ELECTRA

5-6 DÉCEMBRE 2024

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MARSEILLE I FRANCE

18èmes journées françaises
pratiques de rythmologie
& de stimulation cardiaque

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2004 - 2024
20 ans
ELECTRA

Amylose cardiaque : prise en charge anti-arythmique et ablation

Pr Charles Guenancia

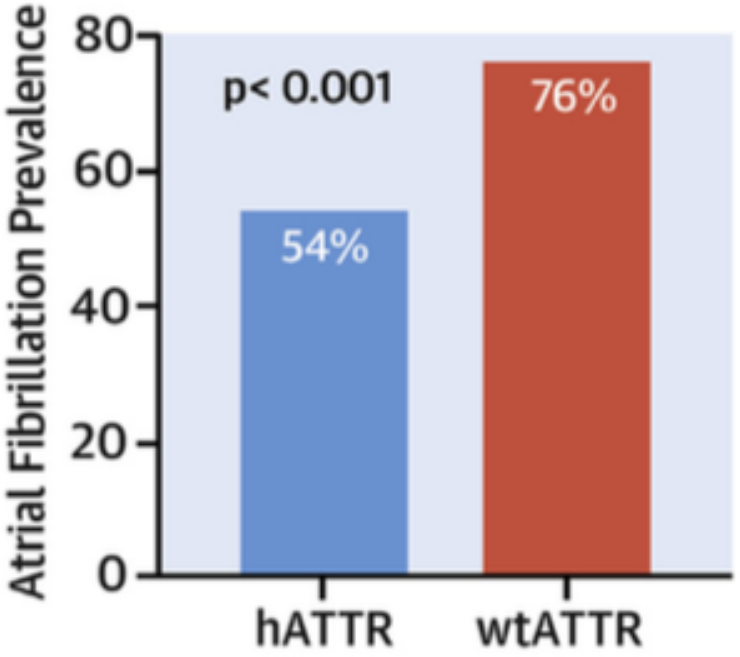
CHU Dijon

Liens d’intérêt

- Bourses de Recherche : MicroPort CRM
- Consultant : Abbott, Medtronic, Pfizer
- Honoraires : Astra-Zeneca, BMS-Pfizer, AOP Pharma

Fibrillation atriale et amylose cardiaque

- 382 patients (111 ATTRv, 271 ATTRwt), monocentrique
- Suivi médian 35 mois
- 69% de FA dont 33% au diagnostic



Donnellan, E. et al. J Am Coll Cardiol EP. 2020;6(9):1118

Prévalence de la FA selon le score NAC

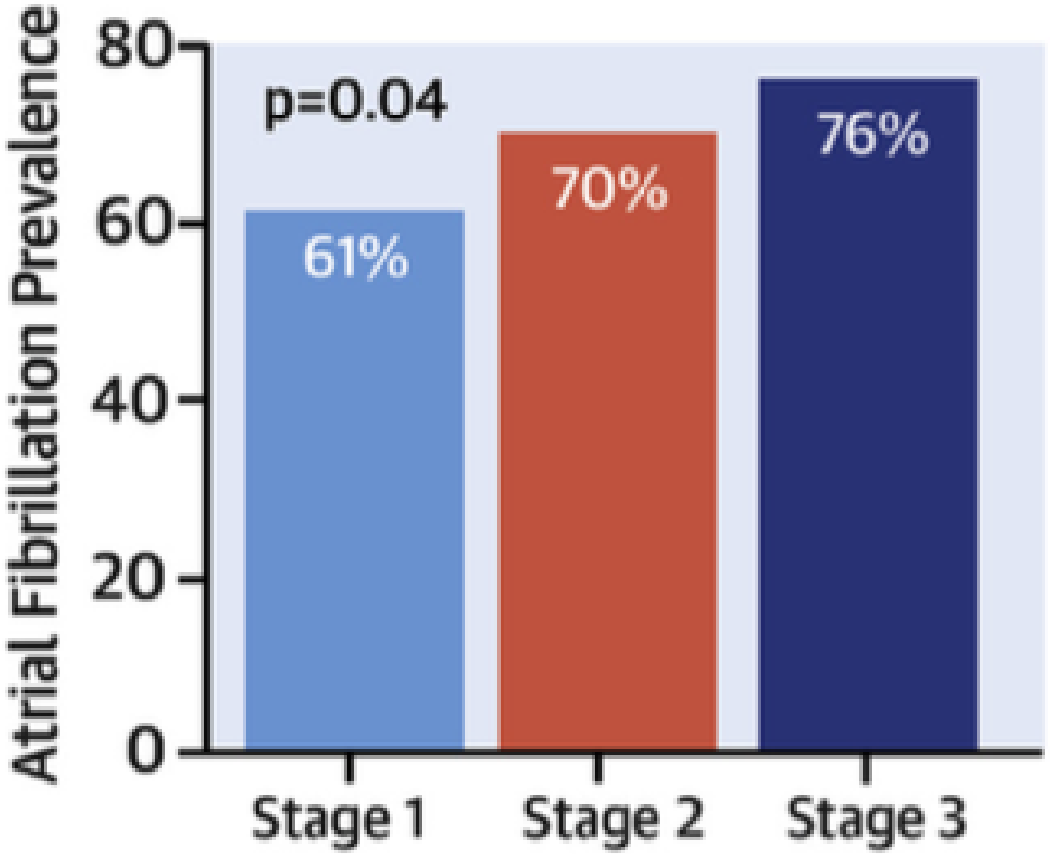
TABLE 2 AF Type by ATTR-CA Stage

ATTR Stage	Stage 1 (n = 60)	Stage 2 (n = 105)	Stage 3 (n = 100)	p Value
Paroxysmal	27 (45)	50 (48)	43 (43)	0.87
Persistent	23 (38)	23 (22)	26 (26)	0.06
Longstanding persistent	6 (10)	16 (15)	18 (18)	0.38
Permanent	4 (7)	16 (15)	13 (13)	0.35

Values are n (%).
ATTR-CA = transthyretin amyloidosis cardiac amyloidosis.

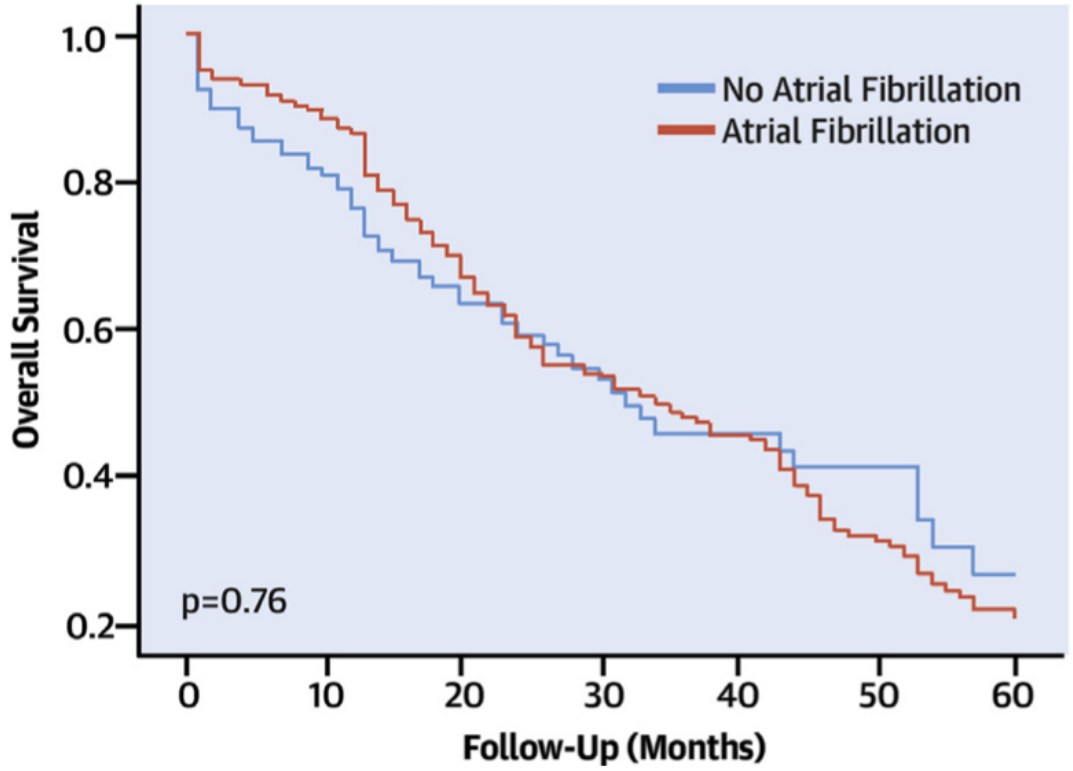
NAC Score :

- Stade I : NT-proBNP ≤ 3000 ng/L et eGFR ≥ 45 ml/min
- Stade III : NT-proBNP >3000 ng/L et eGFR <45 ml/min
- Stade II : les autres



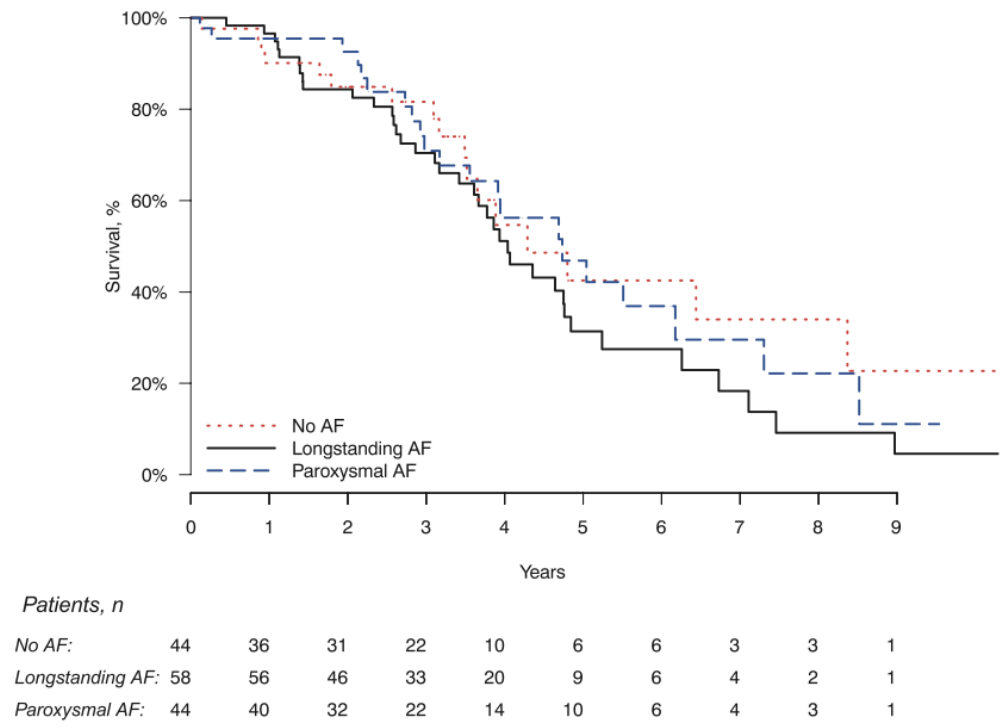
Donnellan, E. et al. J Am Coll Cardiol EP. 2020;6(9):1118–27.

Pronostic de la FA



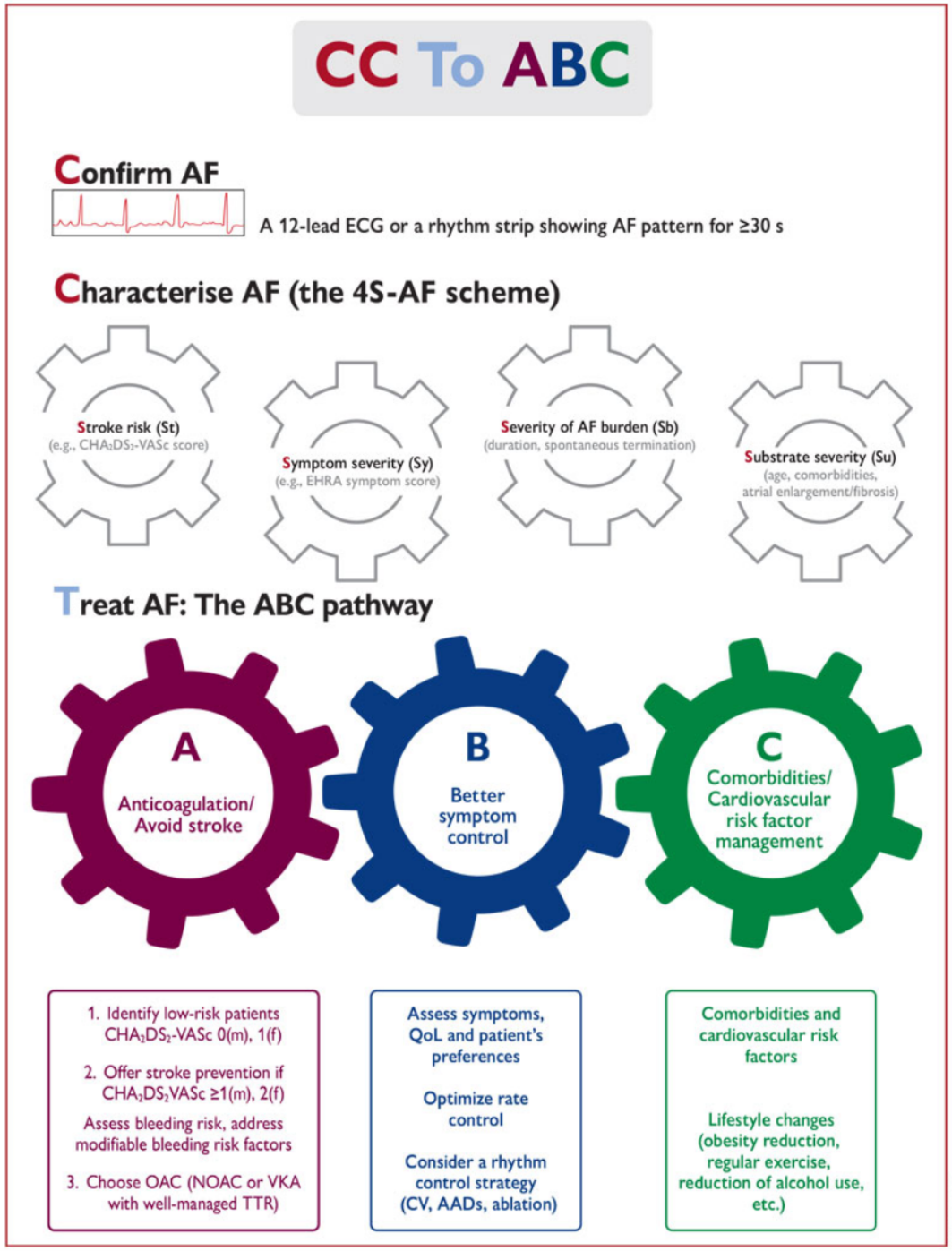
Donnellan, E. et al. J Am Coll Cardiol EP. 2020;6(9):1118-27.

Figure 1 Kaplan–Meier analysis of age-adjusted survival stratified based on presence of atrial fibrillation (AF) in wild-type transthyretin amyloidosis. There is no significant difference in survival in patients with paroxysmal AF (hazard ratio 1.04, *P* = 0.89) or permanent AF (hazard ratio 1.37, *P* = 0.29) as compared with those who do not have AF.

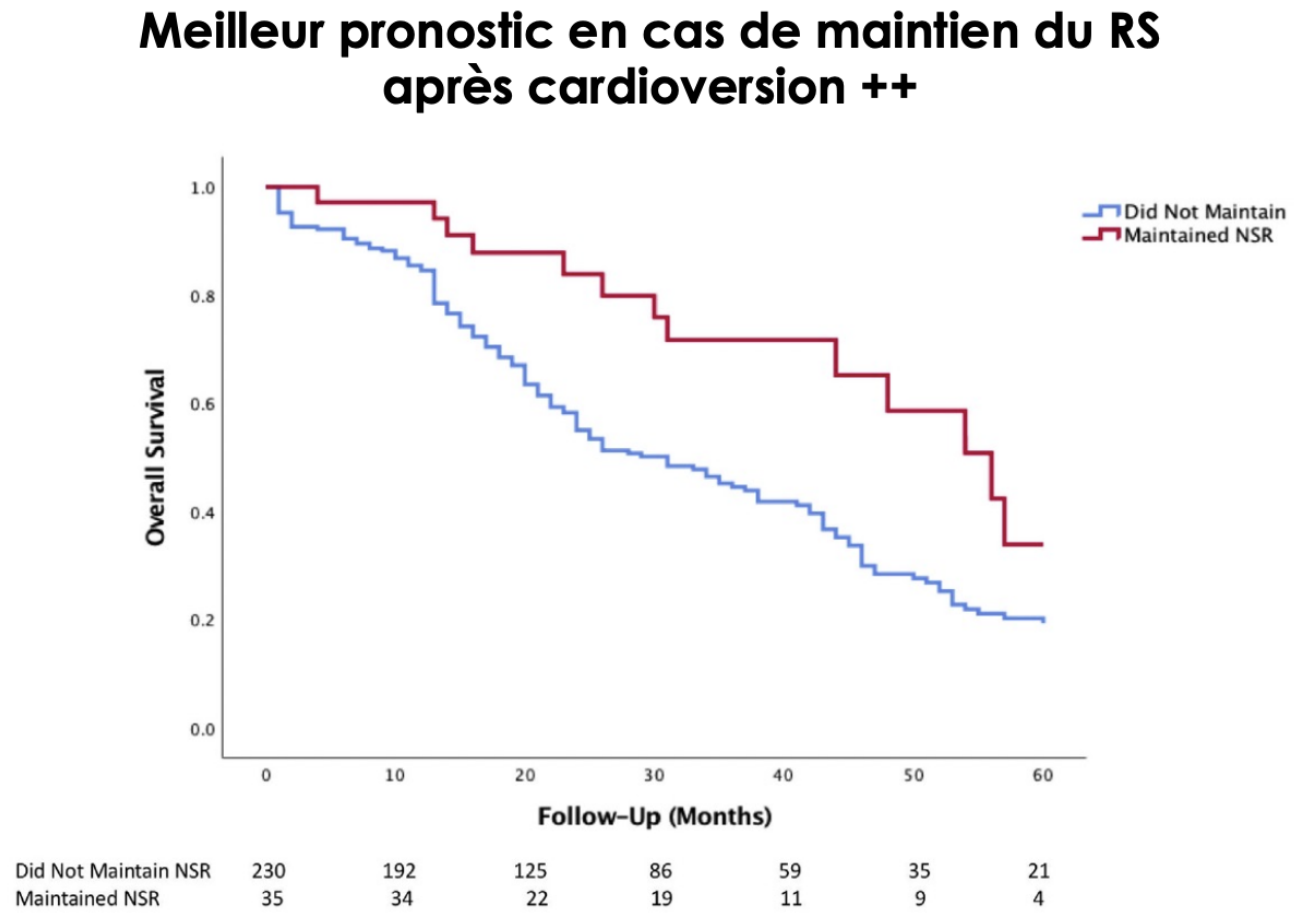


Mints et al. ESC Heart Failure 2018; 5: 772–779

Prise en charge de la FA



Contrôle du rythme ou fréquence ?

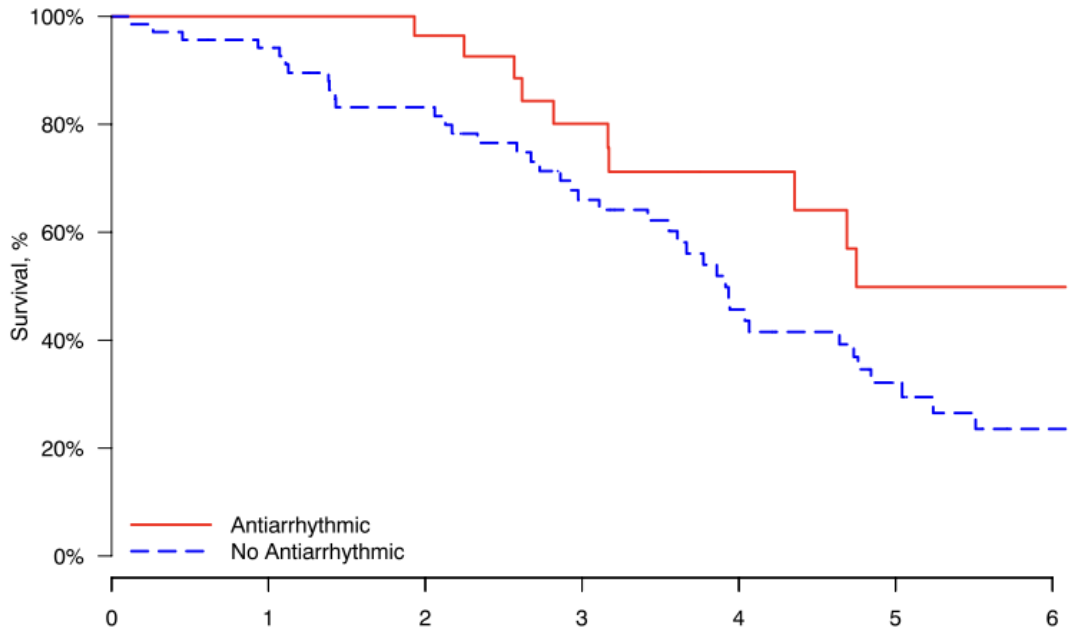


Donnellan et al. JACC Clin Electrophysiol. 2020 Sep;6(9):1118-1127.

Contrôle du rythme : anti-arythmiques ?

- Amiodarone OK
- Le reste est contre-indiqué
- Bénéfice ?

Figure 3 Survival in patients with atrial fibrillation stratified by the use of antiarrhythmic medications. There is no significant difference in survival among those patients who were treated with a rhythm or rate control strategy (hazard ratio 1.70, *P* = 0.08).

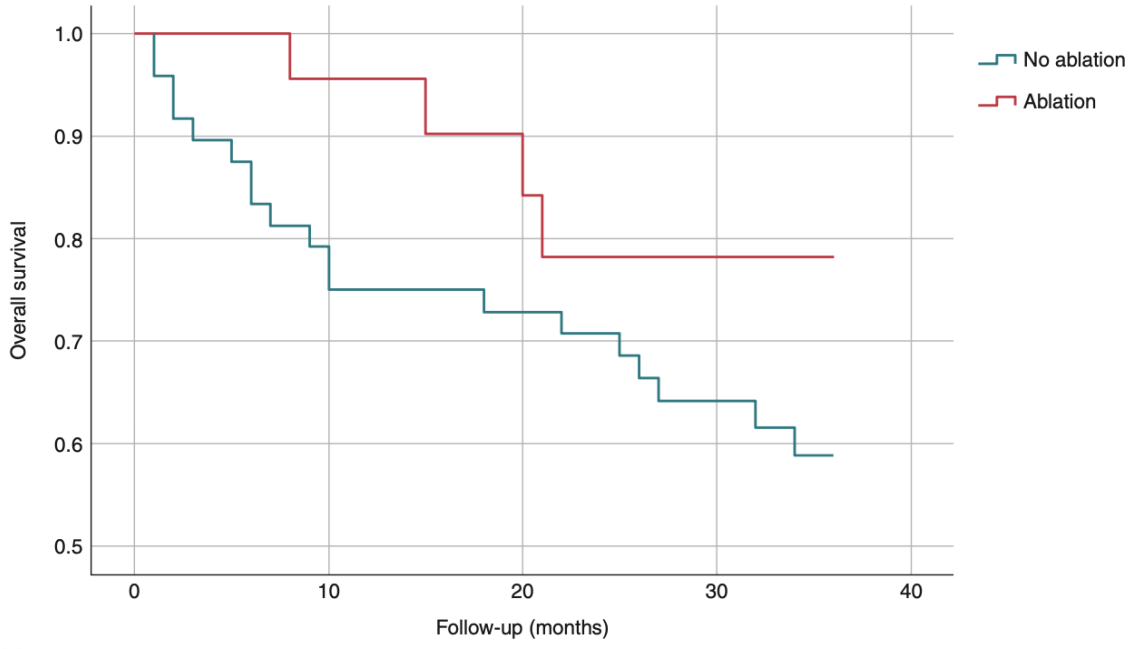


Patients, n

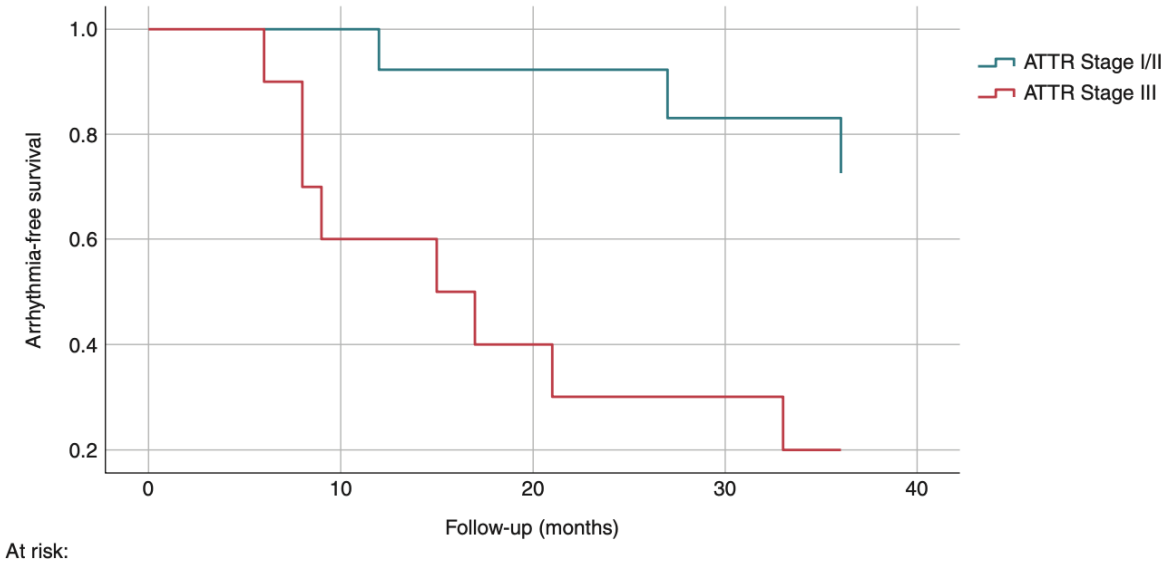
Antiarrhythmic:	33	33	27	19	12	7	6
No Antiarrhythmic:	69	63	51	36	22	12	6

Mints et al. ESC Heart Failure 2018; 5: 772–779

Contrôle du rythme : ablation de FA ?



At risk				
No ablation	48	36	34	27
Ablation	24	19	14	12



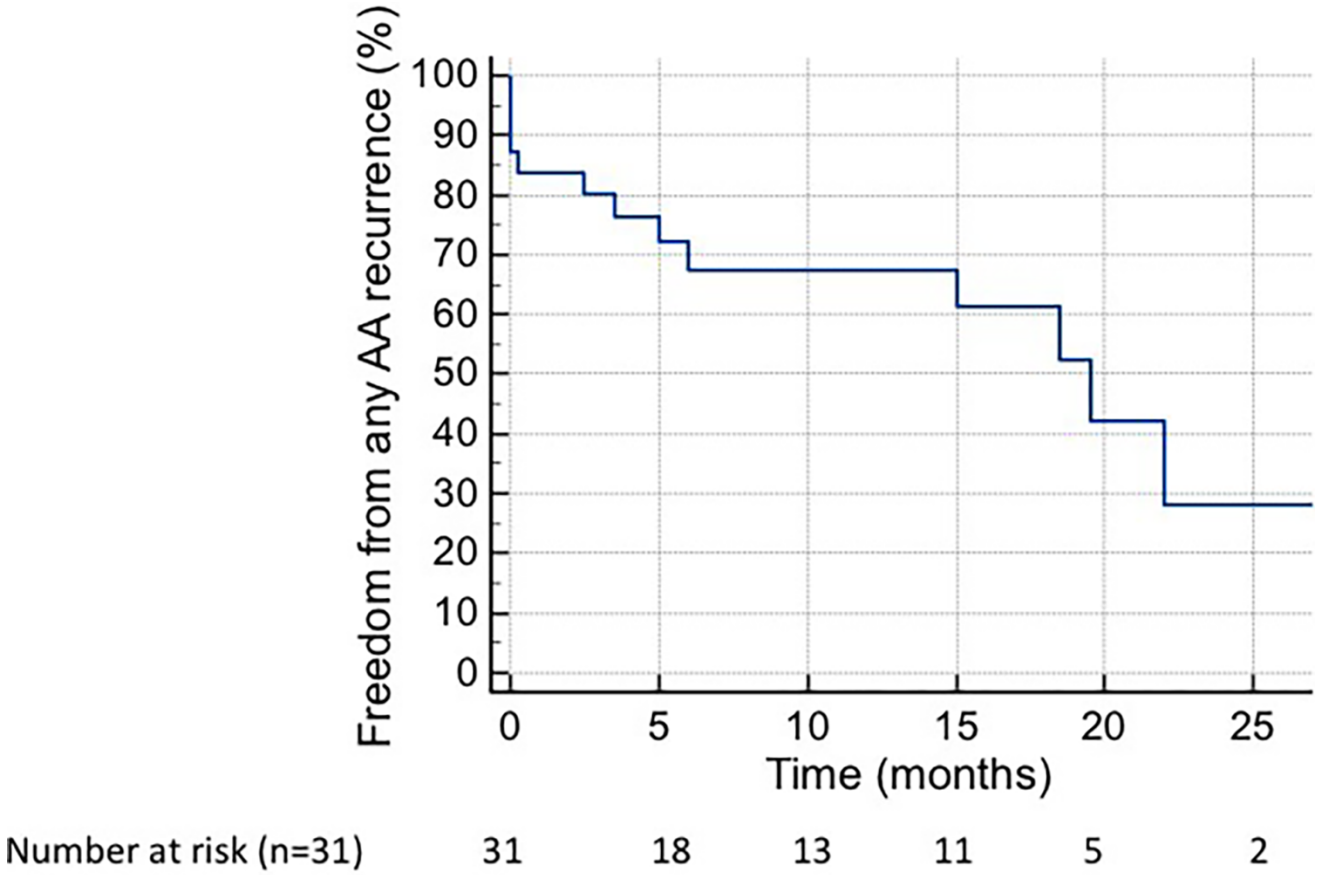
At risk:				
Stage I/II	14	13	10	9
Stage III	10	6	4	3

- 24 patients avec AC ablatés comparé à un groupe contrôle traité médicalement pour la FA
- L'ablation est associée à une **réduction des hospitalisations pour FA ou IC** et une amélioration du **pronostic**
- **42 % des patients ont maintenu un RS** (délais médian de suivi : 39 mois)
- Meilleur bénéfice si réalisé à un **stade précoce** : récurrence d'arythmie 36 % si Stade I ou II vs 90 % si stade III

Donnellan et al. Europace (2020) 22, 259–264

Toutes arythmies atriales

- 31 patients (61% ATTR)
- 22 FA, 17 Flutter, 11 TA
- 45% de récidive
- Suivi 19 mois, mortalité 39%
- Amélioration NYHA chez ceux RS



Maury et al Plos ONE 2024

Quelles TSV ablater ?

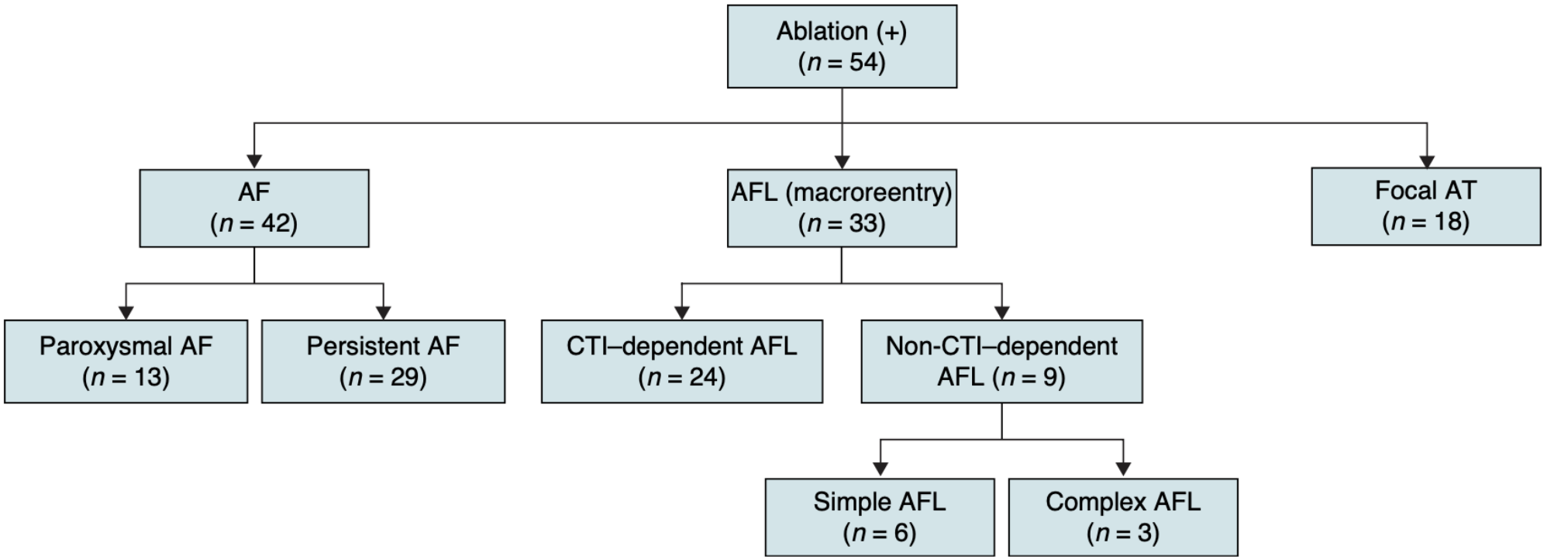
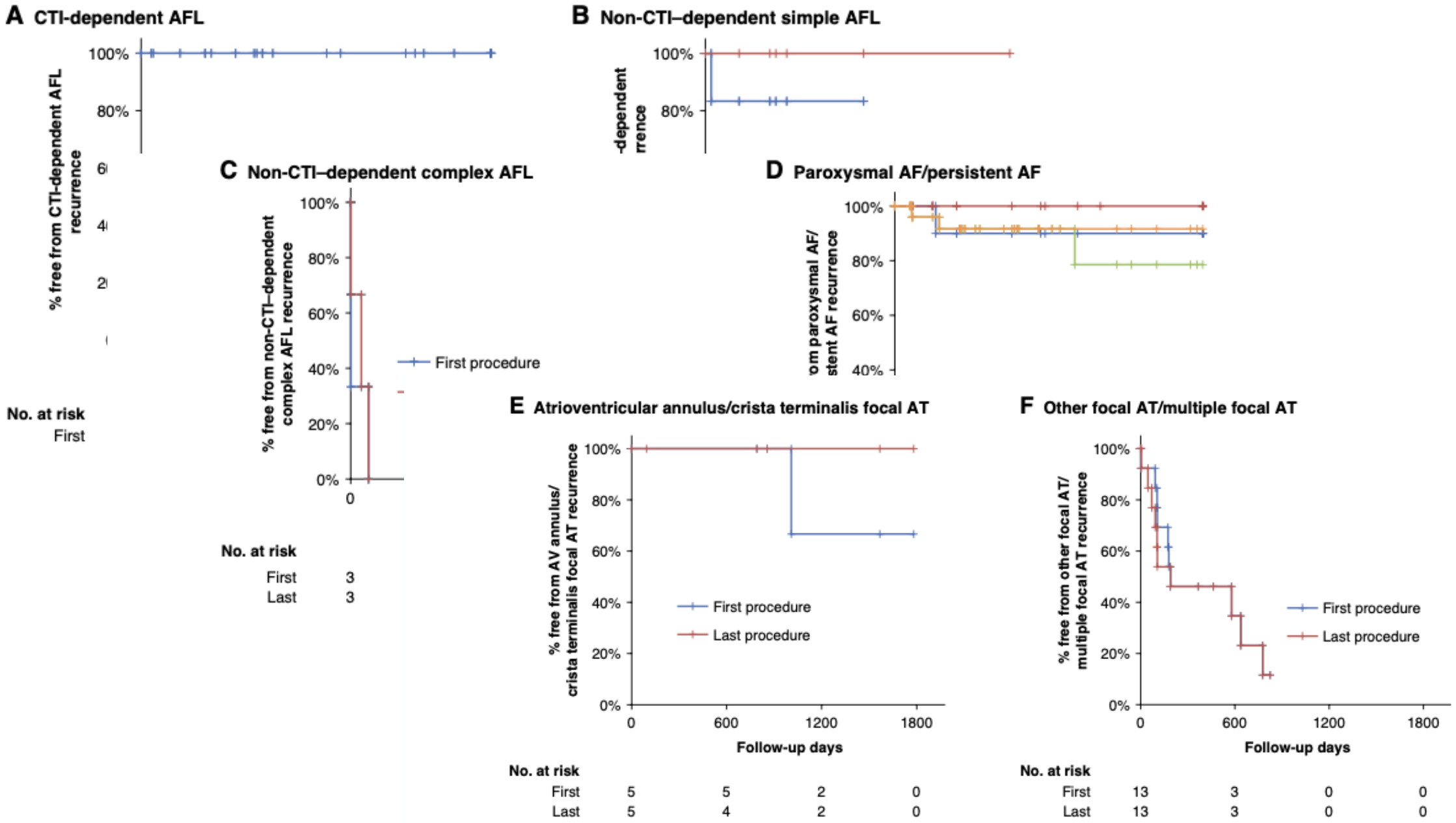


Figure 2 Study flow chart 2 (details of arrhythmias). AF, atrial fibrillation; AFL, atrial flutter; AT, atrial tachycardia; CTI, cavotricuspid isthmus.

Europace (2024) 26, euae155



Europace (2024) 26, euae155

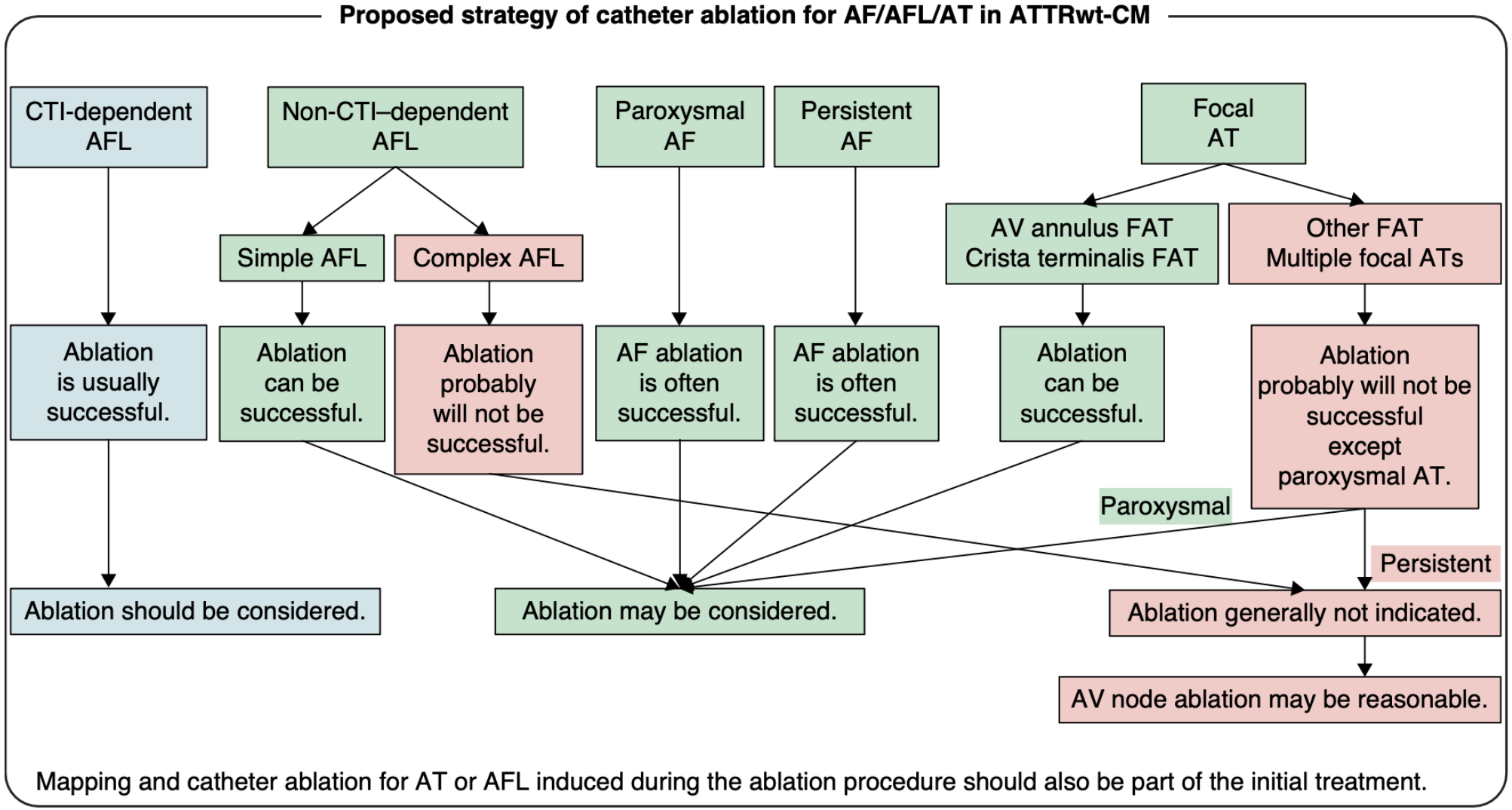
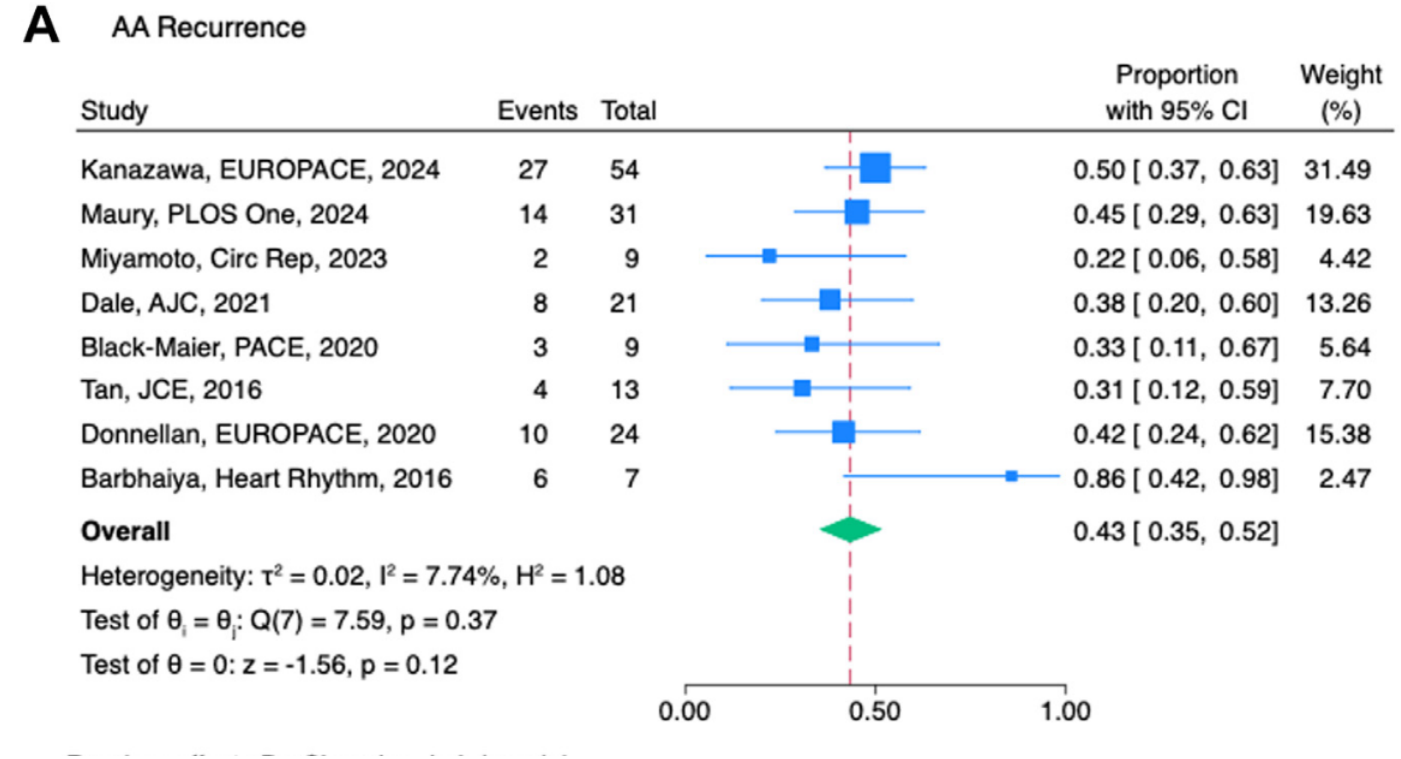
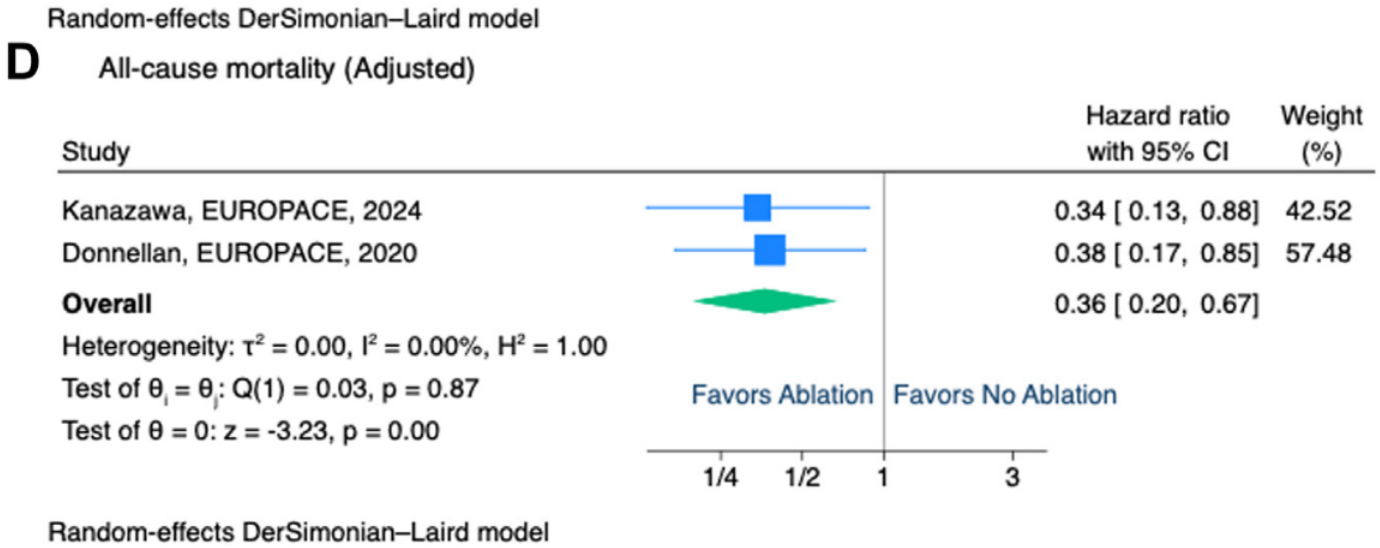


Figure 7 Proposed strategy of catheter ablation for AF/AFL/AT in ATTRwt-CM. Proposed strategy of catheter ablation for AF/AFL/AT in ATTRwt-CM was shown. AF, atrial fibrillation; AFL, atrial flutter; AT, atrial tachycardia; ATTRwt-CM, wild-type transthyretin amyloid cardiomyopathy; AV, atrioventricular; CTI, cavotricuspid isthmus; FAT, focal atrial tachycardia.

Europace (2024) 26, euae155

Méta analyse





https://doi.org/10.1016/j.hrthm.2024.08.025

Plus de complications en cas d'ablation de FA

Outcomes	CA-AF	No-CA AF	Estimate
Total Sample Size	292	147841	
Crude Index Admission			
NACE	5072 (3.43%)	23 (7.84%)	2.3 (1.5–3.4)
Mortality	1625 (1.10%)	8 (2.60%)	2.5 (1.2–5.1)
Major Bleeding	2587 (1.70%)	12 (4.10%)	2.4 (1.3–4.3)
Stroke	860 (0.60%)	3 (0.90%)	1.8 (0.6–5.5)
Pericardial Effusion	7655 (5.20%)	28 (9.50%)	1.9 (1.3–2.8)
Cardiac Tamponade	1964 (1.30%)	7 (2.30%)	1.8 (0.8–3.8)
Propensity Index Admission			
NACE	6 (1.85%)	23 (7.84%)	4.2 (1.7–7.2)
Mortality	1 (0.4%)	8 (2.6%)	9.0 (1.1–72.7)
Major Bleeding	5 (1.4%)	12 (4.1%)	2.7 (0.9–7.8)
Stroke	0 (0.0%)	3 (0.9%)	1.8 (0.5–6.0)
Pericardial Effusion	10 (3.0%)	28 (9.5%)	3.3 (1.6–6.9)
Cardiac Tamponade	2 (0.5%)	7 (2.3%)	3.9 (0.8–19.1)
30-Day Readmission			
Readmission	44 412/147 841 (30%)	120/293 (40%)	1.4 (1.2–1.6)
NACE	7 (4.89%)	14 (11.6%)	2.4 (1.0–5.7)
Mortality	3 (2.2%)	10 (8.5%)	4.3 (1.1–15.9)
Major Bleeding	4 (3.0%)	3 (2.8%)	0.9 (0.2–4.1)
Stroke	0 (0.0%)	1 (1.2%)	1.6 (0.5–6.5)
Pericardial Effusion	5 (3.8%)	7 (6.0%)	1.7 (0.5–5.6)

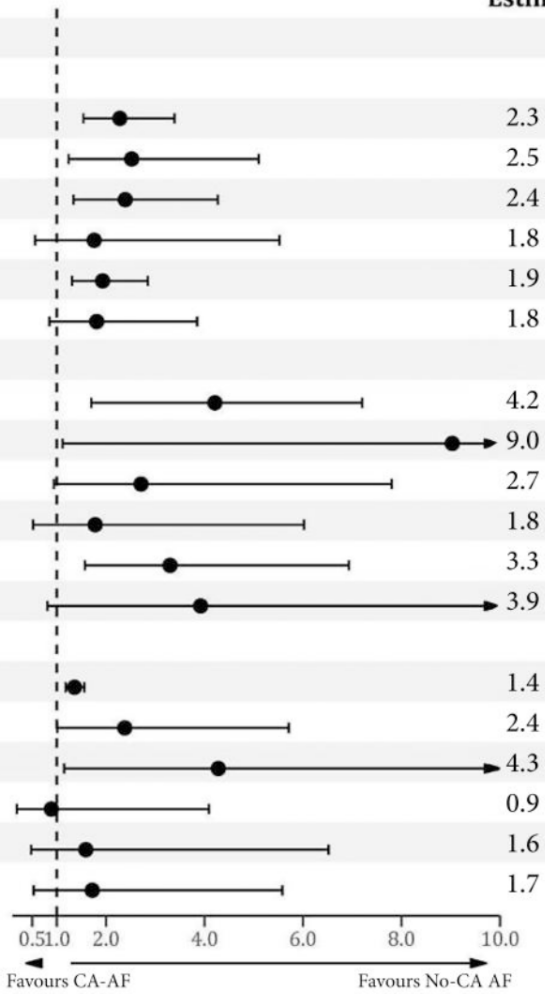


Figure 3 Forest plot showing the odds of index admission and 30-day readmission rate in CA-AF vs. non-CA-AF. The dotted line presents the null line (OR = 1), the horizontal line indicates the 95% confidence interval, and the solid circle indicates the point estimates.

Ullah et al European Heart Journal Open (2023) 3, 1–10

Plus de complications en cas d'ablation de FA

Table 3 Proportion of major outcomes on index admission and 30-day readmission in patients who underwent ablation in CA-AF vs. non-CA-AF

	Crude index admission		PSM index admission		PSM 30-day readmission	
	Odds ratio	*P*-value	Odds ratio	*P*-value	Odds ratio	*P*-value
NACE	2.28 (1.54–3.39)	<0.0001	4.21 (1.7–5.20)	<0.0001	2.38 (1.01–5.71)	0.02
Mortality	2.52 (1.24–5.10)	0.017	9.03 (1.12–72.70)	<0.0001	4.28 (1.15–15.9)	0.04
Major bleeding	2.39 (1.34–4.27)	0.005	2.71 (0.94–7.80)	0.09	0.89 (0.19–4.09)	0.81
Stroke	1.76 (0.56–5.52)	0.54	1.78 (0.52–6.02)	0.55	1.59 (0.48–6.52)	0.85
Pericardial effusion	1.93 (1.31–2.85)	0.001	3.30 (1.57–6.93)	0.002	1.72 (0.53–5.58)	0.53

NACE, net adverse clinical events (a composite of in-hospital all-cause mortality, major bleeding, and stroke)

Ullah et al European Heart Journal Open (2023) 3, 1–10

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Expert consensus

Management of conduction disease and arrhythmias in patients with cardiac amyloidosis: A position paper from the Working Group of Cardiac Pacing and Electrophysiology of the French Society of Cardiology

Nicolas Lellouche[a,*], Pascal Defaye[b], Vincent Algalarrondo[c], Estelle Gandjbakhch[d], Laurent Fauchier[e], Laure Champ-Rigot[f], Laura Delsarte[g], Fabrice Extramiana[c], Eloi Marijon[h], Raphael Martins[i], Vincent Probst[j], Rodrigue Garcia[k], Stephane Combes[l], Jerome Taieb[m], Mina Ait Said[n], Carole Mette[o], Olivier Piot[o], Serge Boveda[l,p,q], Didier Klug[r], Charles Guenancia[s], Frederic Sacher[t,u], Philippe Maury[v,w]

3.1.4. What is accepted?

Firstly, atrial arrhythmias are very frequent during the evolution of cardiac amyloidosis, and are usually poorly tolerated and associated with heart failure, even if not apparently linked to deaths; secondly, AADs are difficult to use in cardiac amyloidosis, with the exception of amiodarone; thirdly, the long-term results of atrial fibrillation ablation are modest, except in the earliest stages of cardiac amyloidosis, thus early catheter ablation may be considered; and lastly, in case of failure of rhythm or rate control, atrioventricular node ablation and pacemaker implantation should be discussed in this population.

Contrôle de fréquence ?

- Faut-il ralentir ? Seulement si symptômes
- Médicaments ralentisseurs ?
  - BB et inh calciques : NON
  - Digitaliques : classiquement contre-indiqués
  - Amiodarone : ok
- Ablation NAV :
  - Souvent la solution
  - Mais attention au PM implanté

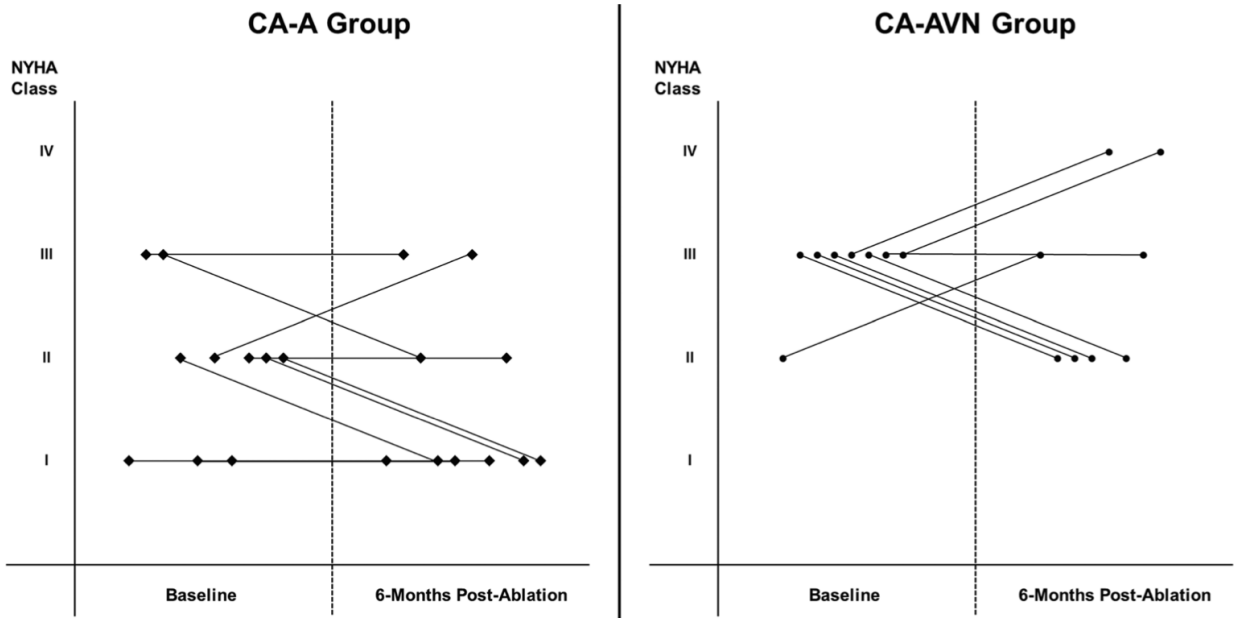


Figure 3. *NYHA class symptoms for CA-A (left) and CA-AVN (right) patients at baseline and at 6 months postablation.*

10.1111/jce.13046

Stimulation de branche gauche ?

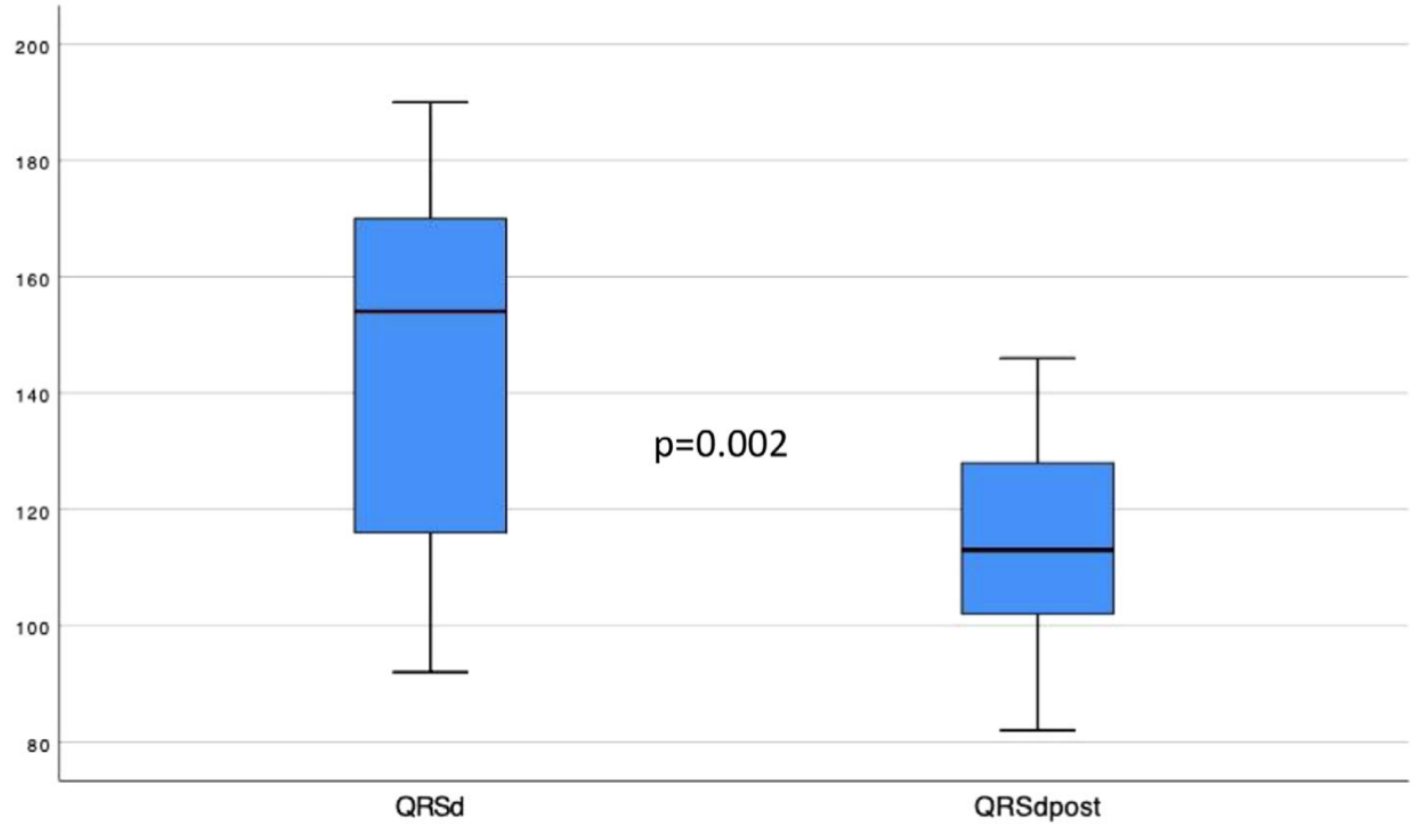


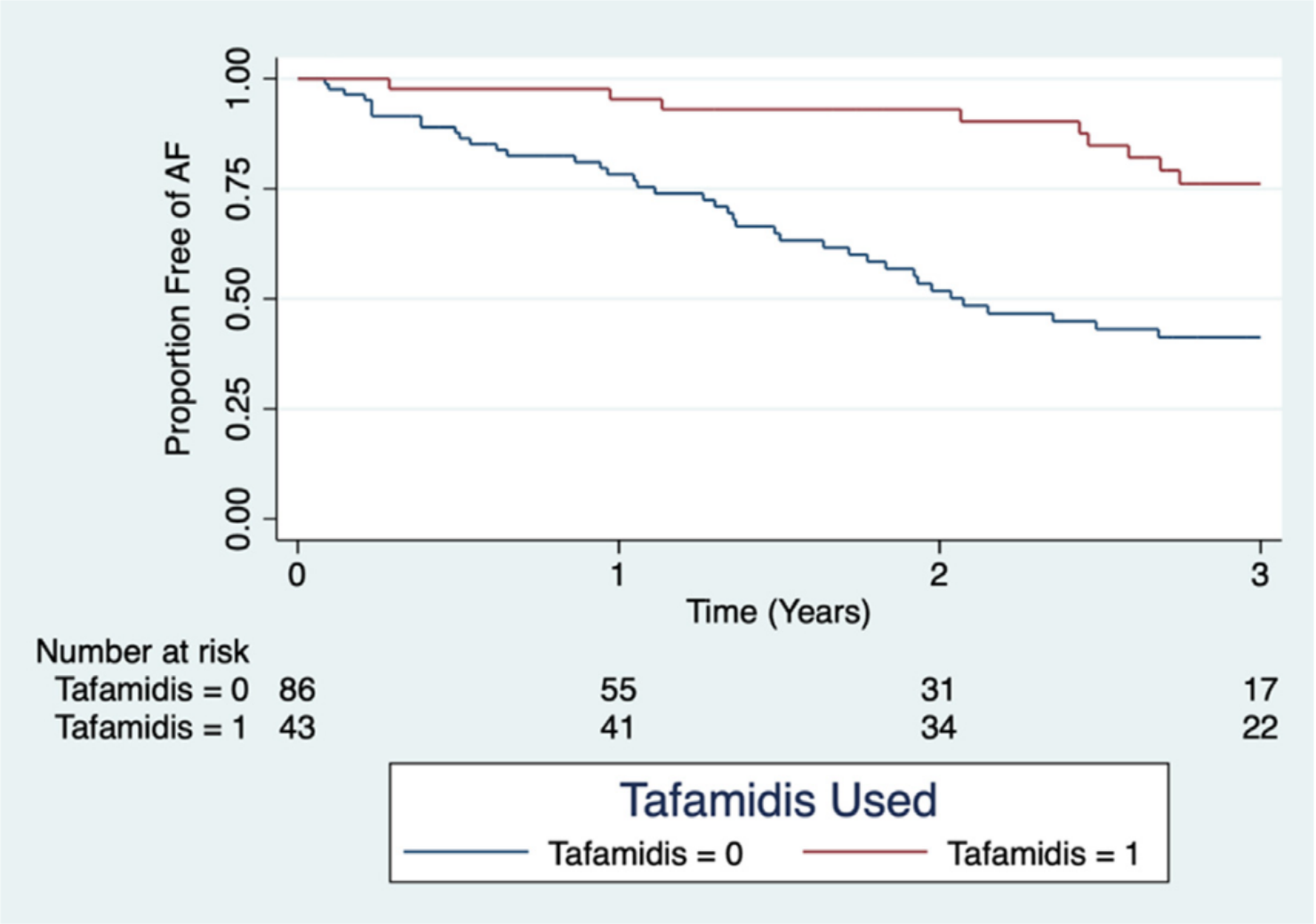
FIGURE 3 QRSd: intrinsic QRS duration (msec); QRSdpost: Paced QRS duration (ms). [Color figure can be viewed at wileyonlinelibrary.com]

can be viewed at wileyonlinelibrary.com]

Pacing Clin Electrophysiol. 2024;47:149–155

Un nouvel anti-arythmique ?

Girvin et al JACC EP 2023

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