ELECTRA & RHYTHM

18-21 MAY 2022

L'essentiel de l'année en rythmologie : Ablation

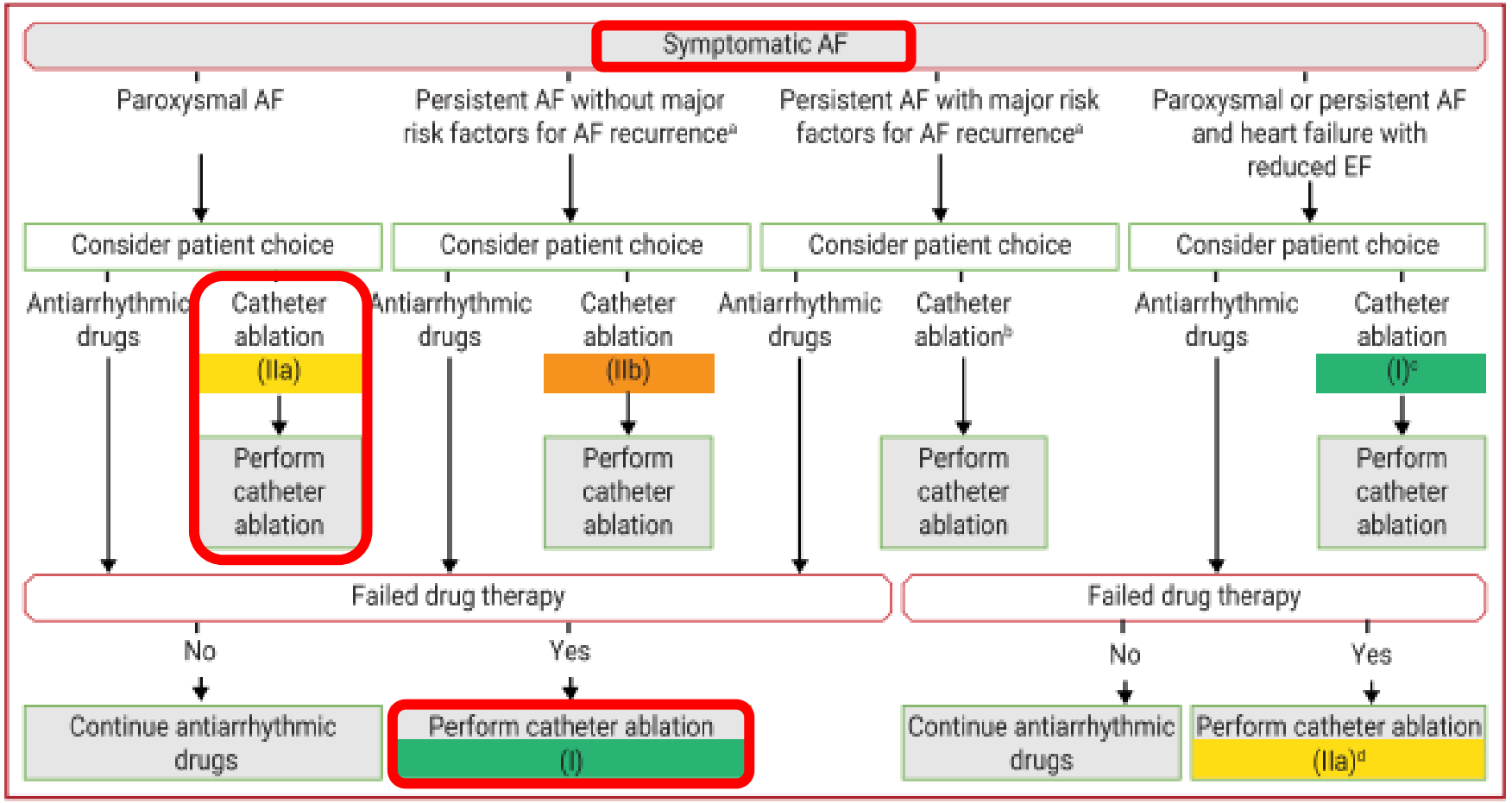
Cédric Klein

CHU LILLE

2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association of Cardio-Thoracic Surgery (EACTS)

ESC European Society of Cardiology
European Heart Journal (2020) **00**, 1–125
doi:10.1093/eurheartj/ehaa612

relief,[617] and AF catheter ablation is generally not indicated in asymptomatic patients. Further important evidence regarding the impact of

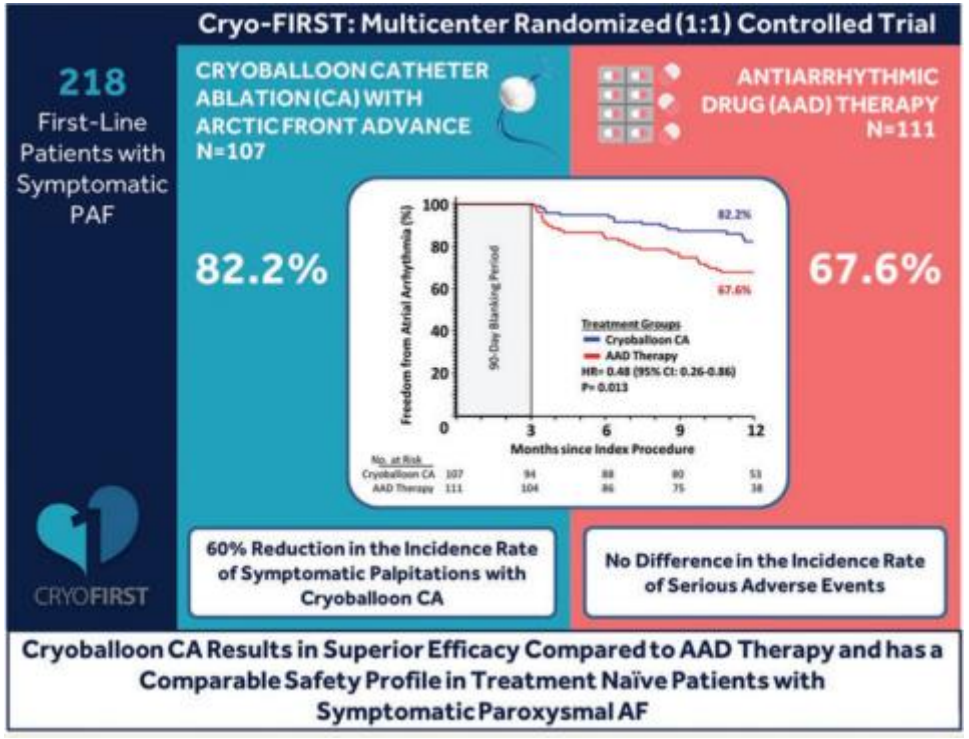


First-line management of paroxysmal atrial fibrillation: is it time for a 'pill in the bin' approach? A discussion on the STOP AF First, EARLY AF, Cryo-FIRST, and EAST-AF NET 4 clinical trials

Lisa W M Leung ✉, Zaki Akhtar, Sreenivasa Rao Kondapally Seshasai, Mark M Gallagher

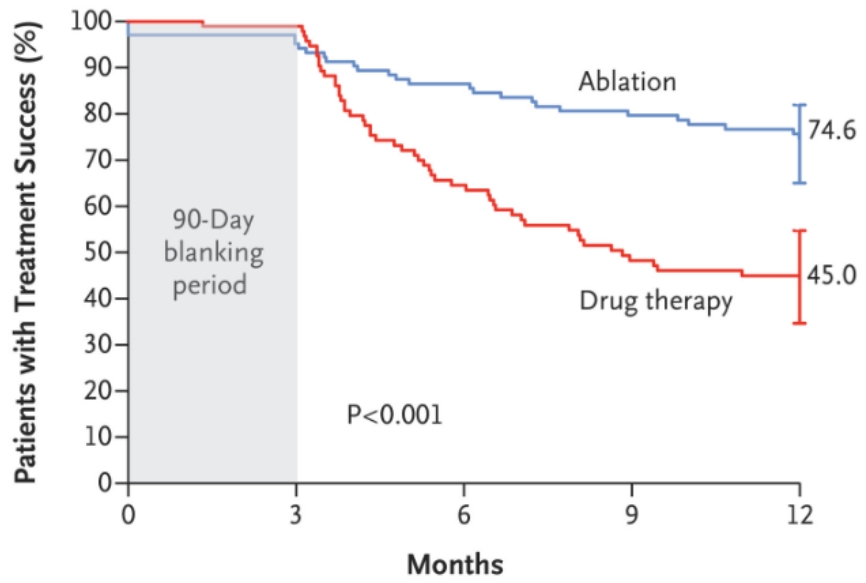
EP Europace, Volume 24, Issue 4, April 2022, Pages 533–537,

Cryo-FIRST



10.1093/europace/euab029

STOP-AF



No. at Risk					
Ablation	104	99	88	81	70
Drug therapy	99	93	60	44	39

10.1056/NEJMoa2029554

Rhythm control in asymptomatic 'early' atrial fibrillation: birth of a new paradigm?

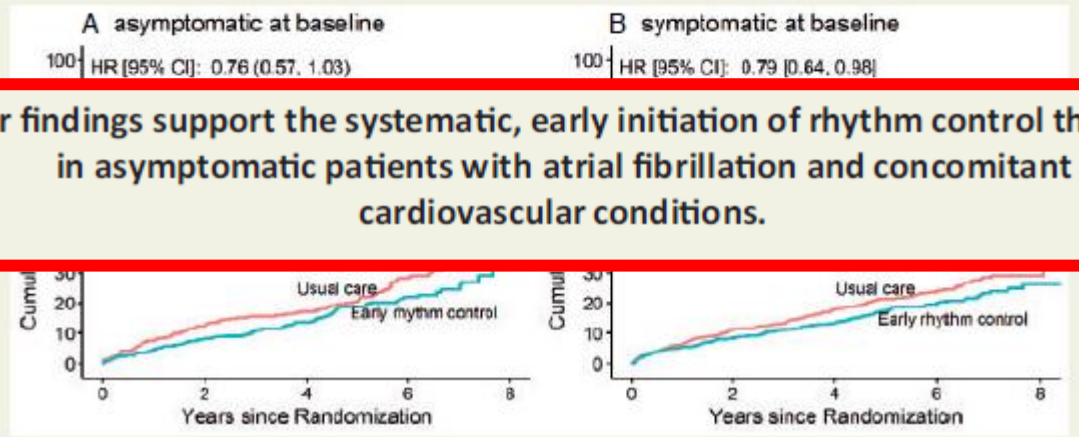
Robert Hatala ✉

European Heart Journal, Volume 43, Issue 12, 21 March 2022, Pages 1231–1233,

EAST – AFNET 4 trial population
2789 patients with atrial fibrillation diagnosed within a year prior to randomization and cardiovascular conditions approximating a CHA_2DS_2VASc score of ≥ 2

Early Rhythm Control in all patients (n=1305/2633)		Usual Care, including symptom-directed rhythm control therapy (n=1328/2633)	
Asymptomatic at baseline (n=395)	Symptomatic at baseline (n=910)	Asymptomatic at baseline (n=406)	Symptomatic at baseline (n=922)

Similar reduction of cardiovascular death, stroke, or hospitalisation for heart failure or acute coronary syndrome in symptomatic and asymptomatic patients



Our findings support the systematic, early initiation of rhythm control therapy in asymptomatic patients with atrial fibrillation and concomitant cardiovascular conditions.

10.1093/eurheartj/ehab593

CATHETER ABLATION DELAYS PROGRESSION OF ATRIAL FIBRILLATION

ATTEST: MULTICENTRE, RANDOMISED CONTROLLED TRIAL

255 PATIENTS ≥ 60 YRS WITH DRUG-REFRACTORY, SYMPTOMATIC PAROXYSMAL ATRIAL FIBRILLATION

29 HOSPITALS

13 COUNTRIES

	RADIOFREQUENCY CATHETER ABLATION	ANTIARRHYTHMIC DRUG
	(N=128)	(N=127)
Rate of progression to persistent Atrial Fibrillation/Atrial Tachycardia at 3 years (P=0.0009)	2.4% (95% CI: 0.6-9.4%)	17.5% (95% CI: 10.7-27.9%)

Patients with RF ablation were **10x** less likely to develop persistent AF/AT (HR: 0.107; 95% CI: 0.024-0.47; P=0.0031)
Patients ≥65 years were nearly **4x** more likely to develop persistent AF/AT (HR: 3.87; 95% CI: 0.88-17.00; P=0.0727)

10.1093/europace/euaa298

Quelle méthode d'ablation ?

Pulmonary vein isolation using cryoballoon ablation versus RF ablation using ablation index following the CLOSE protocol: A prospective randomized trial

Cathrin Theis MD, Bastian Kaiser MD, Philipp Kaesemann MD, Felix Hui MD, Giancarlo Pirozzolo MD, Raffi Bekeredjian MD, Carola Huber MD

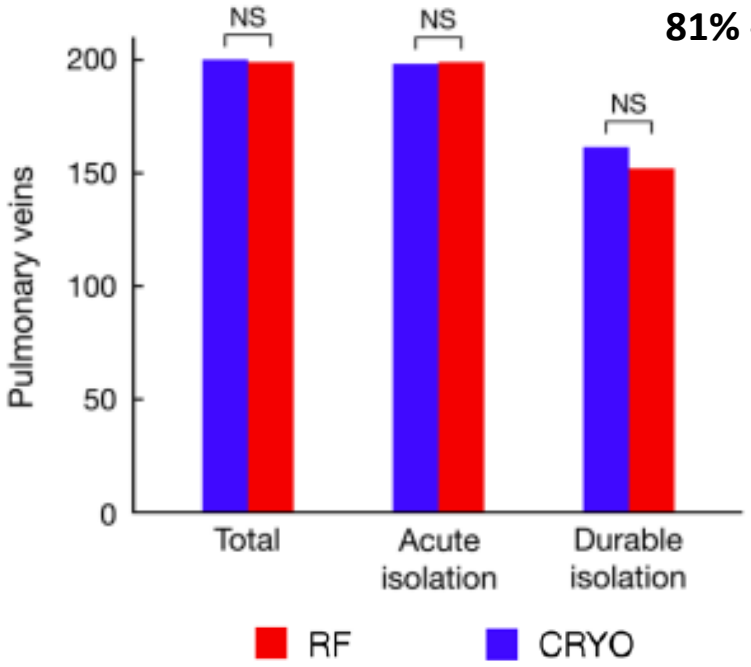
First published: 23 January 2022 | https://doi.org/10.1111/jce.15383

Conclusions: Cryoballoon PVI and PVI using ablation index following the CLOSE protocol are equally efficient in achieving durable PV isolation. In this study, cryoballoon ablation led to significantly more AF recurrence during the blanking period.

Radiofrequency Versus Cryoballoon Catheter Ablation for Paroxysmal Atrial Fibrillation: Durability of Pulmonary Vein Isolation and Effect on Atrial Fibrillation Burden

The RACE-AF Randomized Controlled Trial

81% - 76%

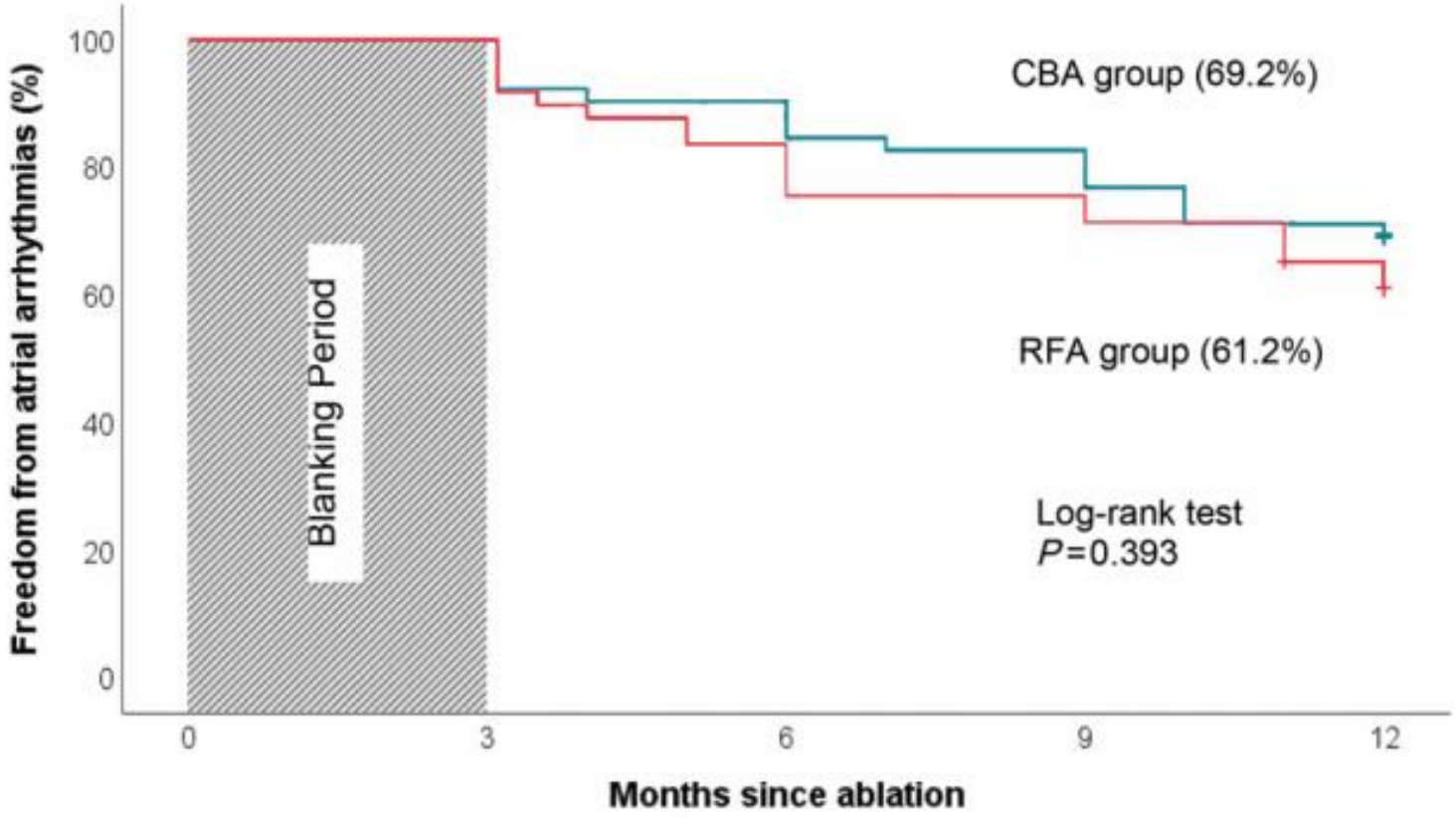


Cryoballoon Versus High-Power, Short-Duration Radiofrequency Ablation for Pulmonary Vein Isolation in Patients With Paroxysmal Atrial Fibrillation

In this prospective randomized study comparing the two ablation strategies in patients with PAF, the Cryo-PVI and HPSD-RFCA procedures had a similar efficacy and safety during an average of a 9.8±5.1-month follow-up despite

Cryoballoon vs. radiofrequency catheter ablation: insights from NOrwegian randomized study of PERSistent Atrial Fibrillation (NO-PERSAF study)

History of AF, *n* (%)	
<1 year	
1–2 years	
>2 years	
Duration of persistent AF before procedure	
Sinus rhythm before procedure, *n* (%)	
<6 months	
6–12 months	
>12 months	



No. at risk					
CBA group	52	52	44	40	36
RFA group	49	49	37	35	29

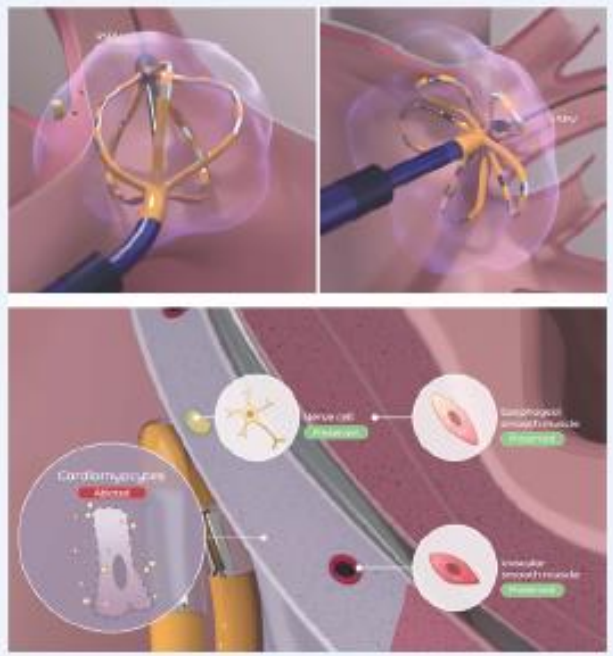
10.1093/europace/euab281

Pulsed-Field Ablation for Atrial Fibrillation

The Future Is Now?*

Nilesh Mathuria, MD

PFA Catheter & Mechanism of Ablation



Pulsed Field Ablation of Paroxysmal Atrial Fibrillation

1-Year Outcomes of IMPULSE, PEFCAT, and PEFCAT II

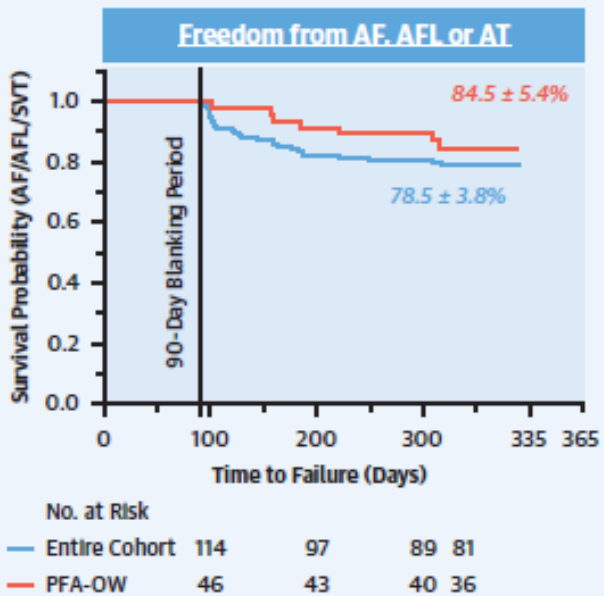
Safety

• *Esophageal Damage*	*0%*
◦ *Esophageal Dysmotility*	*0%*
◦ *Atrioesophageal Fistula*	*0%*
• *Pulmonary Vein Stenosis*	*0%*
• *Phrenic Nerve Injury*	*0%*
• *Stroke*	*0%*
◦ *Transient Ischemic Attack*	*0.9%*
• *Pericardial Effusion*	*0.8%*
• *Vascular injury*	*1.7%*
• *Death*	*0%*

Efficacy

Durability of PV Isolation (Invasive Remapping)

PFA Waveform	Per PV Basis		Per Pt Basis	
	No.%	Durable	No.%	Durable
All	429	84.8%	110	64.5%
PFA-OW	173	96.0%	44	84.1%



Donc pour la FA

✓ En première ligne en cas de FA paroxystique

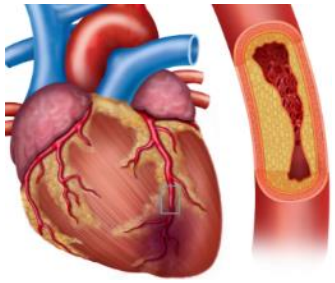
- A discuter si asymptomatique + comorbidités
- Cryo ≈ Radiofréquence (efficacité, complications)
- Cryo dans la FA persistante ?
- Electroporation

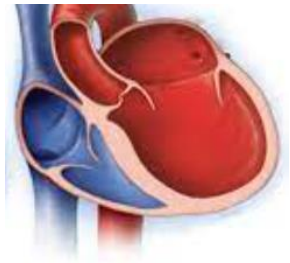
…et pour la TV ?

First-Line Catheter Ablation of Monomorphic Ventricular Tachycardia in Cardiomyopathy Concurrent with Defibrillator Implantation: The PAUSE-SCD Randomized Trial

10.1161/CIRCULATIONAHA.122.060039

121 patients

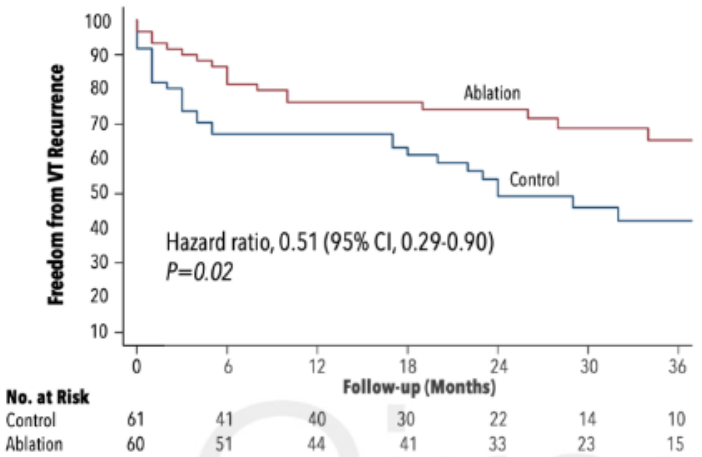


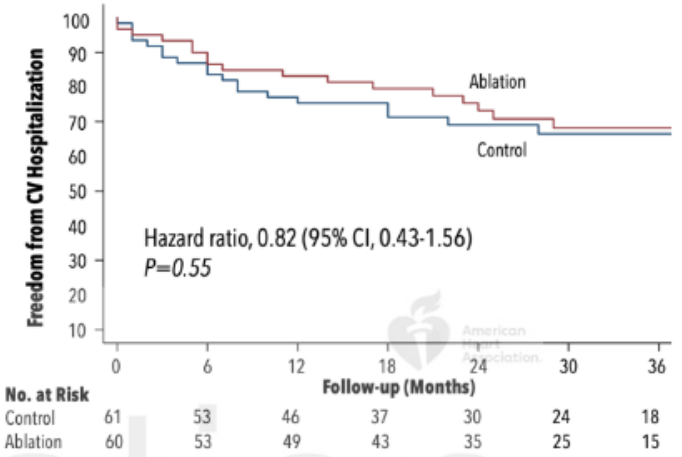


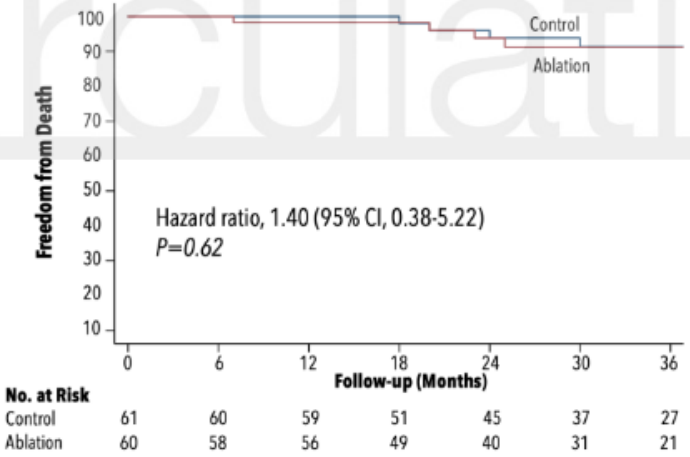
TV monomorphe

DAI
+ ttt medical

D
+ Ablation



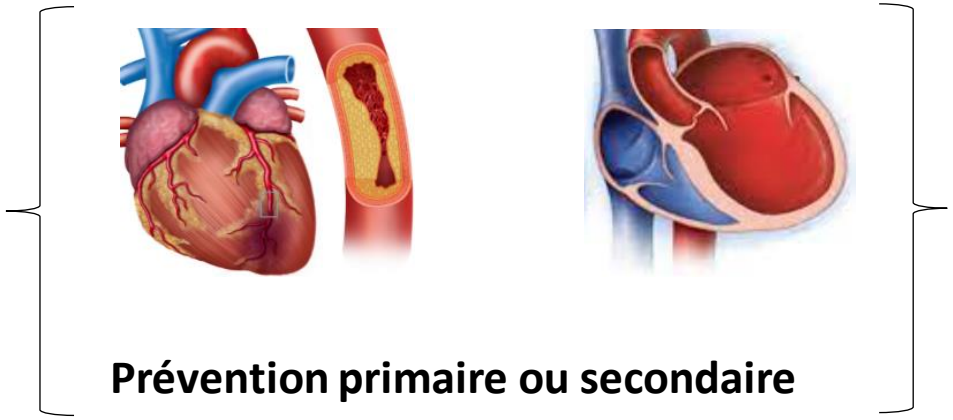




Does Timing of Ventricular Tachycardia Ablation Affect Prognosis in Patients With an Implantable Cardioverter Defibrillator? Results From the Multicenter Randomized PARTITA Trial

10.1161/CIRCULATIONAHA.122.059598

CJP = décès toute cause ou aggravation IC menant à une hospitalisation

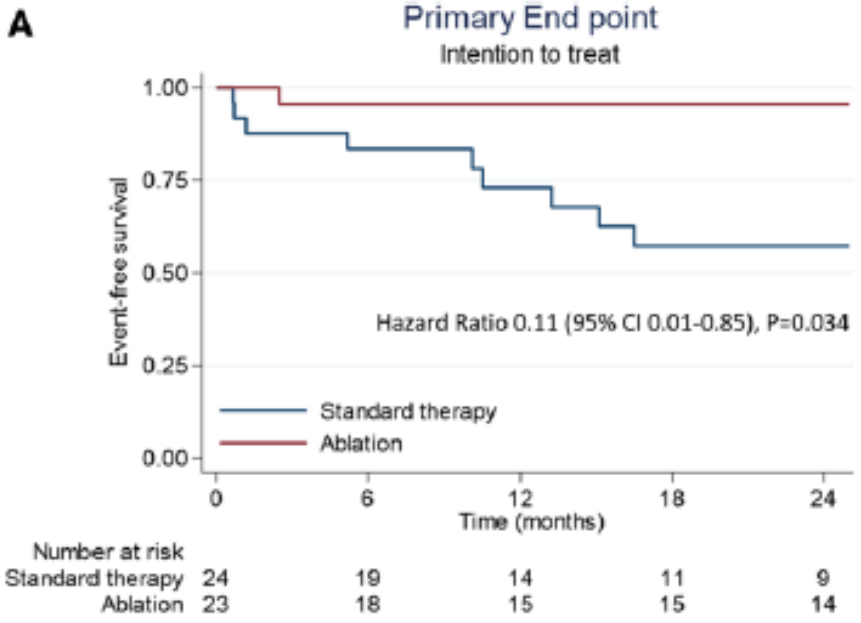


Prévention primaire ou secondaire

Phase A : observationnelle **n=517**

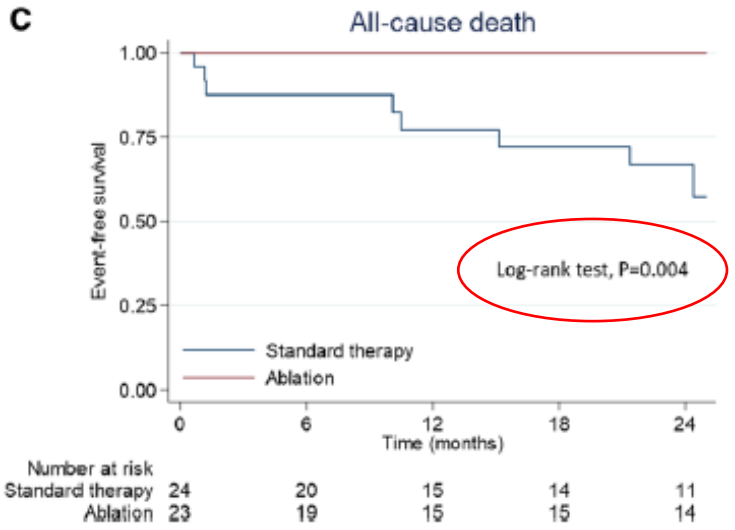
Phase B : randomisation après 1er choc **n=47**

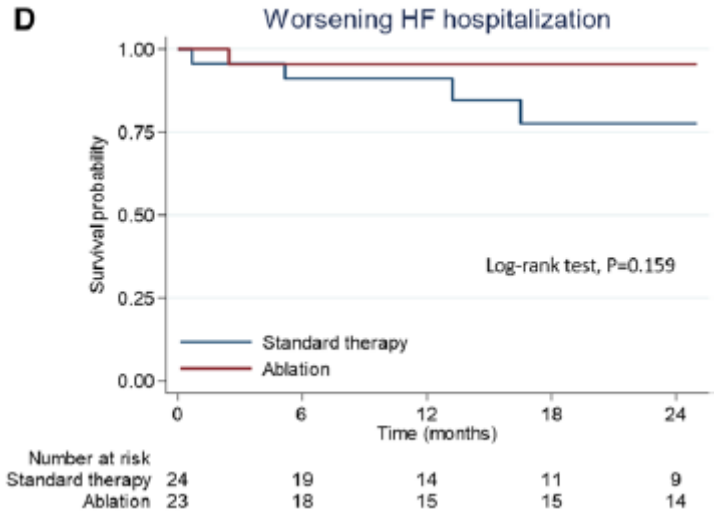
Ablation immédiate **Poursuite ttt médical**

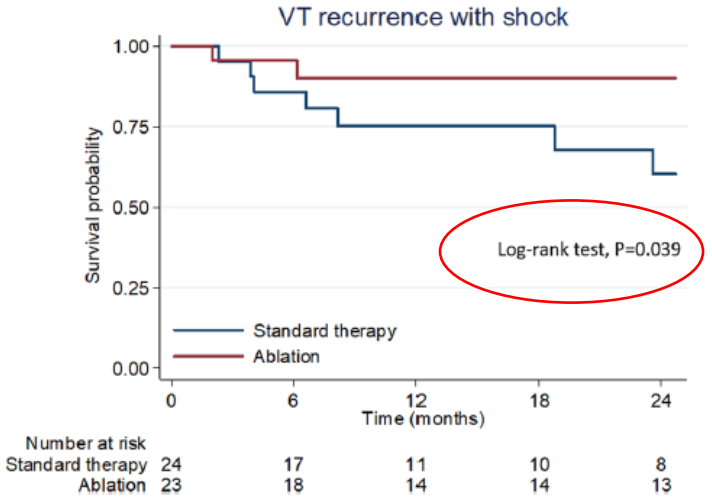


randomization or until the end of the study. In phase B, amioda-
rone was only allowed as a bridge to ablation after a VT storm.

Does Timing of Ventricular Tachycardia Ablation Affect Prognosis in Patients With an Implantable Cardioverter Defibrillator? Results From the Multicenter Randomized PARTITA Trial

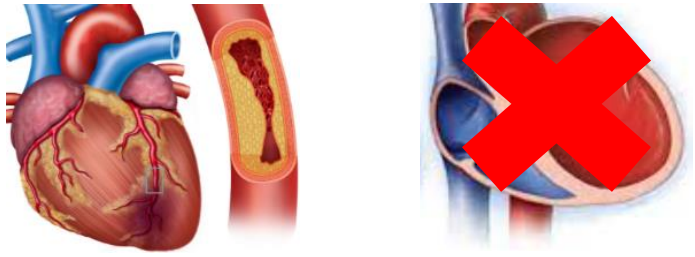






Substrate Ablation vs Antiarrhythmic Drug Therapy for Symptomatic Ventricular Tachycardia

Journal of the American College of Cardiology
Volume 79, Issue 15, 19 April 2022, Pages 1441-1453

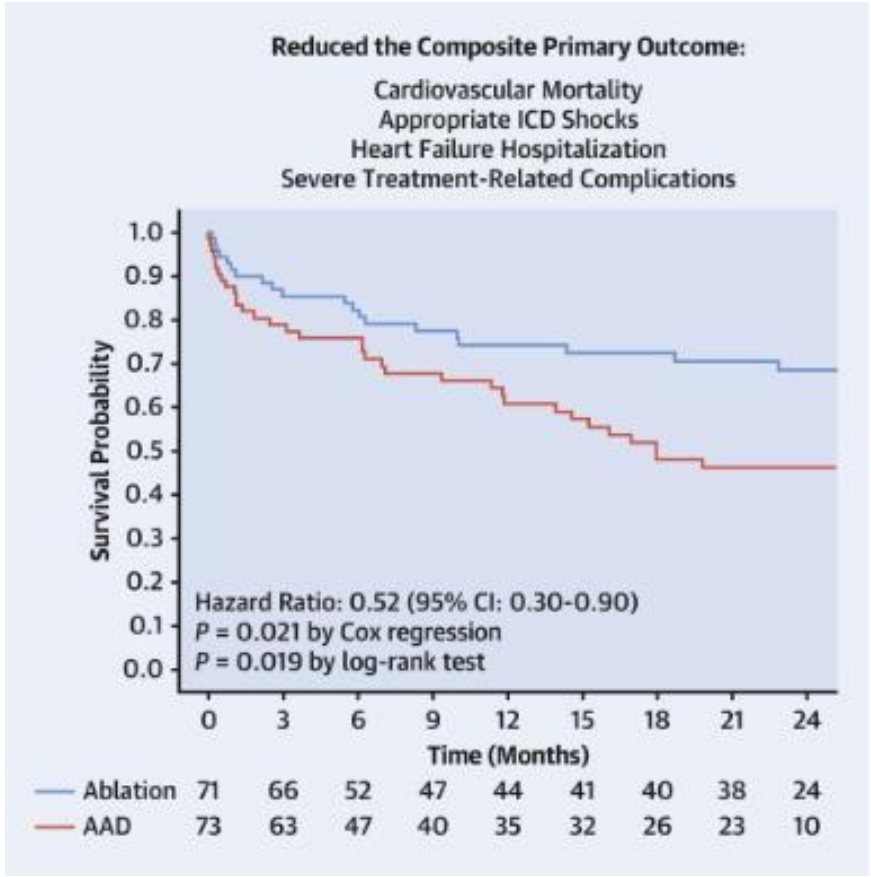


FEVG moyenne 34%

CEI approprié

Ablation (substrat)
n=71

Anti aythmique (Amiodarone++)
n=73



10.1016/j.jacc.2022.01.050

Substrate Ablation vs Antiarrhythmic Drug Therapy for Symptomatic Ventricular Tachycardia

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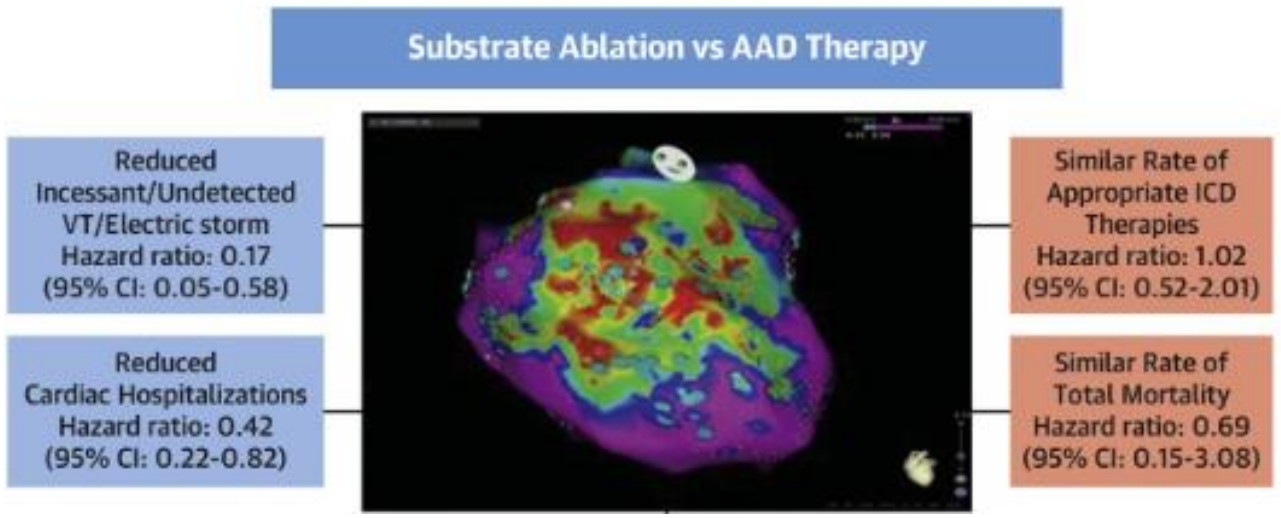

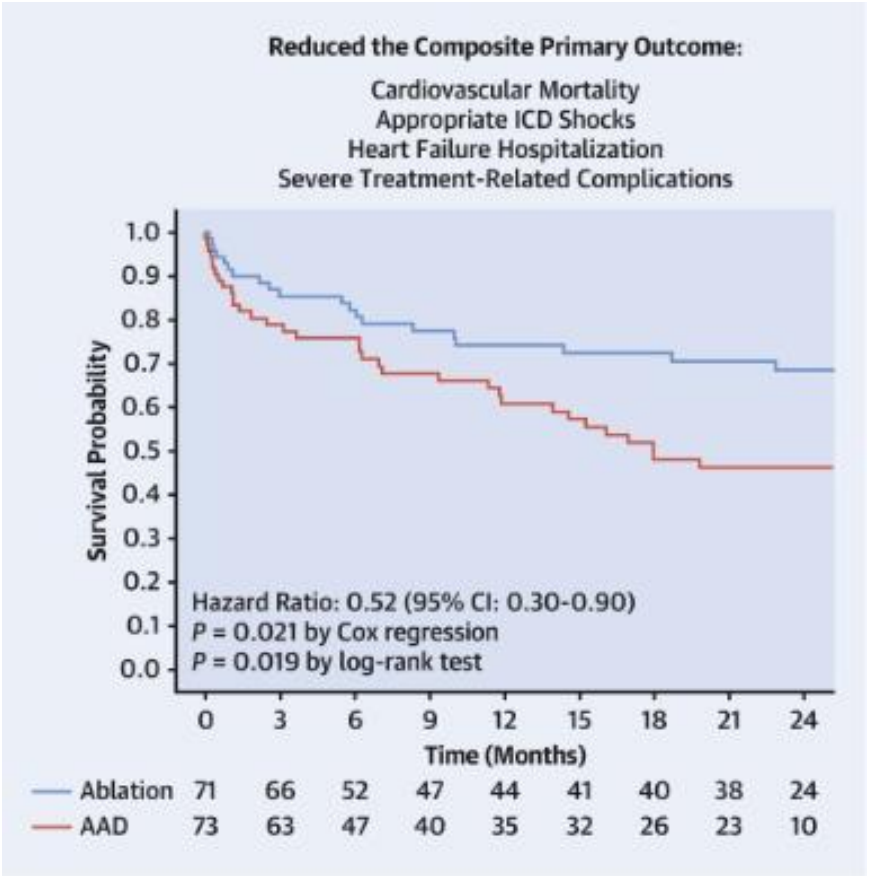

10.1016/j.jacc.2022.01.050

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stereotactic radiotherapy AND ventricular tachycardia

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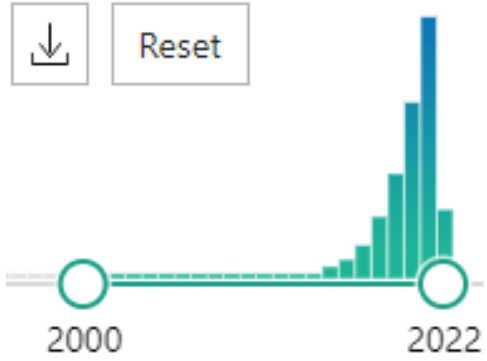

openheart

Cardiac stereotactic ablative radiotherapy for control of refractory ventricular tachycardia: initial UK multicentre experience

CLINICAL VENTRICULAR TACHYCARDIA | VOLUME 18, ISSUE 12, P2137-2145, DECEMBER 01, 2021

Recommendations regarding cardiac stereotactic body radiotherapy for treatment refractory ventricular tachycardia

David Krug, MD • Oliver Blanck, PhD • Nicolaus Andratschke, MD • ... Boris Rudic, MD • Leif-Hendrik Boldt, MD • Hendrik Bonnemeier, MD • Show all authors

ARTICLE

Check for updates

https://doi.org/10.1038/s41467-021-25730-0 OPEN

Cardiac radiotherapy induces electrical conduction reprogramming in the absence of transmural fibrosis

Conclusion

- Dans la prise en charge des arythmies ventriculaires
  - Peut être envisagé précocement (place ablation+S-ICD ?)
  - Dans tous les cas après un CEI approprié

- Emergence de la radiothérapie
  - Dans l'attente d'essais randomisés vs. ablation

- Nombreux autres sujets (alcoolisation veineuse, zero-fluoro, half saline etc)