

Ablazione della linea dell'istmo cavo tricuspideale con un catetere circolare over the wire : fattibilità , efficacia e sicurezza

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PERCHE' PARLARE DI CTI E PFA CON «ONE SHOT DEVICES»

- Pulsed field ablation (PFA) is currently centered on atrial fibrillation ablation and pulmonary vein isolation (PVI).
- Patients undergoing PVI often additionally require cavotricuspid isthmus (CTI) ablation.
- It's reasonable to attempt to perform PVI and CTI during the same procedure, being time-efficient and cost-effective.

Medtronic PulseSelect™ Pulsed Field Ablation system



PulseSelect™ PFA catheter

Cardiac trigger monitor

- All deliveries automatically synchronized to occur during the ventricular refractory period.

PulseSelect™ PFA Generator

- Bipolar/Biphasic waveform
- Flexible control from generator, bedside remote, or foot pedal



10Fr Flexcath Contour™ Sheath

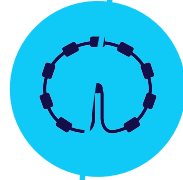


PulseSelect™ System Cart

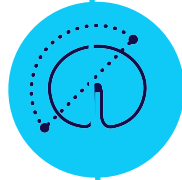
PulseSelect™ PFA catheter

- Design and features

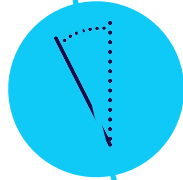
9 electrodes built to sense, ablate, and pace



25 mm diameter loop

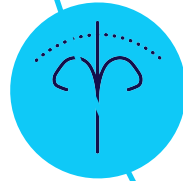


20° forward tilted array

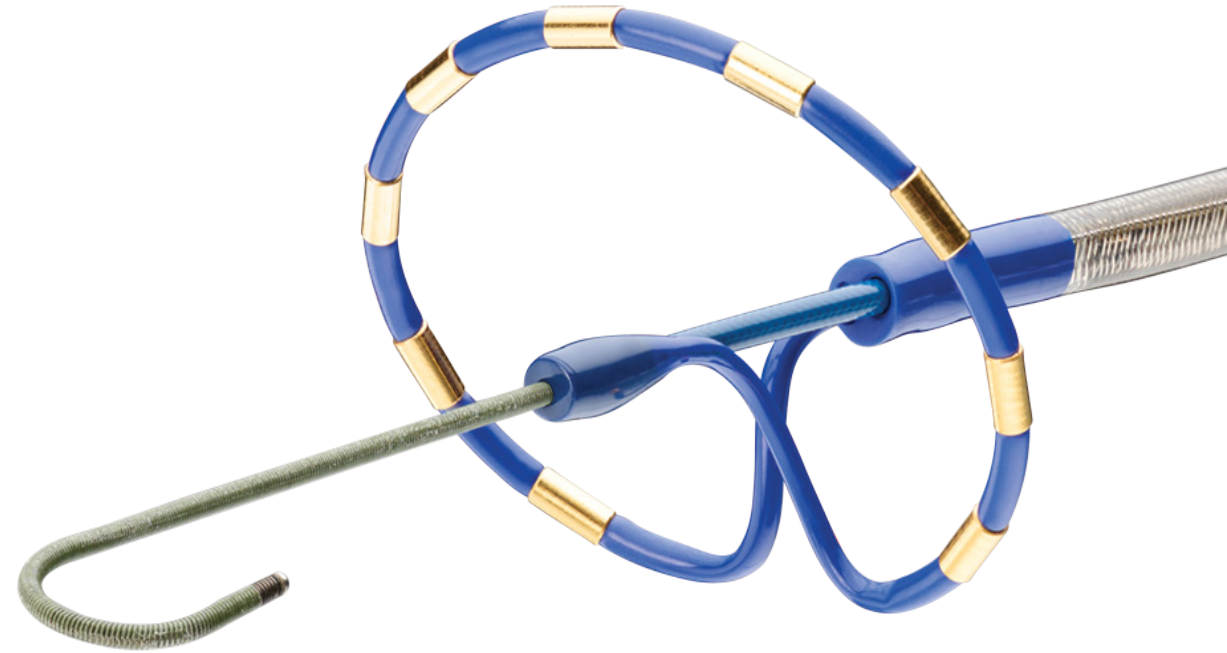
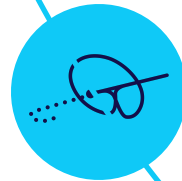


9 Fr shaft with bidirectional steering

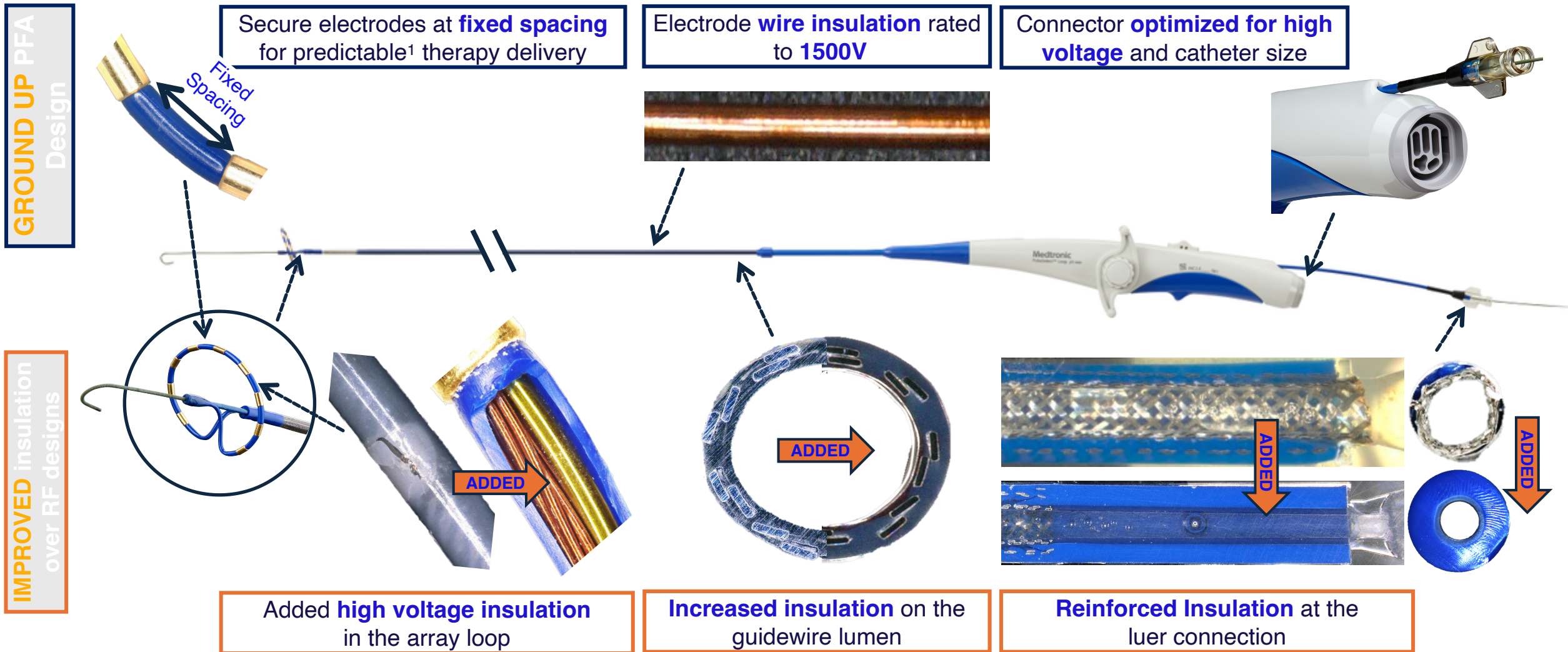
- 10 Fr sheath compatible



0.032" over-the-wire design



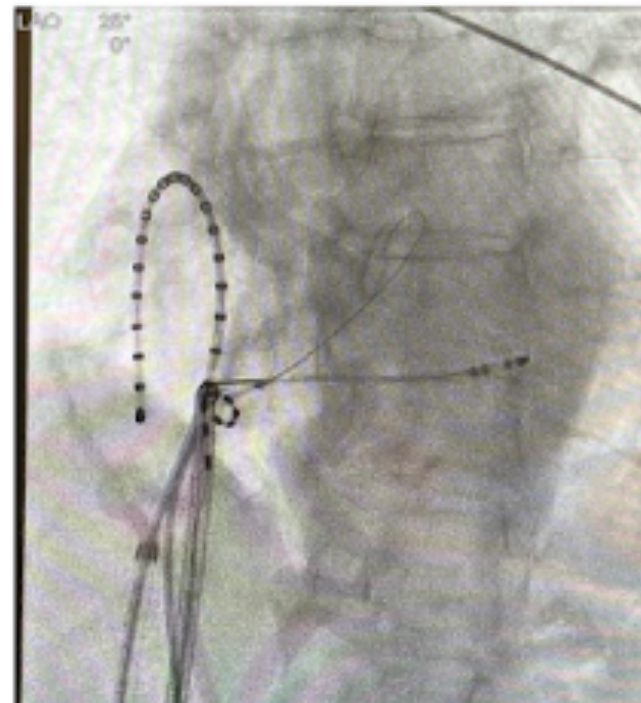
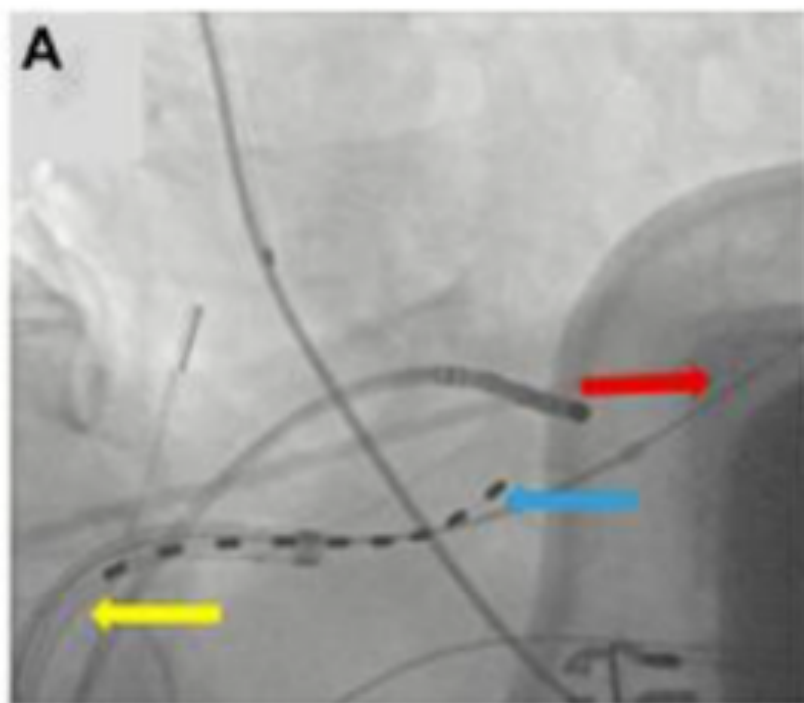
A Catheter Designed for PFA



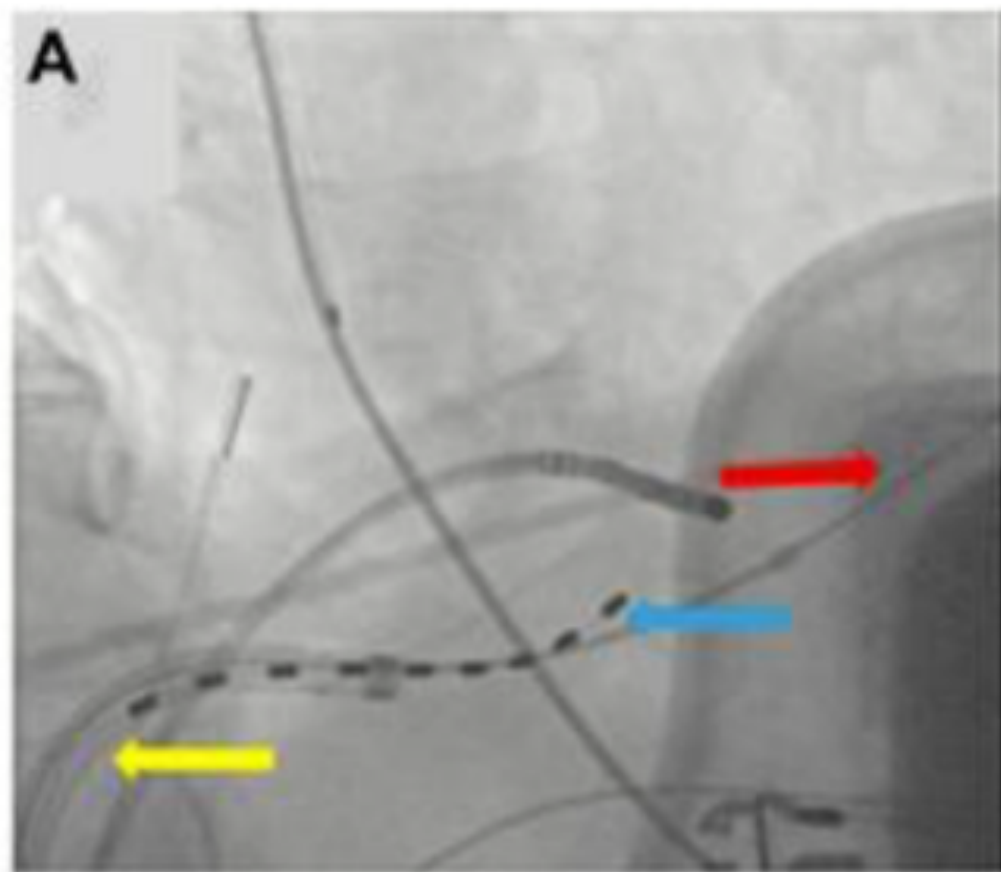
¹ Howard, Brian, et al. "Effects of Electrode-Tissue Proximity on Cardiac Lesion Formation Using Pulsed Field Ablation." Circulation: Arrhythmia and Electrophysiology. (2022).

CTI ablation

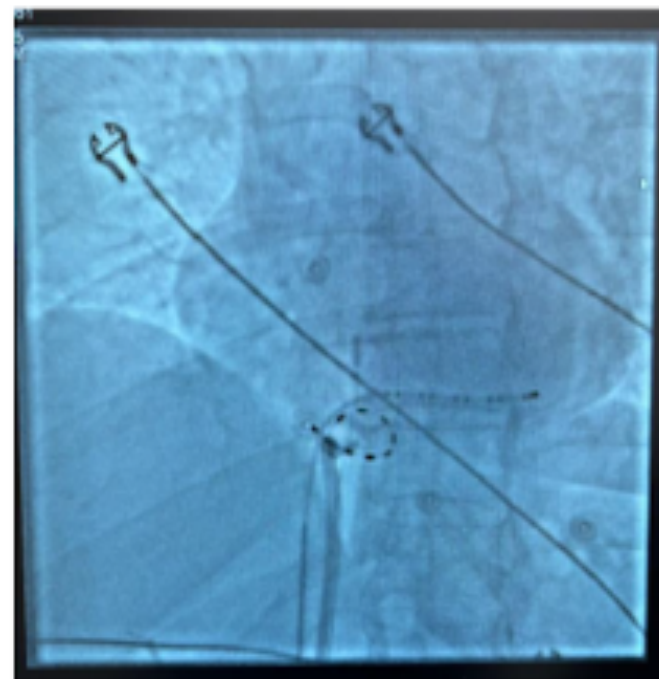
1. RV is wired (usually RV apex) with PS completely in the sheath
2. Wire is anchored and PS is advanced over the wire with **4-5 electrodes** outside of the sheath → for contact and dual field
3. PS is rotated so **the electrodes** are **positioned downward** in relation to the guidewire lumen
- 4. Sheath** is often **max deflected** to ensure good tissue contact
5. Physicians look for all V signal or big V little A on electrodes 1-2
6. Once ablation is given, the **entire system** (sheath and catheter together) is **pulled back** a small amount toward the IVC
7. This is repeated until CTI is blocked and then 1-2 more ablations are usually given



RECCOMENDED



POSSIBLE APPROACH



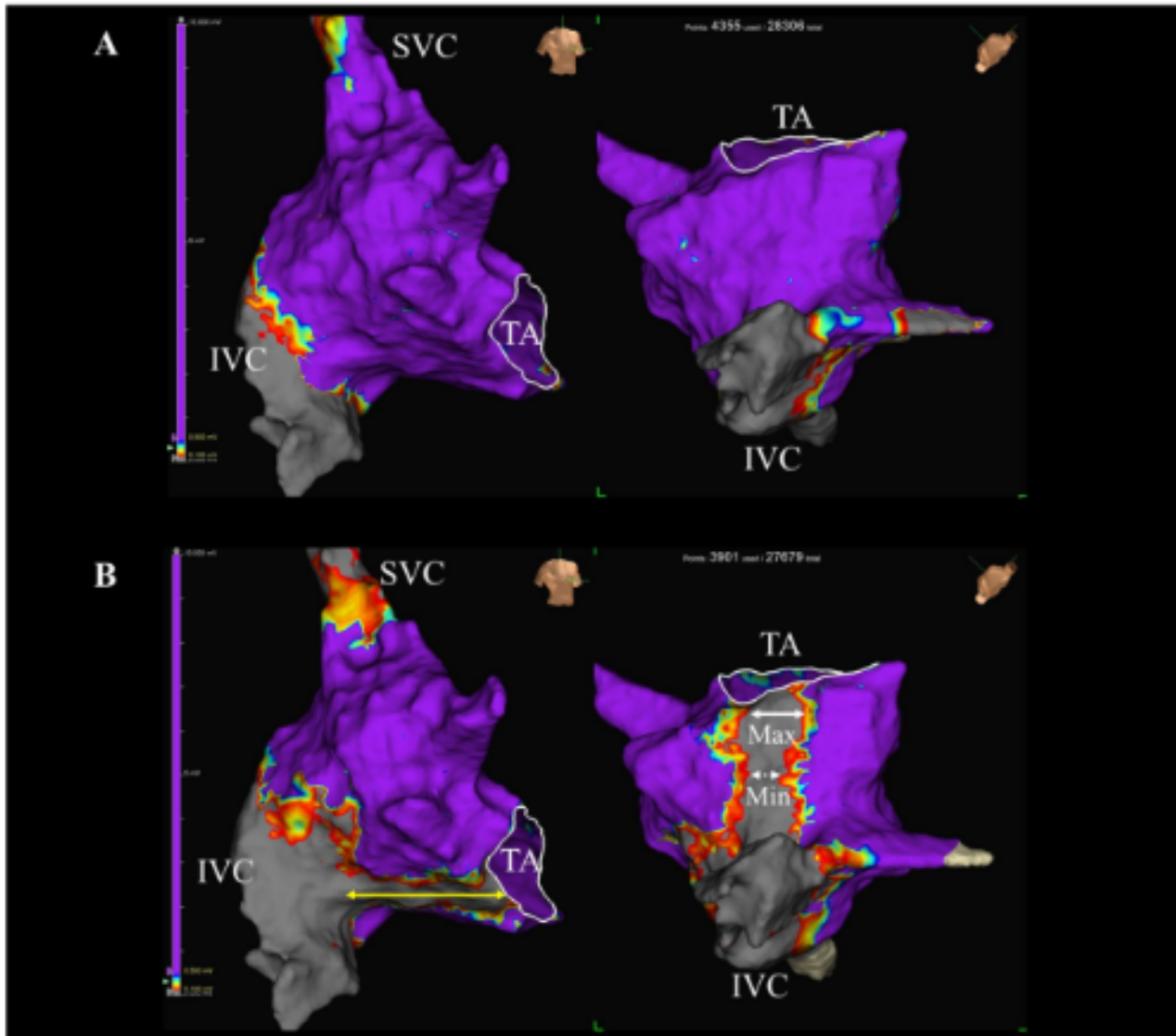


- 18 pazienti; PVI+CTI
- Nitrati somministrati dopo la prima applicazione
- 100% Blocco CTI acuto
- No recurrence con follow up di 7.7 mesi

Feasibility and safety of cavotricuspid isthmus ablation using a circular array pulse field ablation catheter: A single-center experience

Athanasios Kordalis, MD, PhD, Dimitrios Tsiachris, MD, PhD, Christos-Konstantinos Antoniou, MD, PhD1 Aggeliki Laina, MD, Panagiotis Xydis, MD, Aikaterini-Eleftheria Karanikola, MD, Panagiotis Tsioufis, MD, Ioannis Doundoulakis, MD, PhD, Stavros Mountantonakis, MD, PhD, FHRS, Konstantinos Tsioufis, MD, PhD

Heart Rhythm O2 , Vol 7, No 3, March 2026



- Studio retrospettivo
- 55 pazienti trattati
- 100% CTI Block

Feasibility and acute outcomes of cavotricuspid isthmus ablation using the circular-array pulsed field system

Rimpei Ueno · Shuhei Arai · Yoshimi Onishi · Masaya Ochiai · Yoshikazu Suzuki · Yosuke Kai Takamasa Ishikawa · Yuki Takai · Haruka Miyazaki · Hiroto Sugiyama · Yuya Nakamura · Taku Asano · Toshiro Shinke

Vasospamo CDX : 3/55

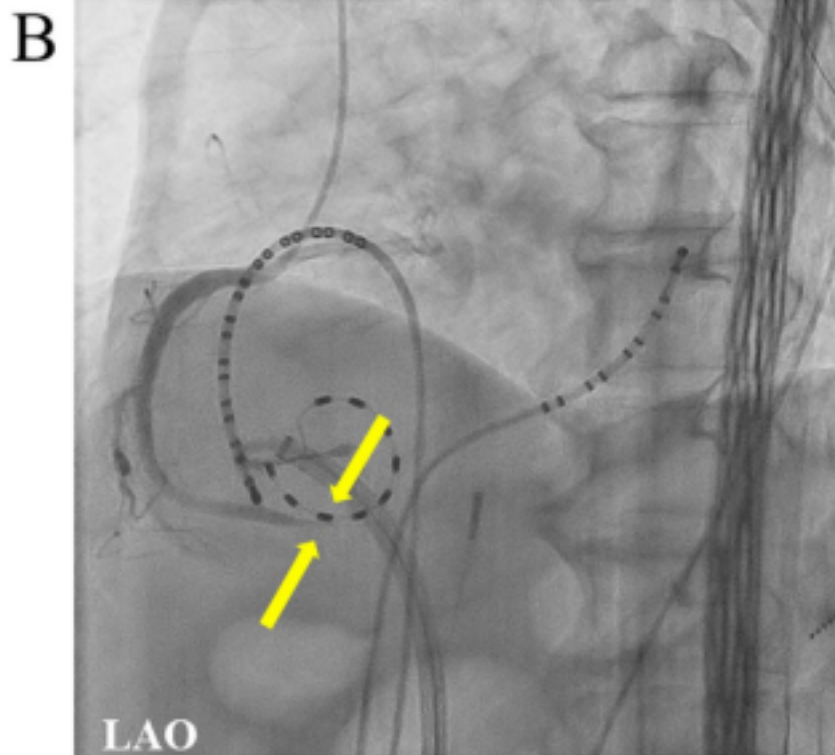
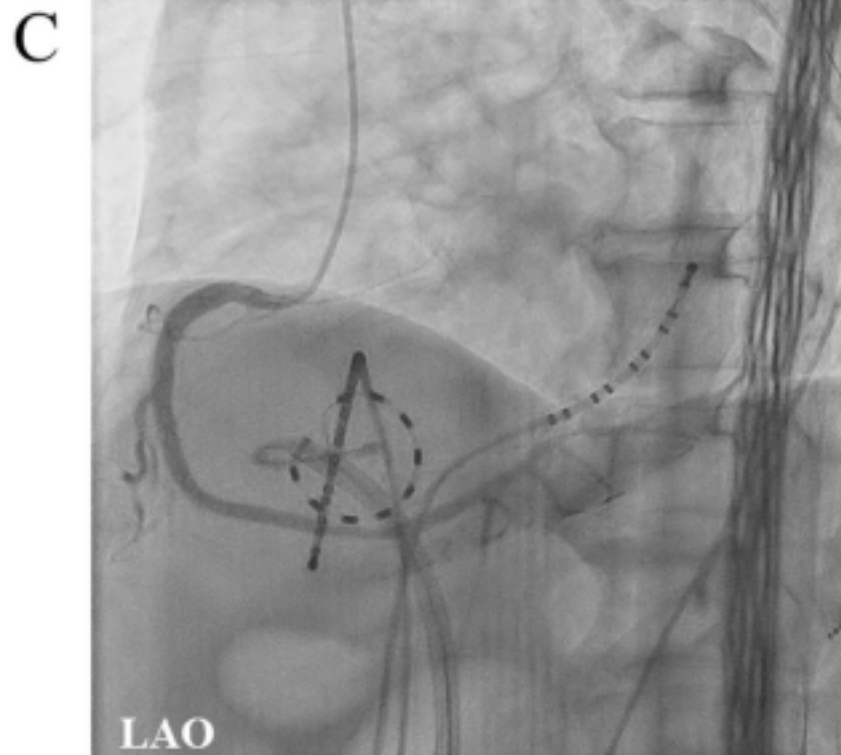


Fig. 5 Right Coronary Vasospasm Observed after PFA. (A) Inferior ST elevation and aVL depression on the 12-lead ECG after 8 PFA applications at CTI. Coronary angiography demonstrated severe stenosis in

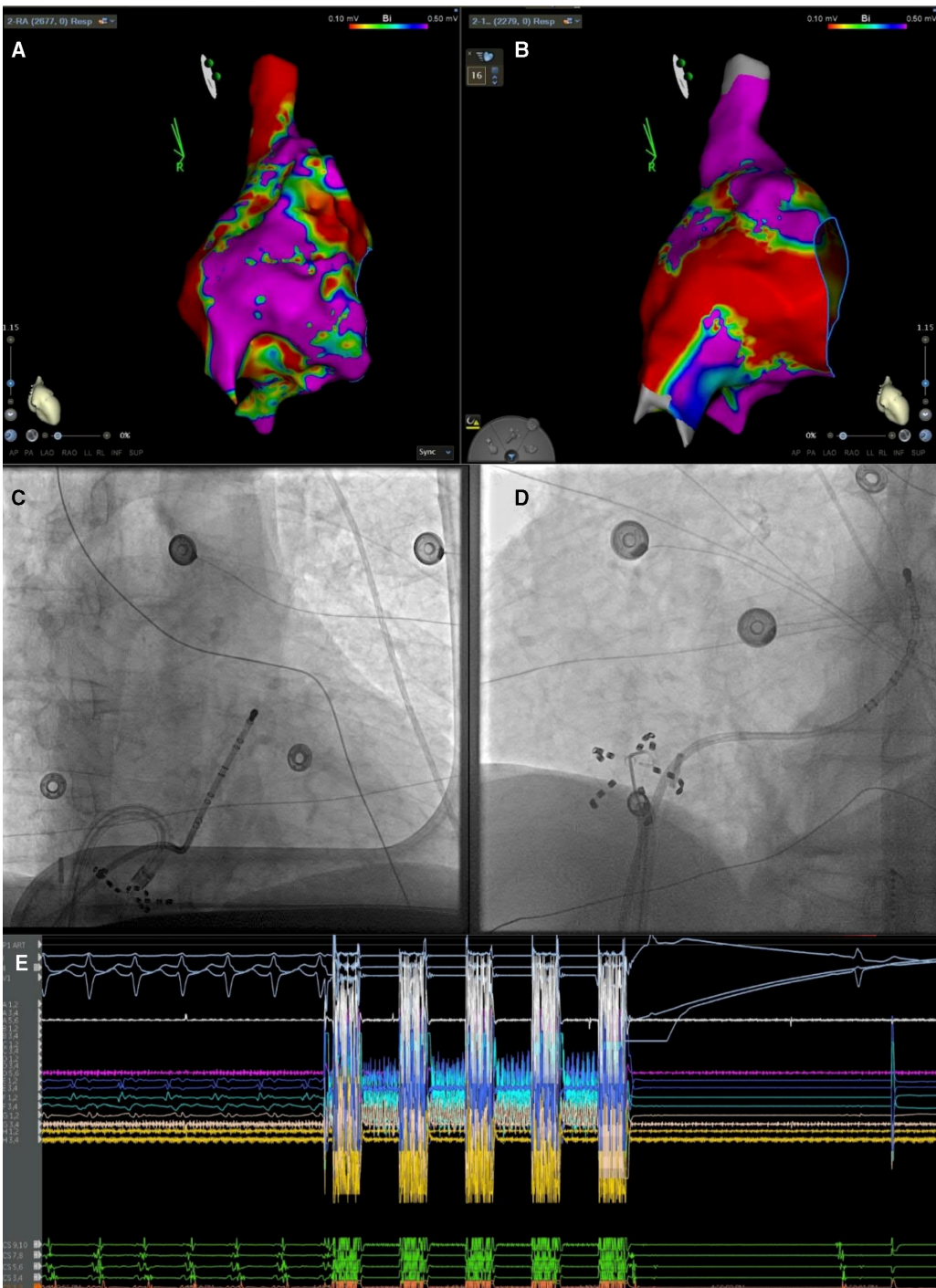


RCA segment 3 (yellow arrows, **B**), which resolved following intra-coronary vasodilator administration (**C**). CTI=cavotricuspid isthmus; PFA=pulsed field ablation, RCA=right coronary artery



LA NOSTRA ESPERIENZA CON PULSE SELECT

- 6 Pazienti trattati
- Nessuno spasmo coronarico
- 6 mesi di follow up medio: no recurrence



132 pazienti
 93.9% CTI Block
 2 Vasospami transitori
 3 Blocchi AV transitori
 Follow up 114 giorni : recidive 3.8%

Safety, Efficacy, and Mid-Term Outcomes of Pulsed Field Ablation for Cavotricuspid Isthmus-Dependent Flutter: Real-World Data From a Major Health System Registry.

Rodriguez-Riascos JF, Vemulapalli HS, Prajapati P, Muthu P, Kim JY, Sorajja D, Shen WK, El Masry H, Sardana M, Valverde AM, Munger TM, Srivathsan K. **Circ Arrhythm Electrophysiol.** 2025 Dec;18(12):e014276. doi: 10.1161/CIRCEP.125.014276. Epub 2025 Dec 2. PMID: 41328574; PMCID: PMC12711271.

LA NOSTRA ESPERIENZA CON FARAWAVE

- 13 Pazienti trattati
- Nessuno spasmo coronarico
- 6 mesi di follow up medio: no recurrence

Table 2 Procedural characteristics and outcomes

Characteristic	Value
Initial rhythm at the beginning of the procedure, <i>n</i> (%)	
Sinus rhythm	78 (64%)
Atrial fibrillation	43 (36%)
Zero-fluoroscopy, <i>n</i> (%)	119 (98%)
Same-day discharge, <i>n</i> (%)	45 (37%)
Procedure time, min (IQR)	40 (33–55)
LA dwell time, min (IQR)	29 (25–33)
Mapping time before ablation, min (IQR)	3 (2–5)
Mapped LA volume, mL (IQR)	113 (95–130)
PFA applications, <i>n</i> (IQR)	
PVI	20.2 (14.2–23.3)
CTI	4.7 (2–6)
Posterior wall isolation (PWI)	5.8 (3–8.7)
Complete PVI	121 (100%)
with at least one touch-up	43 (36%)
Extra-PV PFA lesions, <i>n</i> (%)	
CTI alone	39 (32%)
PWI alone	43 (36%)
CTI+PWI	11 (9%)
CTI blocked	38 (76%)
PWI blocked	54 (100%)
RF touch-up needed, <i>n</i> (%)	0 (0%)

IQR, interquartile range; *LA*, left atrium; *PVI*, pulmonary vein isolation; *PFA*, pulsed field ablation; *CTI*, cavotricuspid isthmus; *PWI*, posterior wall isolation; *RF*, radiofrequency

Journal of Interventional Cardiac Electrophysiology (2026) 69:249–257
<https://doi.org/10.1007/s10840-025-02162-0>

ORIGINAL RESEARCH

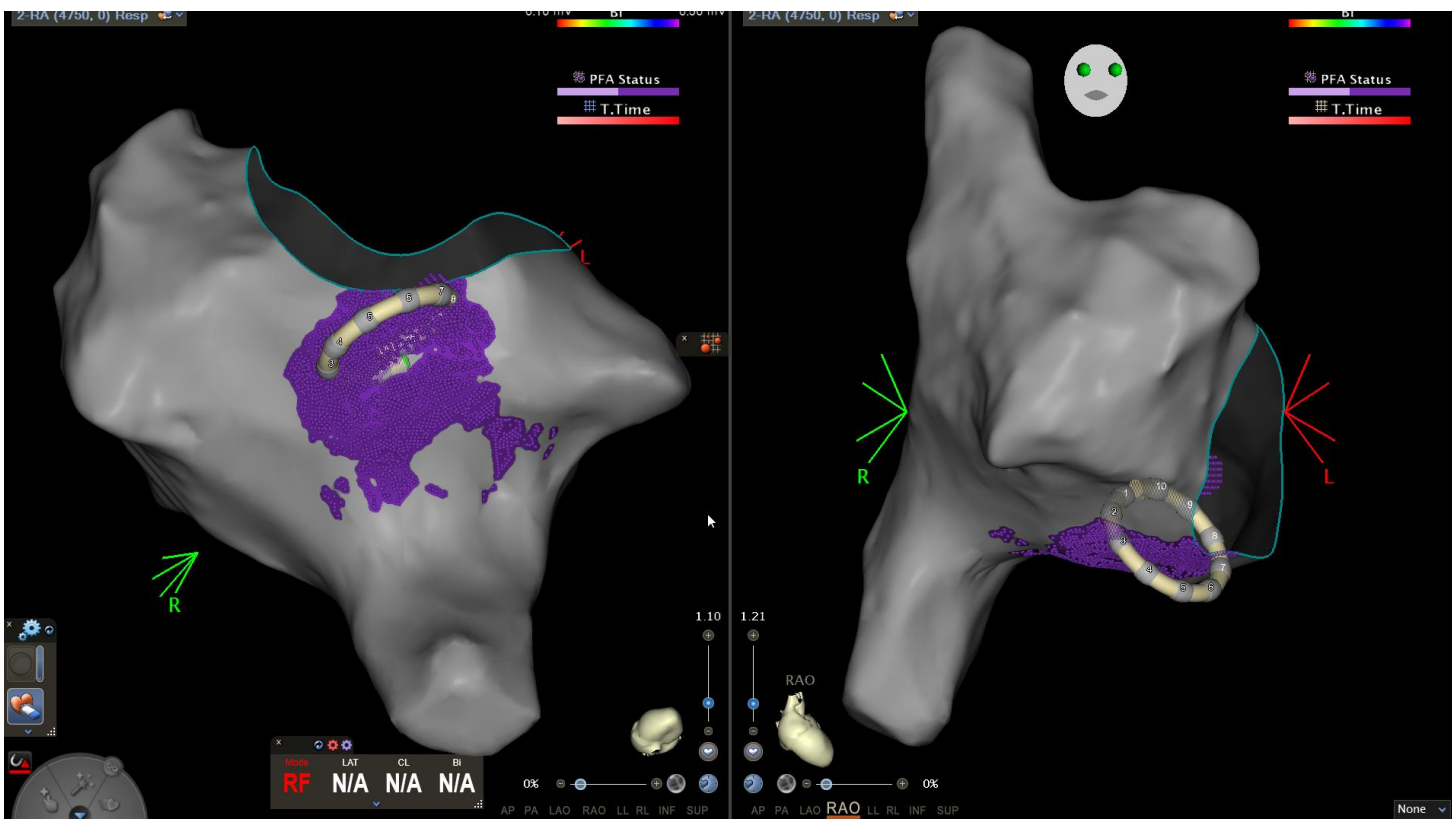


When low is not low enough: zero-fluoroscopy atrial fibrillation ablation using the VARIPULSE™ pulsed field system—a prospective single-center study

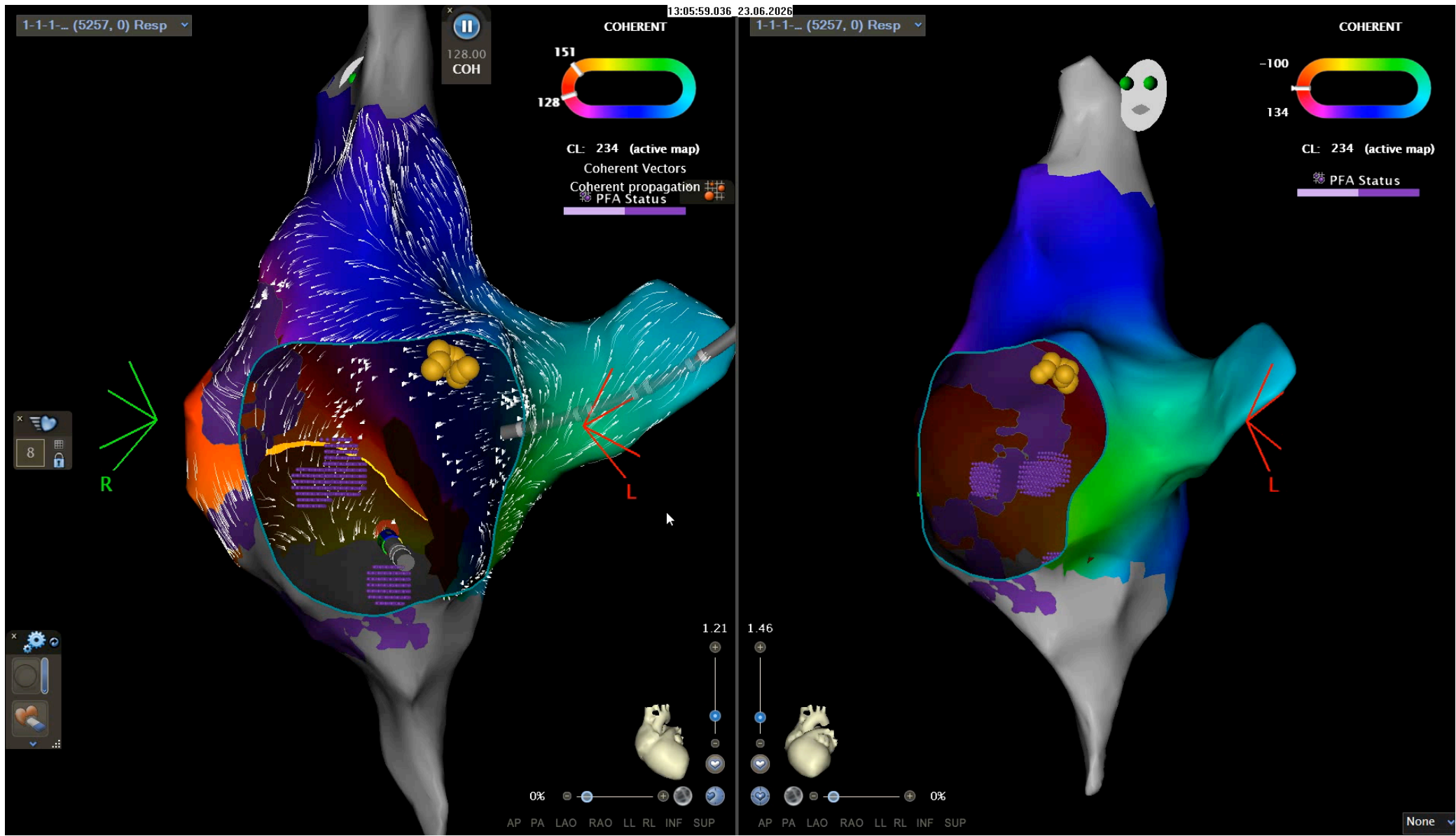
E. Simeon¹ · S. Roeun¹ · M. Miled¹ · O. Villejoubert¹ · P. Jorrot¹ · N. Mignot¹ · J. Durand¹ · A. Aissani¹ · F. Sebag¹

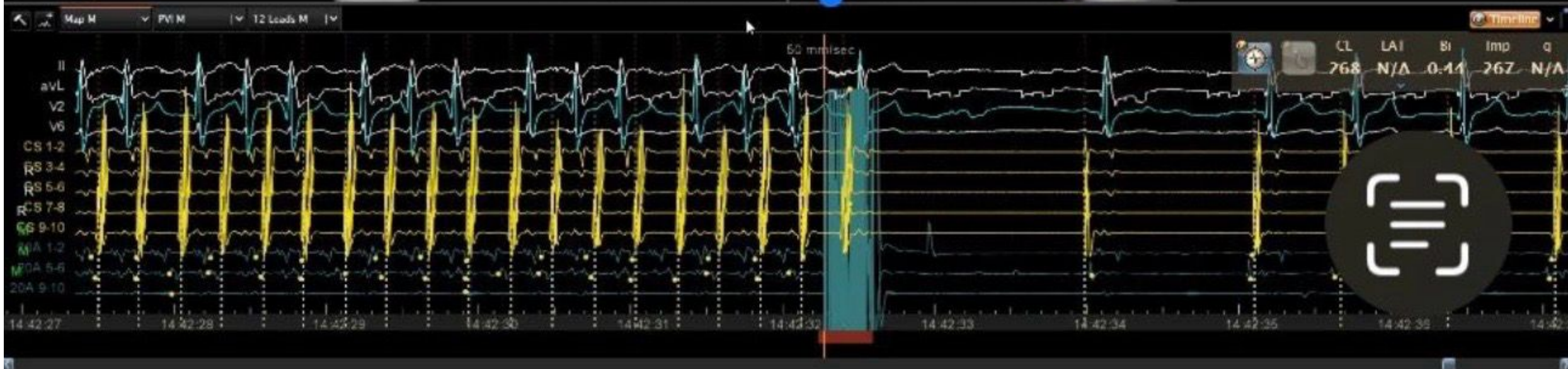
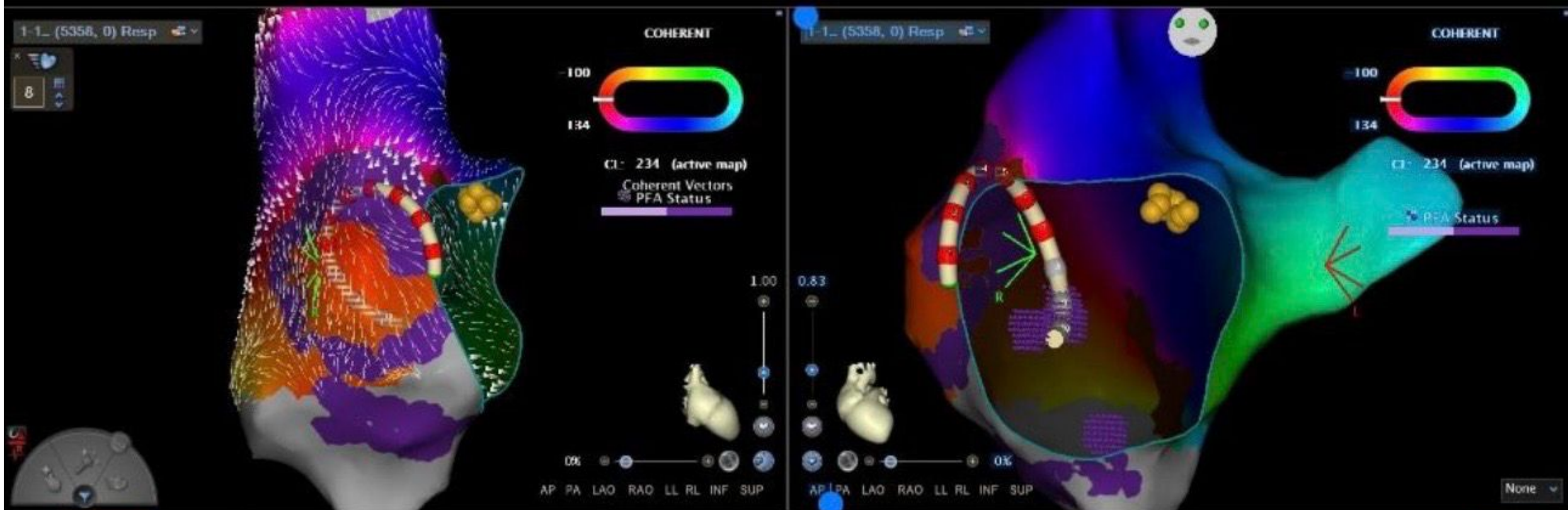
TYPICAL FLUTTER

CAGLIARI EXPERIENCE



17 CASES
NO ST ELEVATION
NO COMPLICATION
100% BIDIRECTIONAL BLOCK
FROM 10 TO 20 MINUTS
PROCEDURAL TIME





Grazie per l'attenzione !!



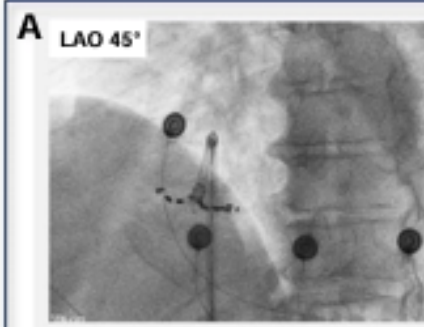


June 2023–March 2024

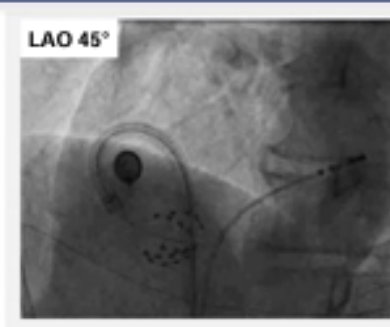
32 patients

PVI + CTI using the pentaspline PFA catheter

- 100% acute success
- No ST elevation or conduction disturbance
- No typical AFI recurrence (6-month FU)



Direct configuration



Indirect configuration

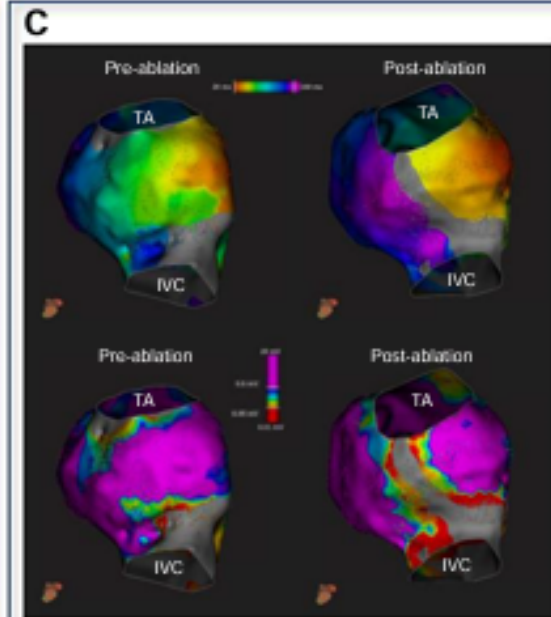
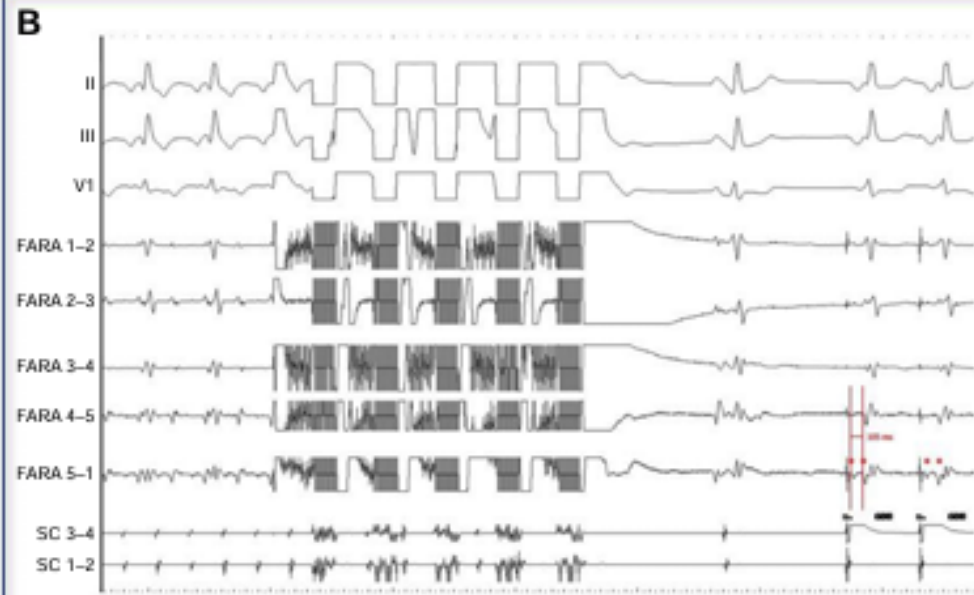


Figure 1 (A) Pentaspline PFA catheter positioning during CTI ablation. (B) Sinus rhythm restoration observed after the first PFA application. Note the widely separated (105 ms) local double potentials alongside the ablation line during proximal CS pacing (stars and lines). (C) 3D electroanatomical map of the right atrium pre- and post-CTI ablation using the pentaspline PFA catheter in indirect 'basket' configuration. Activation maps pre- and post-ablation (top panels). Early activation is displayed as red and late activation as purple. Note the propagation block on the CTI and the late activation on the lateral side of the ablation line during proximal CS pacing. Voltage maps pre- and post-ablation (bottom panels). Normal bipolar voltage is displayed as purple. Low voltage areas are displayed across the rest of the color scale. Note the extensive low voltage (<0.05 mV) on the CTI with normal voltage (>0.5 mV) in the lateral and septal regions of the CTI. AFI, atrial flutter; CTI, cavotricuspid isthmus; IVC, inferior vena cava; PFA, pulsed field ablation; PVI, pulmonary vein isolation; TA, tricuspid annulus.

Chaumont C, Ollitrault P, Savoure A, et al. Cavotricuspid isthmus ablation using a pentaspline pulsed field ablation catheter: feasibility and acute results. *Europace* 2024;26:euae262.