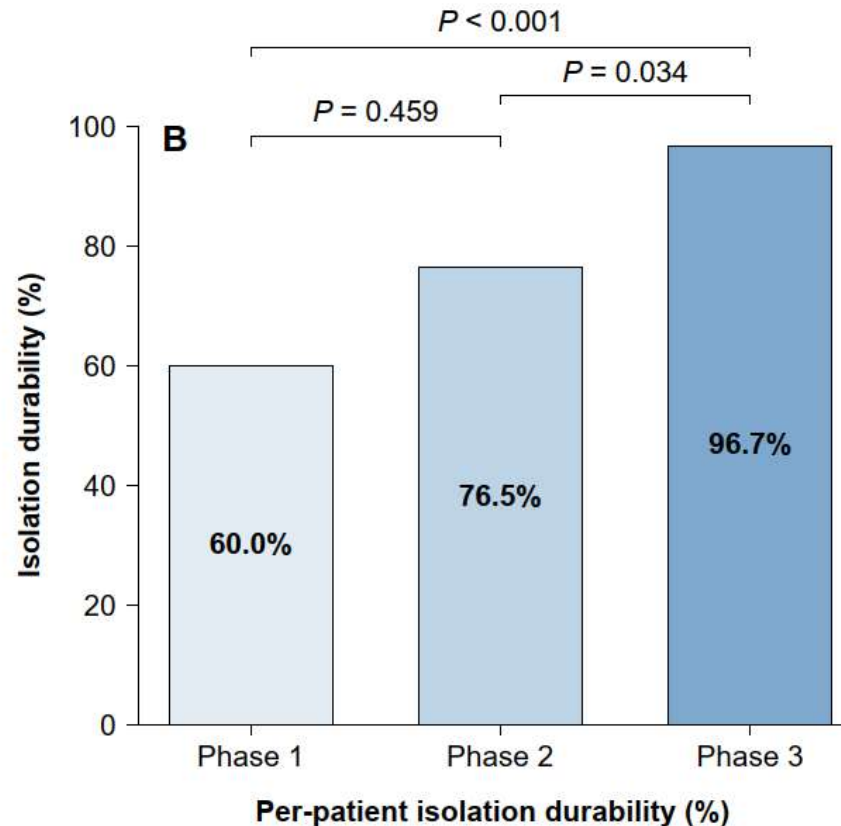
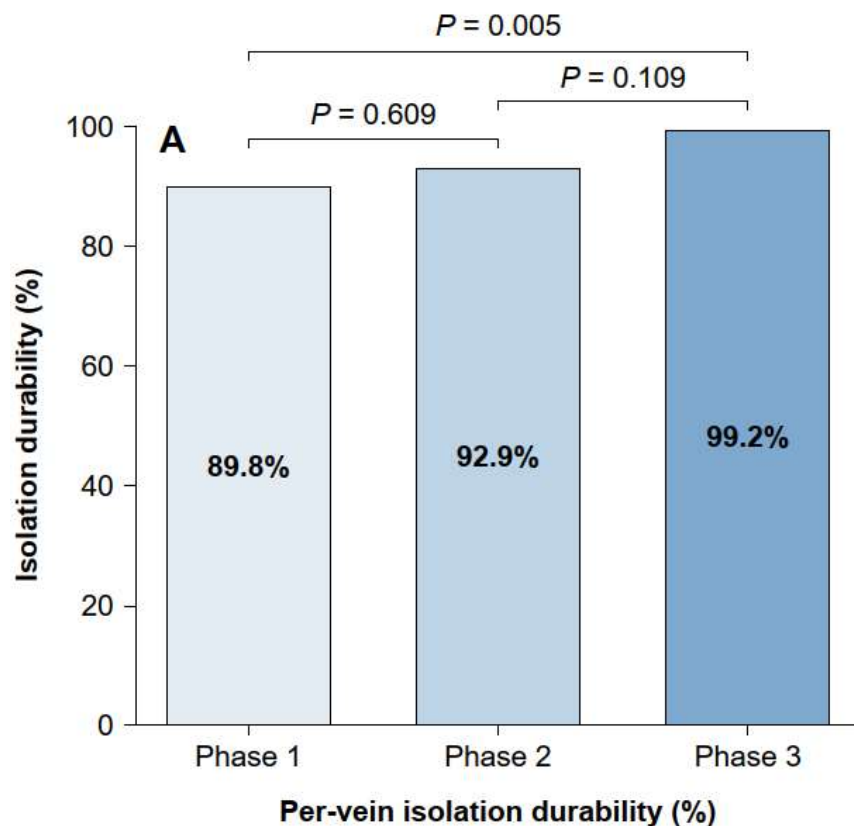
Phase 3. Systematic, double-projection, fluoroscopy with integration of impedance values from electroanatomic navigation system

This phase maintained the systematic approach described in Phases 1 and 2 but incorporated **two more steps** in the procedure. **First**, systematic additional applications towards left-side carina from both superior and inferior left PVs. **Second**, EAM guidance was added with the Faraview module on Opal HDx. Specifically, impedance-value-based depiction of the electrically active electrodes was assessed prior to applications in flower configuration to ensure that none were inadvertently placed inside the vein.

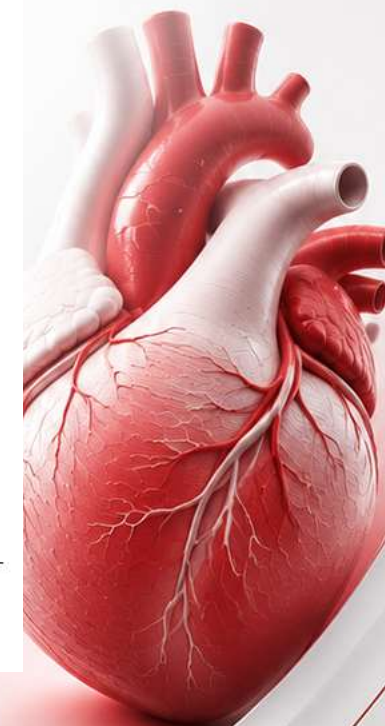
If this was detected, catheter was repositioned to achieve a homogeneous planar distribution of all electrodes. If repositioning was unsuccessful, additional dedicated applications to the untreated antral segments were delivered.



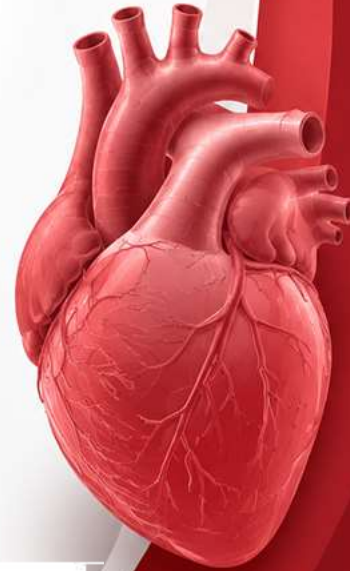
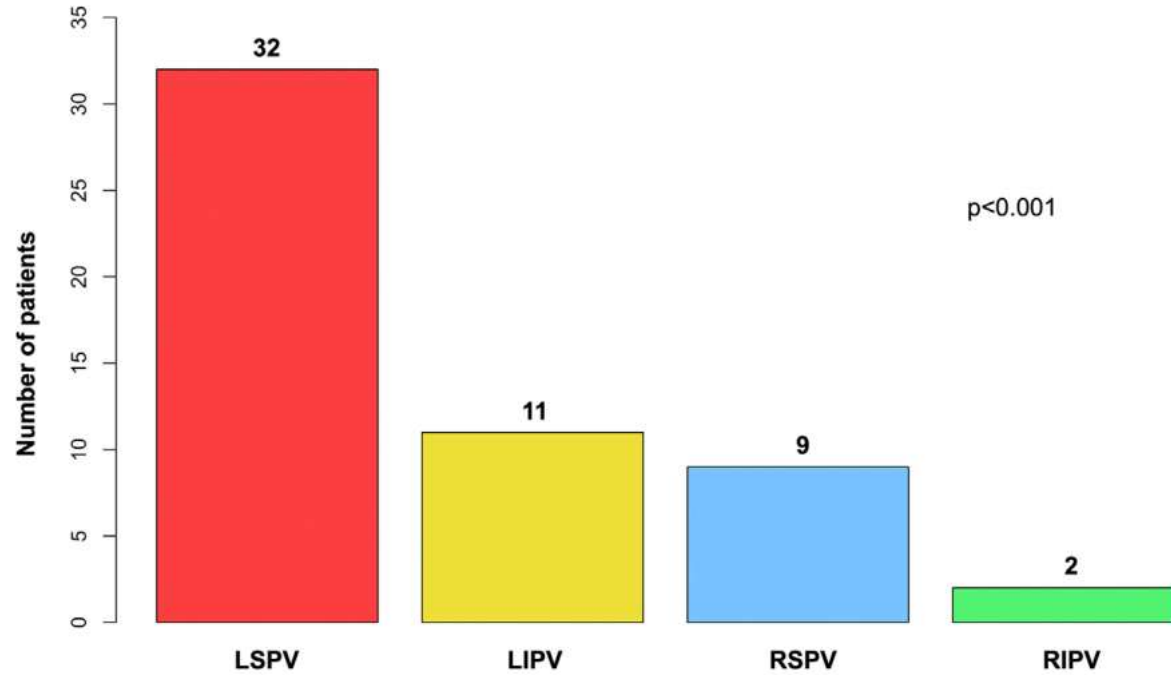
Optimized Workflow for Pentaspline PFA and Its Impact on PVI Durability: Evidence From Systematic Remapping



Our findings support the hypothesis that durable PVI with PFA depends primarily on deployment technique rather than on advanced imaging tools or inherent catheter or wave-form design. We conclude that an optimized workflow can deliver near-complete durable PVI with a favourable safety profile.



PFA & RSPV First approach ?



Vagal responses occurred in 78% patients in the LSPV-first group and 13% in the RSPV-first group



Incidence and risk factors of acute blood pressure drops during circular-array pulsed-field ablation for pulmonary vein isolation ^e

Shintaro Hashimoto, MD,^{1,4} Hironori Ishiquchi, MD, PhD,^{1,4} Yasuhiro Yoshioka, MD, PhD,¹

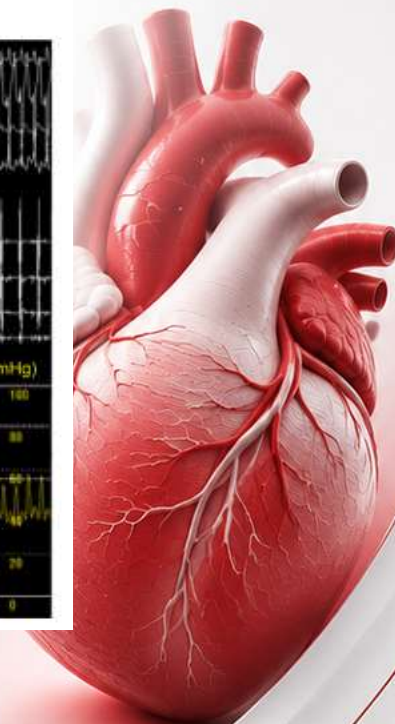
A A representative case of developing BP drop



B A representative case of developing severe BP drop



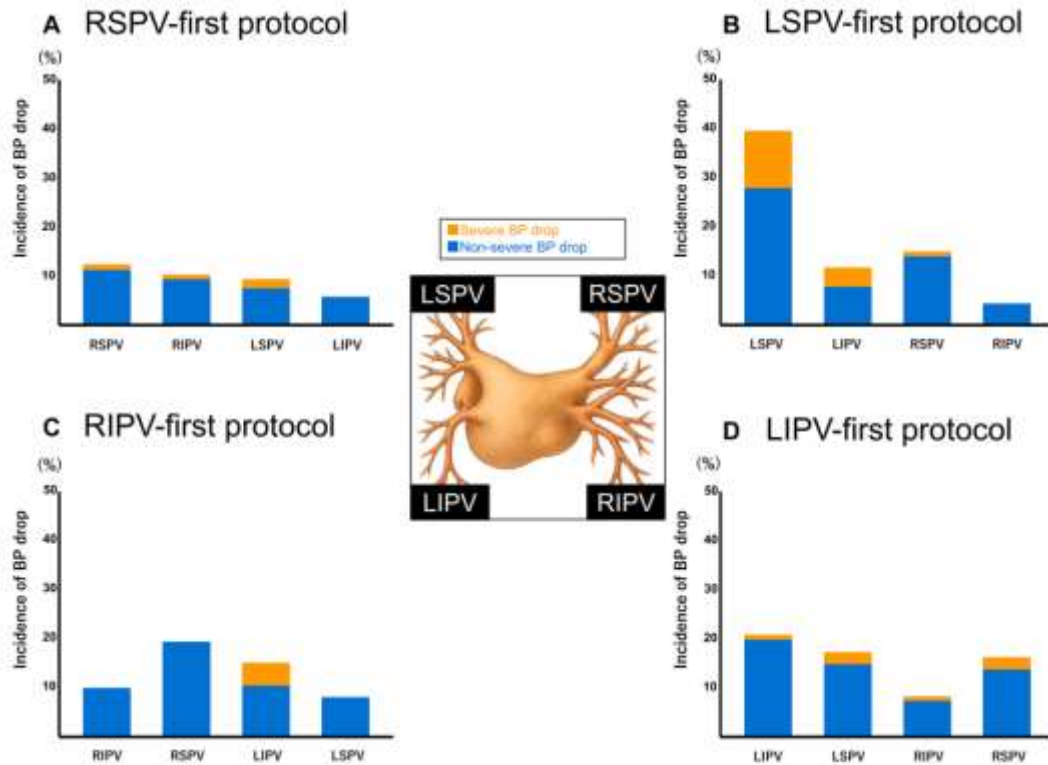
In the literature regarding thermal ablation, a "right PV-first" protocol—initiating ablation at the right PVs before the left PVs—has been reported to mitigate intraprocedural vagal responses.



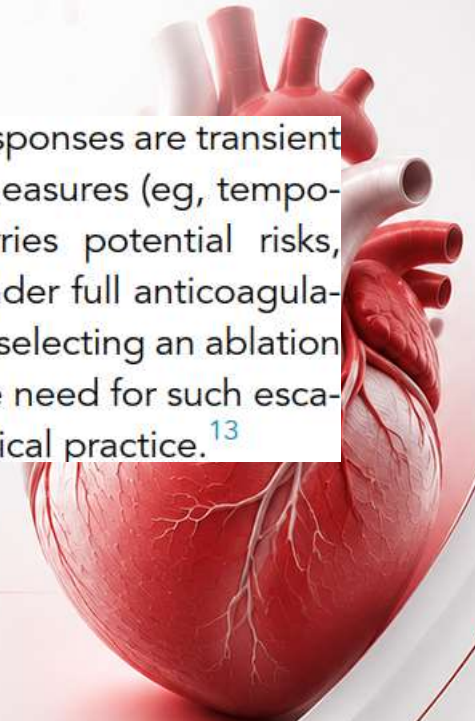


Incidence and risk factors of acute blood pressure drops during circular-array pulsed-field ablation for pulmonary vein isolation ^e

Shintaro Hashimoto, MD,^{1,4} Hironori Ishiquchi, MD, PhD,^{1,4} Yasuhiro Yoshioka, MD, PhD,¹



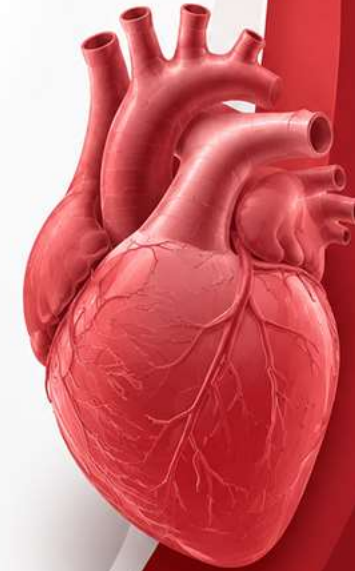
Although most BP drops and vagal responses are transient and manageable, escalation to rescue measures (eg, temporary pacing or vasoactive agents) carries potential risks, including catheter-related perforation under full anticoagulation and adverse drug effects; therefore, selecting an ablation sequencing strategy that may reduce the need for such escalation may be a prudent approach in clinical practice.¹³



PFA & LA Fonksiyonları ?

Effect on left atrial function

During the **acute phase** following PFA-PVI, most studies report a reduction in markers of left atrial (LA) compliance and contractile function. This is observed both after PVI alone and following more extensive LA ablation, likely reflecting transient LA-stunning. In the **long-term (chronic phase)**, markers of LA-compliance typically return to baseline, although persistent impairment of LA contractile function at 3 months after PFA-PVI despite recovery of reservoir function has been described. In contrast, RF-PVI with extensive LA ablation leads to a long-term decline in LA-compliance markers.



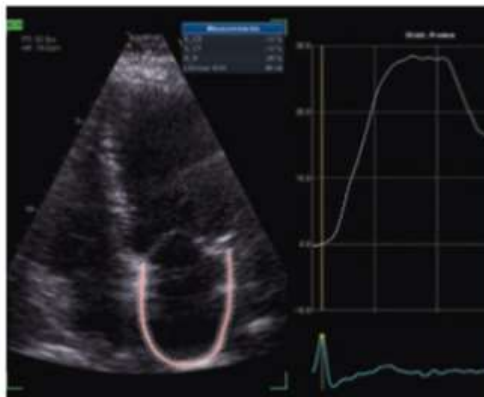


Left atrial function after atrial fibrillation ablation with pulsed field vs radiofrequency energy: A comparative study

Laurens Verhaeghe, MD,^{1,7} Wouter L'Hoves, MD,^{1,2,7} Johan Vlieten, MD, FHRS,^{1,3} Thomas Philips, MD,^{1,3}

Left atrial function after atrial fibrillation ablation with pulsed field versus radiofrequency energy: a comparative study

- Prospective evaluation of left atrial function after pulmonary vein isolation in 28 patients undergoing radiofrequency (RFA) and 31 patients undergoing pulsed field ablation (PFA).
- Serial echocardiographic assessment with a focus on strain measurements at baseline, immediately after ablation and at three-month follow-up.



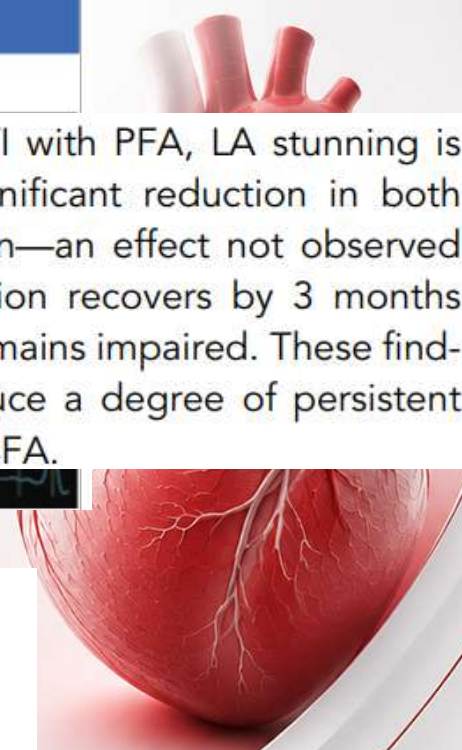
In the acute phase following PVI with PFA, LA stunning is evident, characterized by a significant reduction in both reservoir and contractile function—an effect not observed with RFA. While reservoir function recovers by 3 months post-PFA, contractile function remains impaired. These findings suggest that PFA may induce a degree of persistent atrial dysfunction not seen with RFA.

Main findings

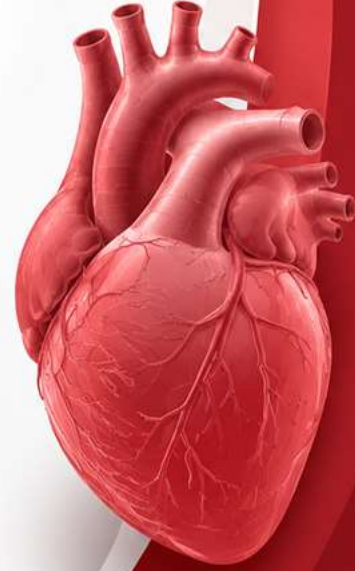
The main findings of this study are as follows:

1. Consistent with previous research, patients with PAF exhibit moderate LA dysfunction prior to ablation.
2. In the acute phase following PFA, LA function is significantly reduced, evidenced by declines in both reservoir and contractile function.

3. By 3 months after PFA, LA reservoir function appears to recover while LA contractile function remains impaired.
4. In the RFA group, LA function remains stable with no significant changes observed in either the acute or chronic phase.

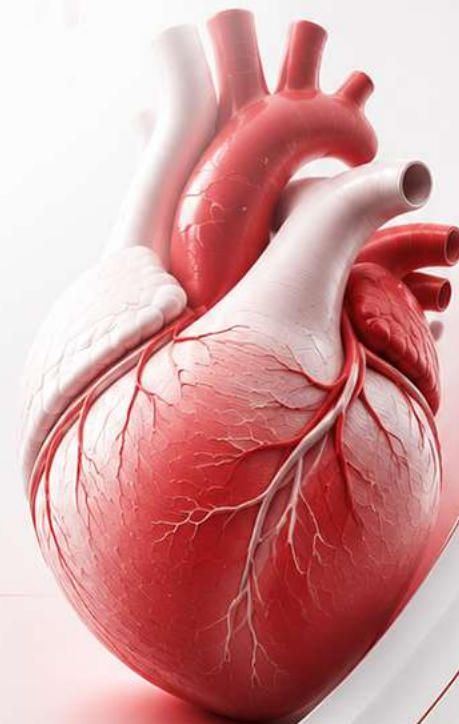


PFA & derin sedasyona doğru ?



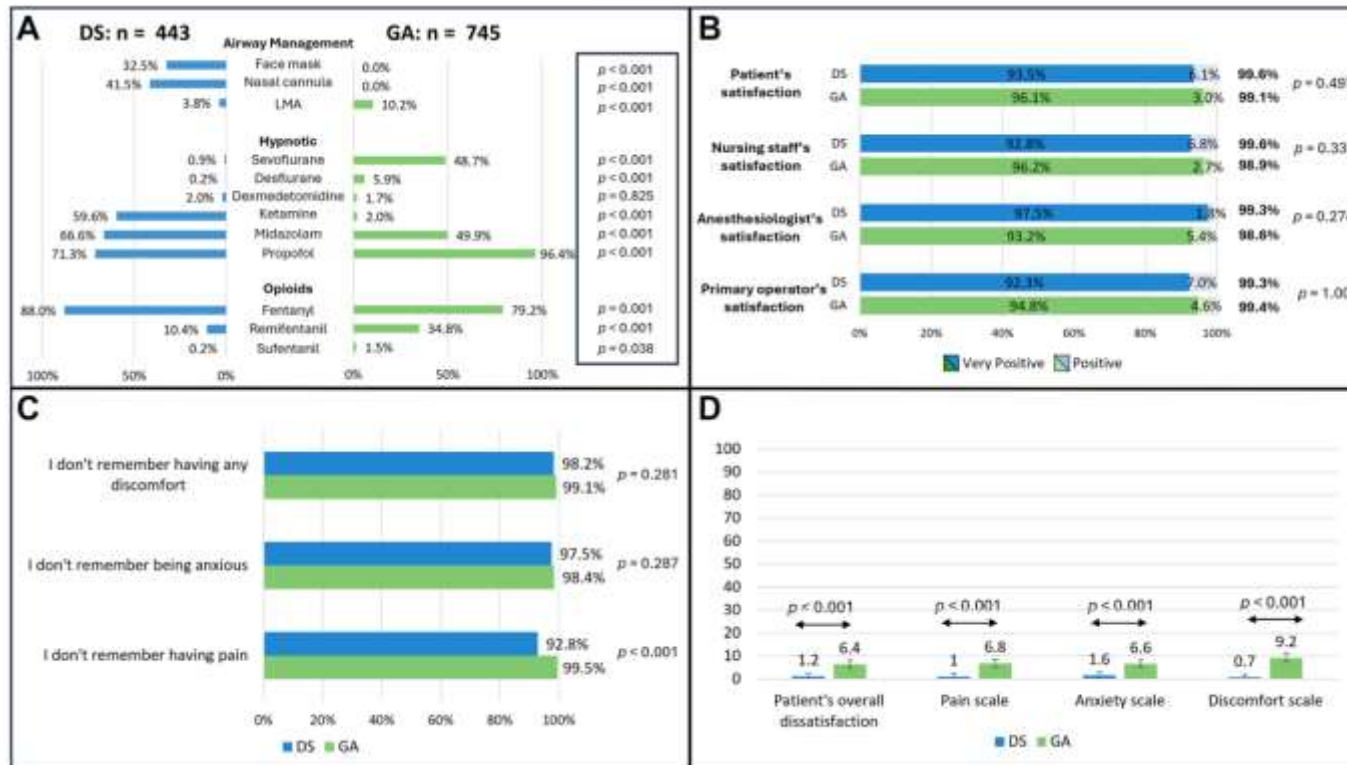
Protocol	Drug(s)	Typical dosing	Notes
Local anaesthesia (adjunct only)	Local anaesthetic at access sites	Per institutional practice	Insufficient as sole strategy for PFA owing to discomfort and skeletal muscle contractions; used only as adjunct
Conscious (moderate) sedation ⁶⁸	Midazolam + short-acting opioid; multimodal adjuncts (e.g. lidocaine for coughing), optional bolus etomidate if required	Midazolam 0.01–0.03 mg/kg IV + fentanyl 0.5–1 µg/kg IV; lidocaine 1–1.5 mg/kg IV; optional etomidate bolus (e.g. 0.05–0.1 mg/kg)	Feasible for certain PFA systems in selected patients; without routine involvement of anaesthesiology personnel; preserves spontaneous respiration but may provide less immobility and comfort than deep sedation
Deep sedation ⁶²	Midazolam + short-acting opioid ± ketamine or dexmedetomidine	Midazolam 0.01–0.03 mg/kg IV; fentanyl 0.5–1.5 µg/kg IV; ketamine 0.5–1 mg/kg IV before first PFA, top-ups 0.1–0.2 mg/kg as needed	Increasingly preferred for PFA; preserves spontaneous respiration; high safety and short recovery when delivered by trained staff with structured monitoring
Propofol-based deep sedation ⁶⁹	Propofol + short-acting opioid ± small benzodiazepine	Propofol 0.5–1 mg/kg IV bolus, then 0.25–0.5 mg/kg boluses or 25–75 µg/kg/min infusion; fentanyl 0.5–1 µg/kg IV; optional midazolam 0.01–0.03 mg/kg IV at start or minimal-propofol strategy ⁶⁶ ; midazolam 0.01–0.03 mg/kg + fentanyl 0.5–1 µg/kg IV; propofol only in 0.25–0.5 mg/kg rescue boluses	Most commonly used in clinical routine; rapid onset; stable and predictable if titrated slowly; requires continuous monitoring and airway-trained personnel
General anaesthesia	Per anaesthesiology practice	Per institutional standards	Provides full airway control and immobility; suitable for complex or high-risk cases or patients with obesity/anticipated difficult airway; associated with longer lab occupancy and higher resource demand

EU-PORIA registry, which enrolled 1233 consecutive patients across seven European centres. In this cohort, 20% of procedures were performed under GA and 80% under deep sedation.

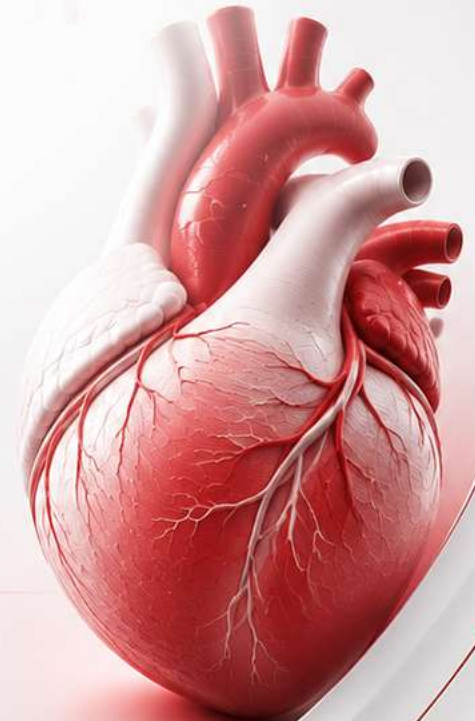




Sedation protocols for atrial fibrillation ablation using pentaspline pulsed-field ablation: Patient- and operator-reported outcomes from a large nationwide study

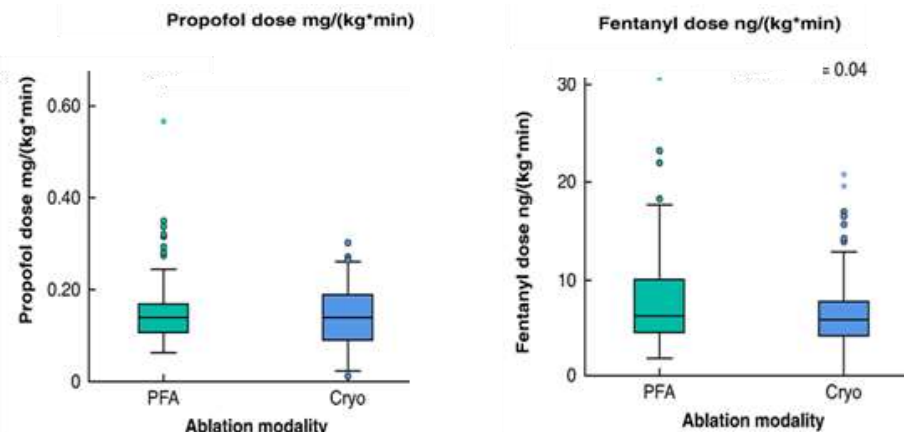


In summary, both GA and DS protocols for AF ablation using the pentaspline PFA system were safe and effective, yielding favorable sedation outcomes as reflected by positive feedback from patients and operators.



Analgesedation for catheter ablation in deep sedation: comparison between cryoballoon and pulsed field ablation

Moritz Nies, Laura Rottner, Ingrid Unruh, Julius Obergassel, Jan Rieß



Procedural data (after adaptation period)

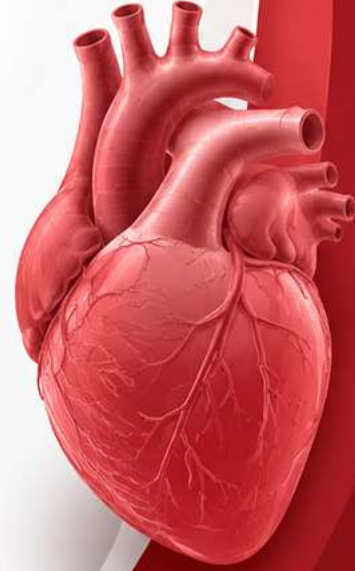
	Cryo (n = 142)	PFA (n = 133)	Total (n = 275)	P-value
Procedure duration (min)	60 (IQR 50–70)	54 (IQR 37–72)	58 (IQR 45–70)	0.027
Cumulative propofol (mg)	721 (IQR 496–923)	578 (IQR 472–812)	633 (IQR 475–875)	0.028
Propofol per kg*min (mg/(kg*min))	0.13 (IQR 0.11–0.17)	0.14 (IQR 0.11–0.17)	0.13 (IQR 0.11–0.17)	0.62
Cumulative fentanyl (µg)	30.6±12.1 [†]	33.5±13.5 [†]	32.0±12.8 [†]	0.09
Fentanyl per kg*min (ng/(kg*min))	5.74 (IQR 4.05–7.69)	6.17 (IQR 4.46–10.02)	5.92 (IQR 4.24–8.55)	0.040
Fluoroscopy duration (min)	9.4 (IQR 6.5–13.5)	10.9 (IQR 7.6–13.9)	10.0 (IQR 7.2–13.7)	0.016
Fluoroscopy dosage (cGycm ²)	309.5 (IQR 205.7–559.1)	372.7 (IQR 248.1–549.3)	338.0 (IQR 221.2–553.8)	0.002
Left common pulmonary vein (n, %)	1/142 (0.7%)	4/133 (3.0%)	5/275 (1.8%)	0.20

Sedation-related complications (full cohort)

	Cryo (n = 192)	PFA (n = 183)	Total (n = 375)	P-value
Unplanned vasopressor use (n, %)	0/192 (0.0%)	1/183 (0.5%)*	1/375 (0.3%)*	0.49
Need for ventilatory support (n, %)	0/192 (0.0%)	1/183 (0.5%)	1/375 (0.3%)	0.49
Pulmonary aspiration (n, %)	0/192 (0.0%)	2/183 (1.1%)	2/375 (0.5%)	0.24
Death (n, %)	0/192 (0.0%)	0/183 (0.0%)	0/375 (0.0%)	n/a

In summary, both psPFA and CBA appear safe and effective in deep sedation. Significantly higher opioid doses during psPFA procedures suggest an increased need for analgesia to mitigate pain from energy delivery, skeletal muscle activation, or nerve stimulation. Monitoring for signs of pulmonary aspiration during PFA procedures could further reduce sedation-related risks.

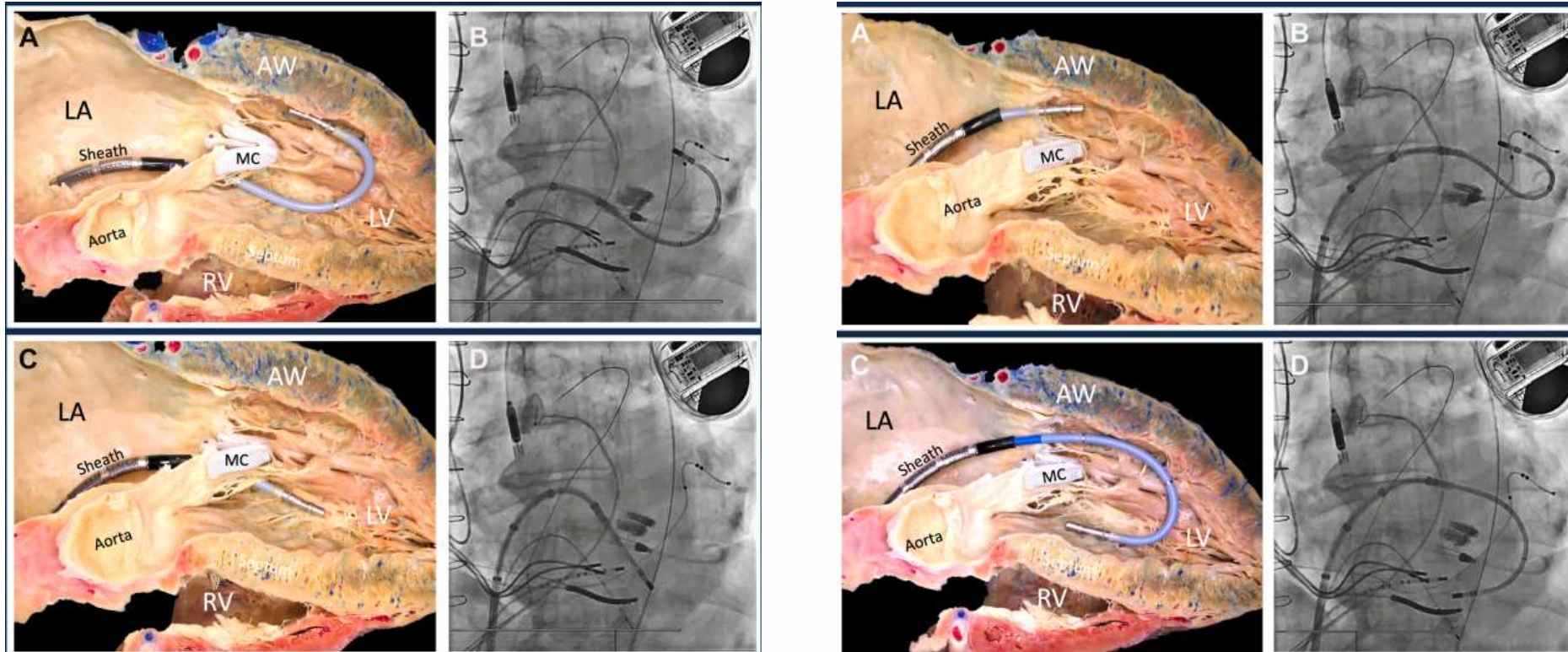
VT & TEER aracılı LV geçiş ?



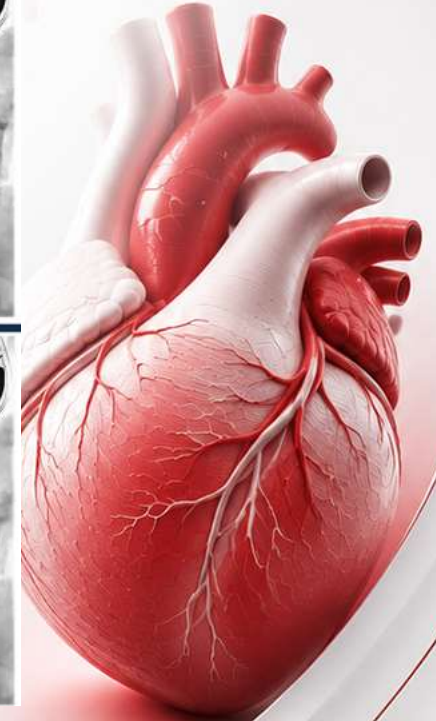


Antegrade approach for left ventricular tachyarrhythmia in patients with previous transcatheter edge-to-edge mitral valve repair

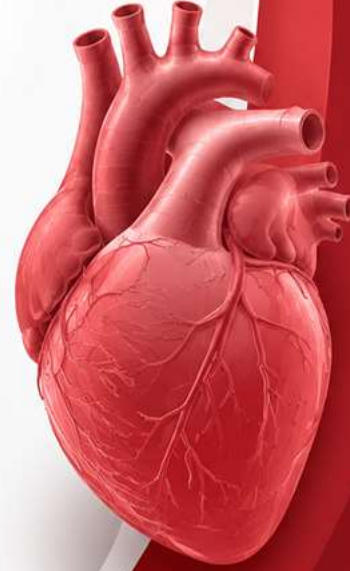
Moneeb Khalaph, MD,¹ Philipp Lucas, MD,¹ Sebastian Dittrich, MD,² Jakob Lüker, MD,²

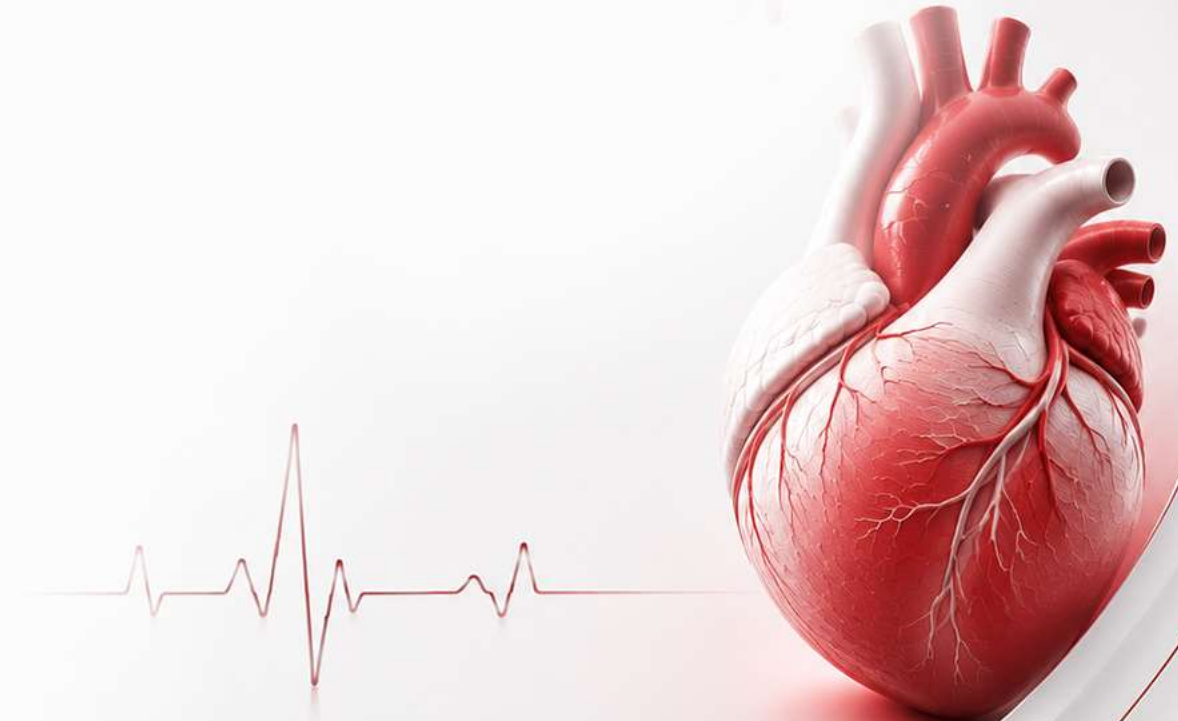
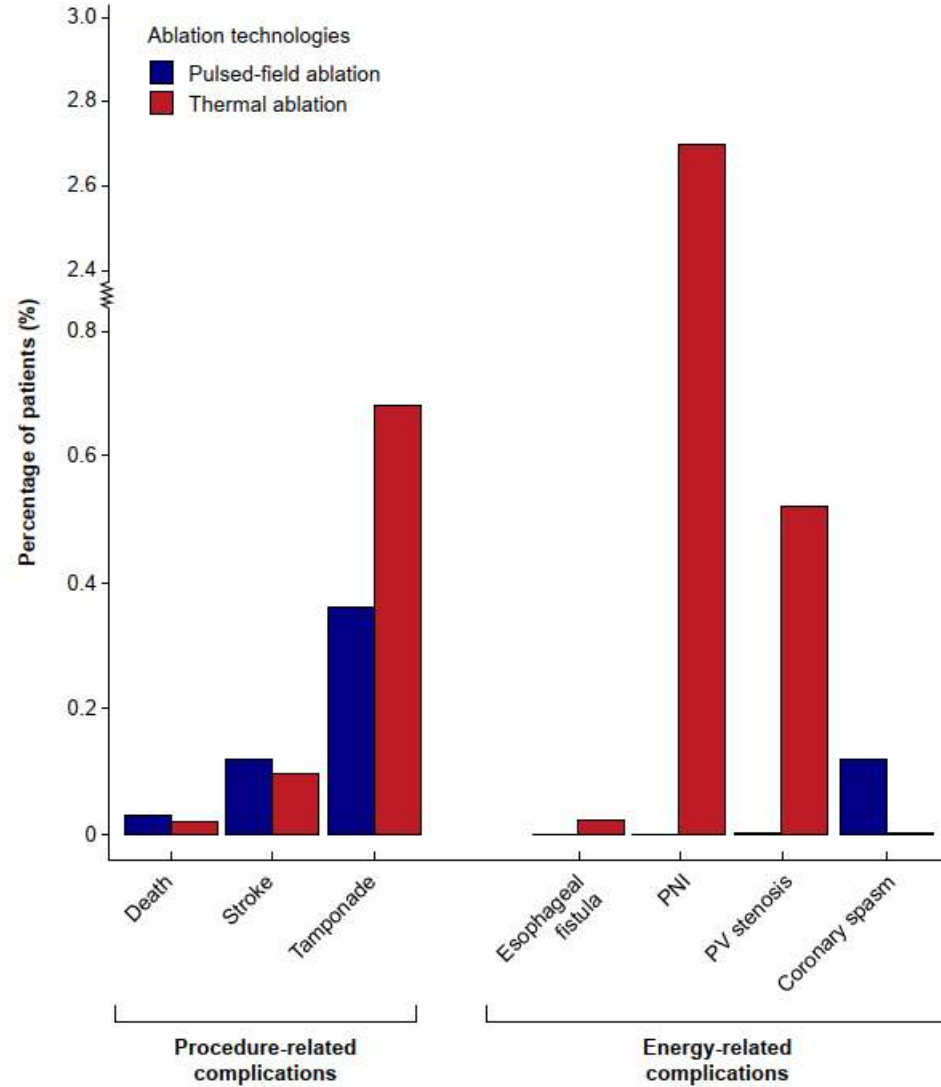


Ablation procedures are recommended at least 6 months after implantation to ensure clip stability. However, in this study, some patients underwent successful ablation earlier, with 1 patient treated just 2 months after clip placement. **Both septal and lateral** pathways were successfully used, each offering specific advantages.



PFA & Summit VES – spazm ?

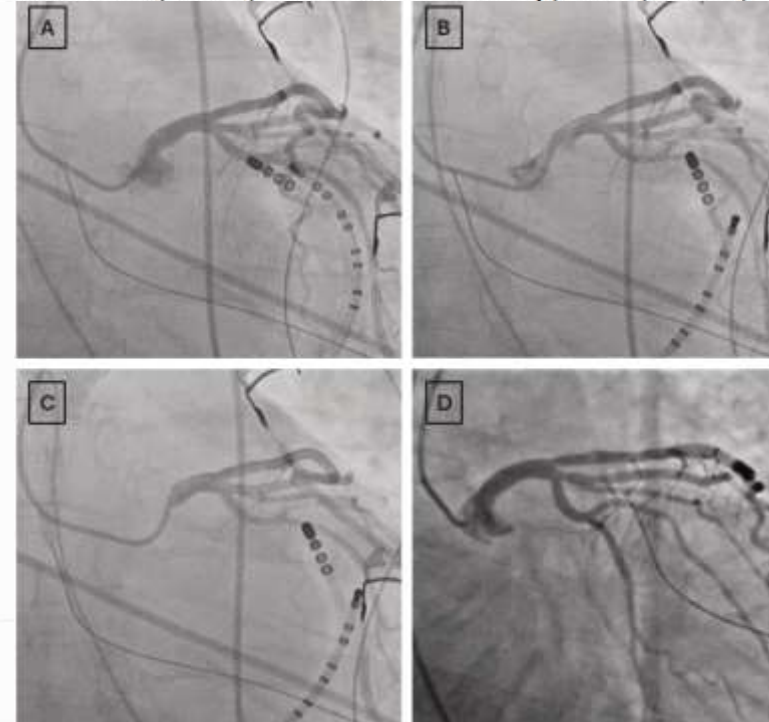
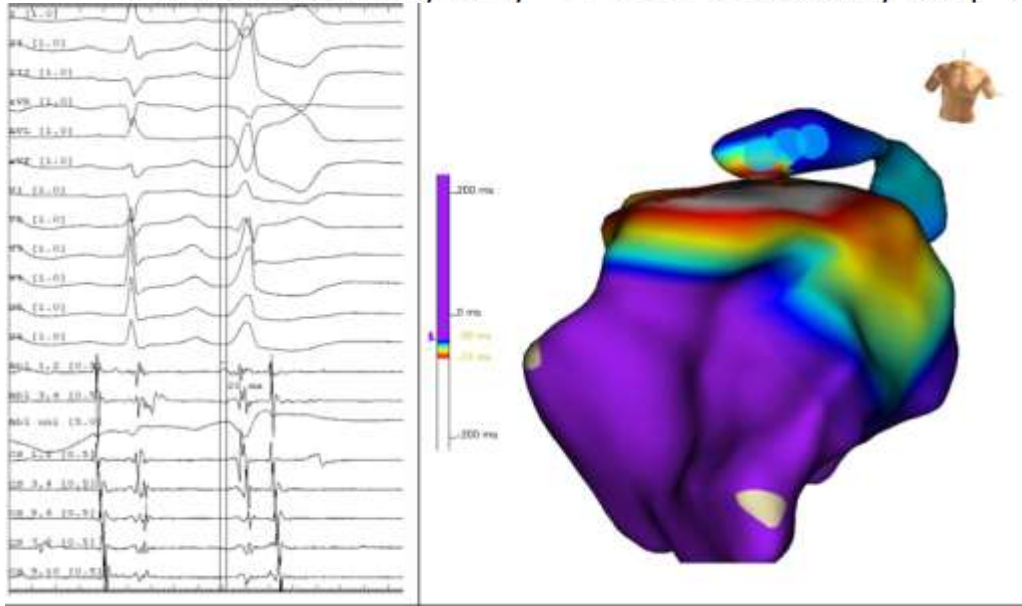




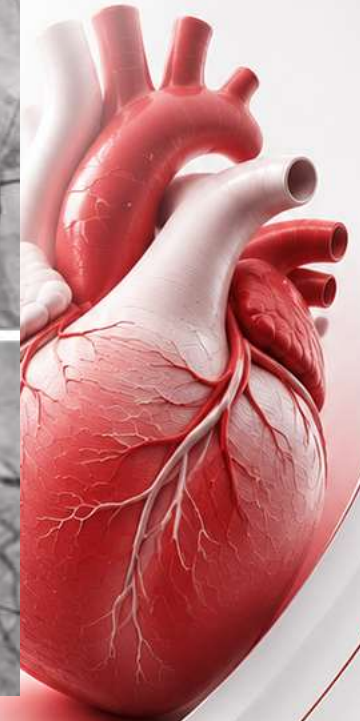


Progressive coronary spasm after focal pulsed field ablation of premature ventricular contractions in the great cardiac vein despite pretreatment with intravenous nitroglycerin

Andreas Koltzau, MD,¹ Youssef Benslama, MD,¹ Henrik Schneider, MD,¹ Kevin Vernooy, MD, PhD,²



This case demonstrates successful ablation of an LV summit PVC using focal PFA from within the GCV but also highlights progressive coronary spasm despite prophylactic nitroglycerin. The progressive nature, absence of ECG changes, and requirement for aggressive vasodilatory therapy underscore important safety considerations when PFA is delivered near coronary arteries.





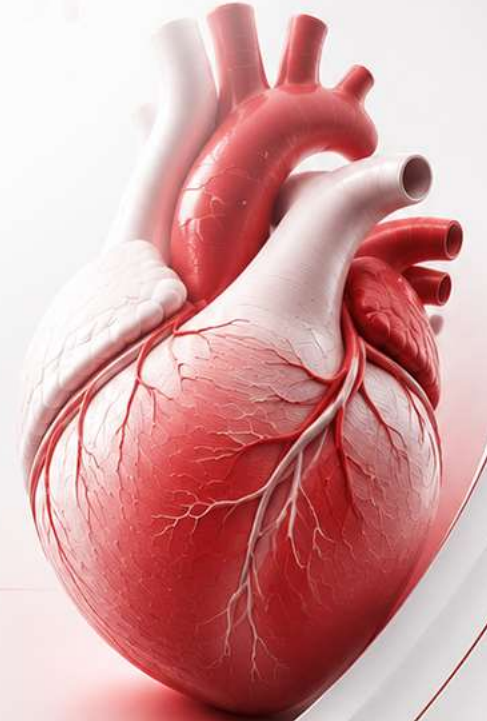
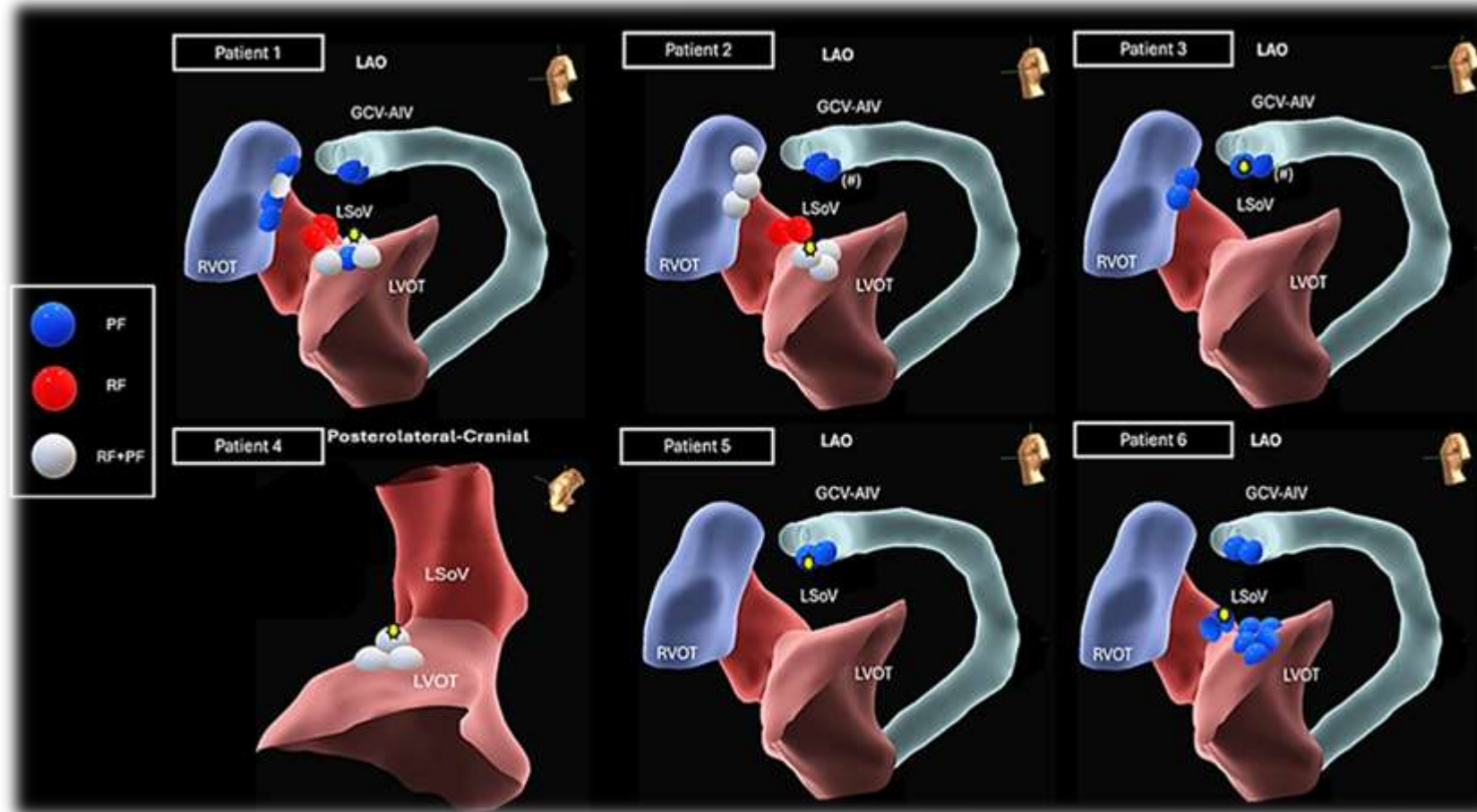
TÜRK
KARDİYOLOJİ
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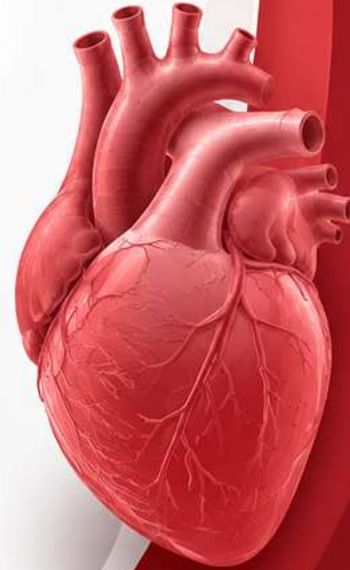
TÜRK
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DERNEĞİ
Aritmi Birliği

Circulation: Arrhythmia and Electrophysiology

First-in-Human Clinical Experience With Focal Pulsed Field and Radiofrequency Dual-Modality
Ablation for Treatment Refractory Left Ventricular Summit PVCs

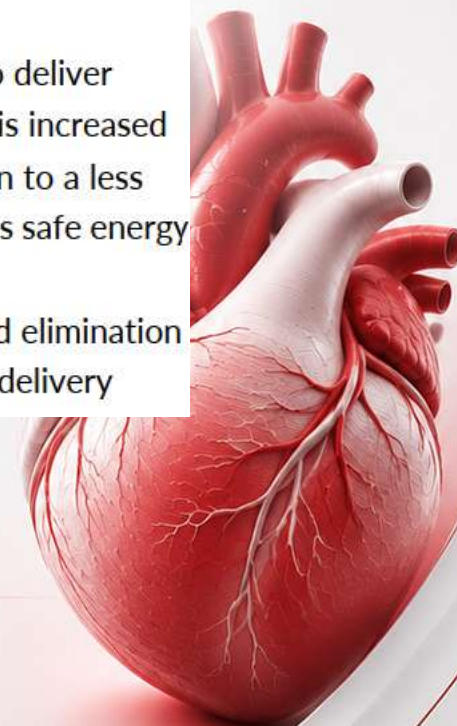


PFA & enerji kesme

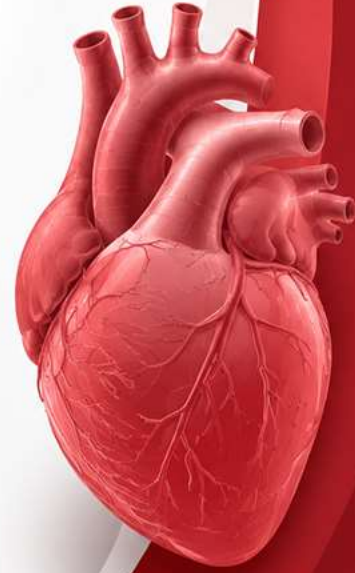


Troubleshooting (energy interruption, electrical arcing)

Catheter concept (generic)	Typical triggering condition	Practical implication
Multi-spline loop catheters (incl. pentaspline)	Excessive proximity of individual splines/loss of stable antral alignment/electromagnetic interaction with adjacent metallic implants	If splines are touching or excessively close, energy delivery is inhibited
Variable-loop catheters	Loop diameter reduced below the validated geometric range (electrode–electrode spacing too small)	Generators will typically refuse to deliver energy until the loop diameter is increased
Focal PFA tip/lattice-tip catheters	Abrupt temperature overshoot or impedance rise when the tip is wedged in a tight angle or excessive forward force is applied	Gentle retraction or slight rotation to a less constrained angle often restores safe energy delivery
Balloon-based multielectrode systems	Partial loss of wall contact, or artefact from air/saline/blood mixing around the electrodes	Correction of balloon position and elimination of air typically restores energy delivery
CIED patients	PFA can usually be performed safely in CIED patients using standard precautions: avoid close proximity and direct ablation near leads, and interrogate the device before and after the procedure. However, device–PFA interactions may be platform-dependent and cases of clinically relevant CIED malfunction have been reported; heightened caution and manufacturer-specific guidance are advised, particularly for hybrid RF/PFA systems.	
LAAO patients	Be aware of potential arcing with metallic devices. Prefer performing PFA before LAAO implantation; if done after LAAO, proceed with caution. Reserve concomitant PFA + LAAO procedures for selected patients and expert centres.	



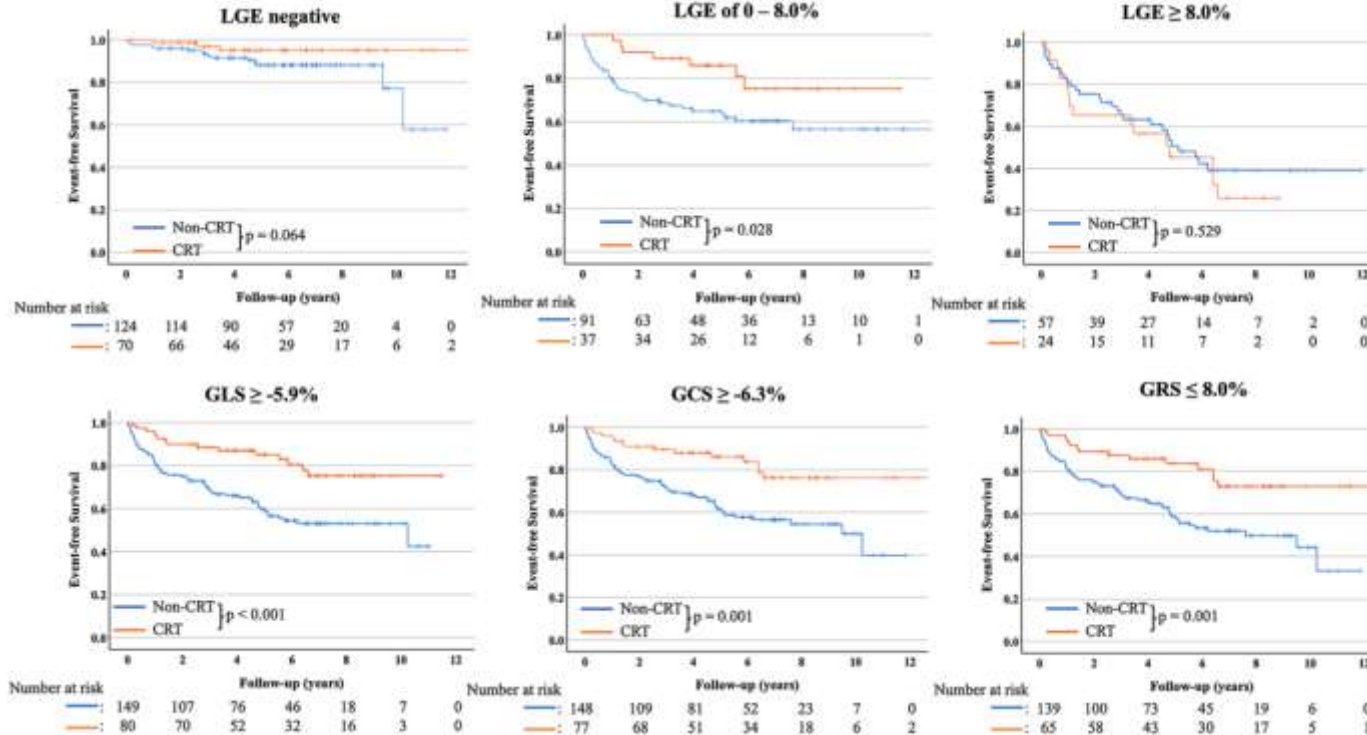
CRT/CSP & LVEF Ötesi?





Identifying patients with nonischemic heart failure with reduced ejection fraction for cardiac resynchronization therapy beyond current guidelines: Insights from cardiac magnetic resonance imaging ^e

Di Zhou, MD,^{1,7} Tingting Zheng, MD,^{1,7} Wenli Zhou, MD,¹ Xinqiao Lian, MD,¹ Leyi Zhu, MD,



In contrast, CRT did not result in improved clinical outcomes in patients with LGE of $\geq 8.0\%$, GLS of $< -5.9\%$, GCS of $< -6.3\%$, or GRS of $> 8.0\%$, regardless of whether they were in the LBBB cohort.

