ACCA - 11 Octobre 2022

Best of ESC : Rythmologie

Hugo Marchand

eBRAVE- AF
AFTER
HONEST
EV-ICD
CAPLA
MANIFEST-PF
VA/SCD Guidelines

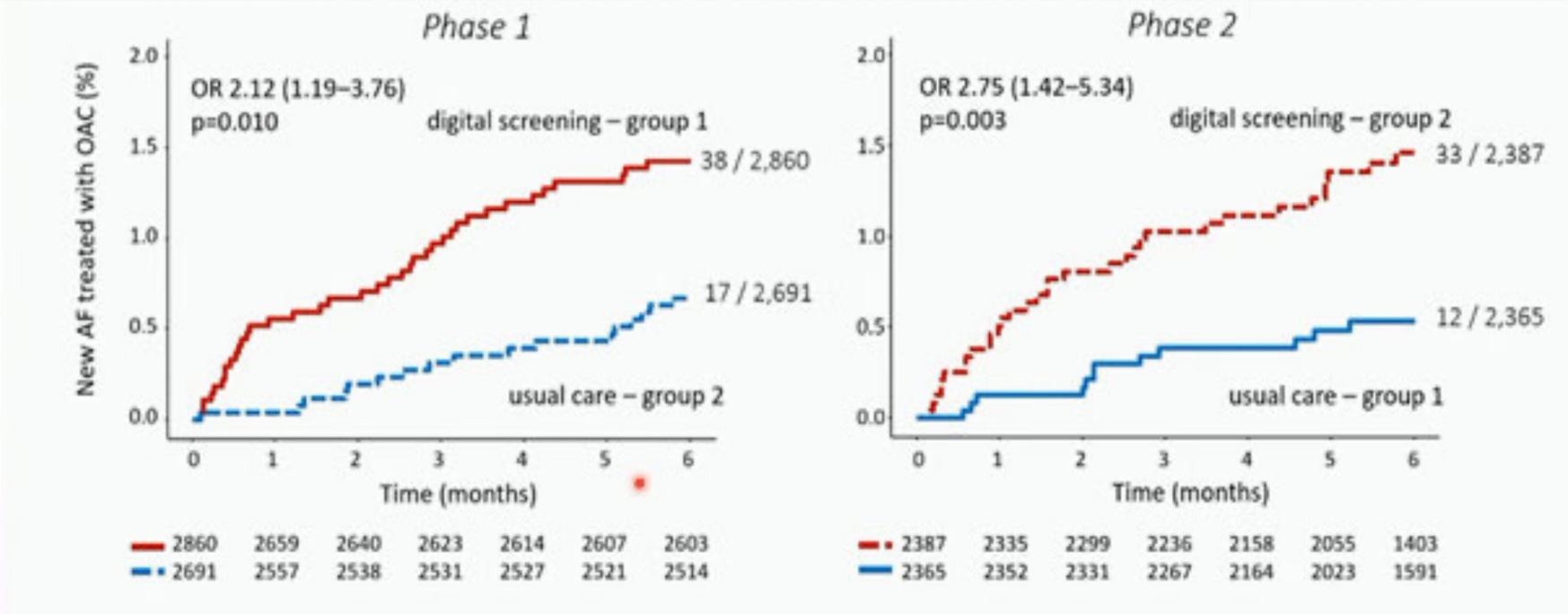
eBRAVE-AF

- 5551 patients sans ATCD de FA
- 50-90 ans, CHADSVASC ≥ 1 (ou 2 femme)
- Randomisation dépistage conventionnel ou smartphone
  - 2/j pendant 14 jours puis 2/semaine pendant 6 mois
  - Confirmation par Holter ECG 14 jours

Rizas, K.D., Freyer, L., Sappler, N. *et al.* Smartphone-based screening for atrial fibrillation: a pragmatic randomized clinical trial. *Nat Med* **28**, 1823–1830 (2022).

eBRAVE-AF

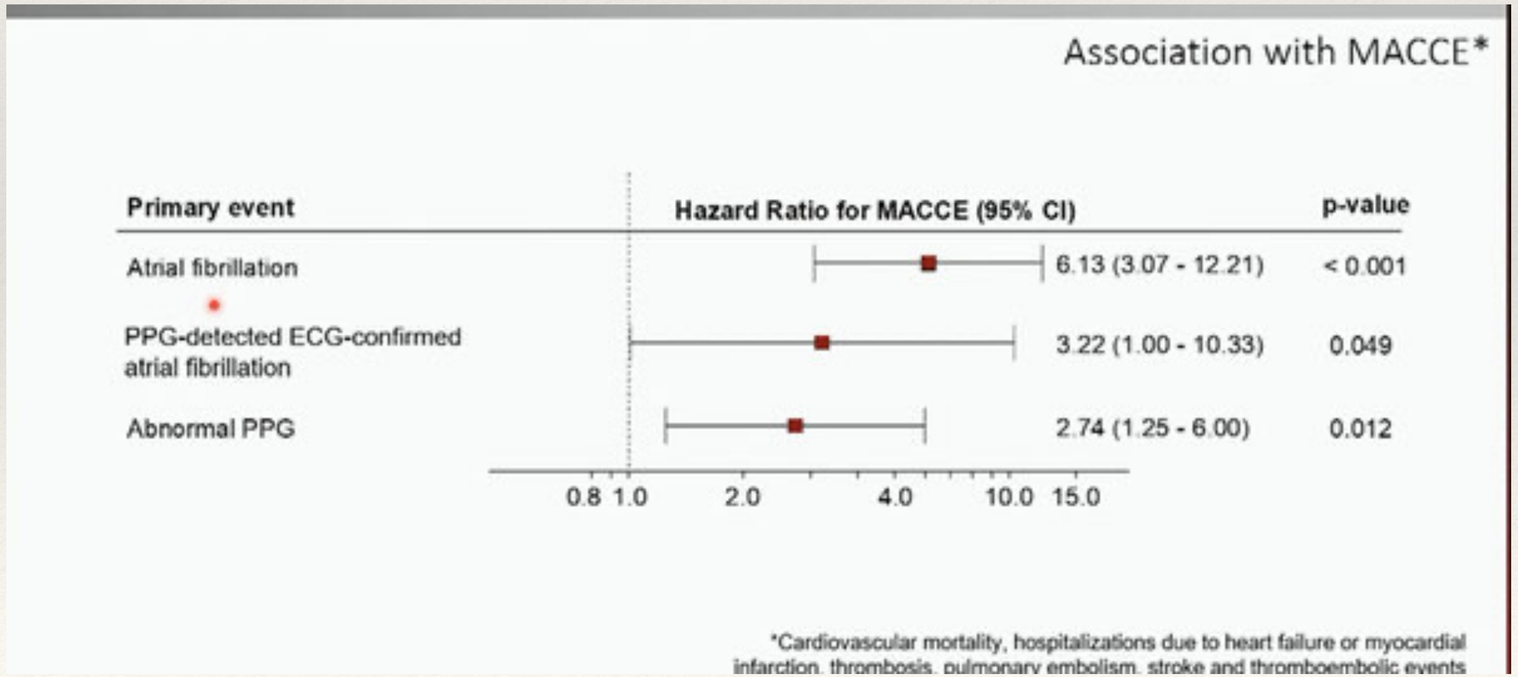
- Critère : diagnostic de FA avec introduction d'anticoagulant



- Phase 2 : crossover de 4752 patients

eBRAVE-AF

- Valeur de la PPG anormale non confirmée par le holter ECG ?



Atrial fibrillation detection with long-term continuous Holter ECG recording in patients with high cardiovascular risk and clinical palpitations: the prospective after study

F. Halimi, P. Sabouret, J. P. Huberman, L. Ouazana, D. Guedj, K. Djouadi, T. S. Dhanjal, A. Goette, C. Lafont & Nicolas Lellouche ✉

Clinical Research in Cardiology (2022) | Cite this article

The AFTER Study

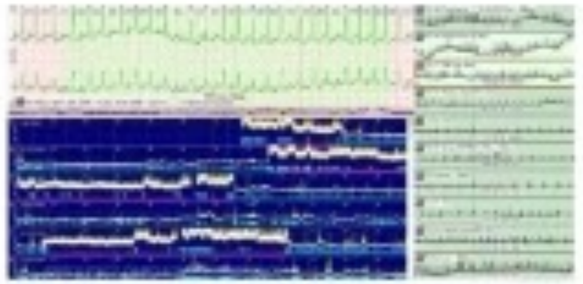
Study population: n=336 pts

Inclusion criteria:

CHA_2DS_2VASC score ≥2 ♂ or ≥3 ♀ + clinical palpitation and no documented arrhythmia

14-day continuous ECG-Holter monitoring

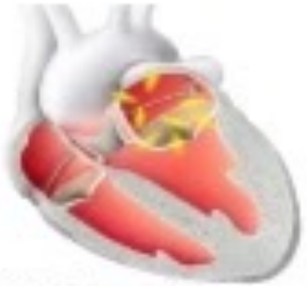
AF detection



14% of the population (n=47)

Oral anticoagulation: 90% (n=42)

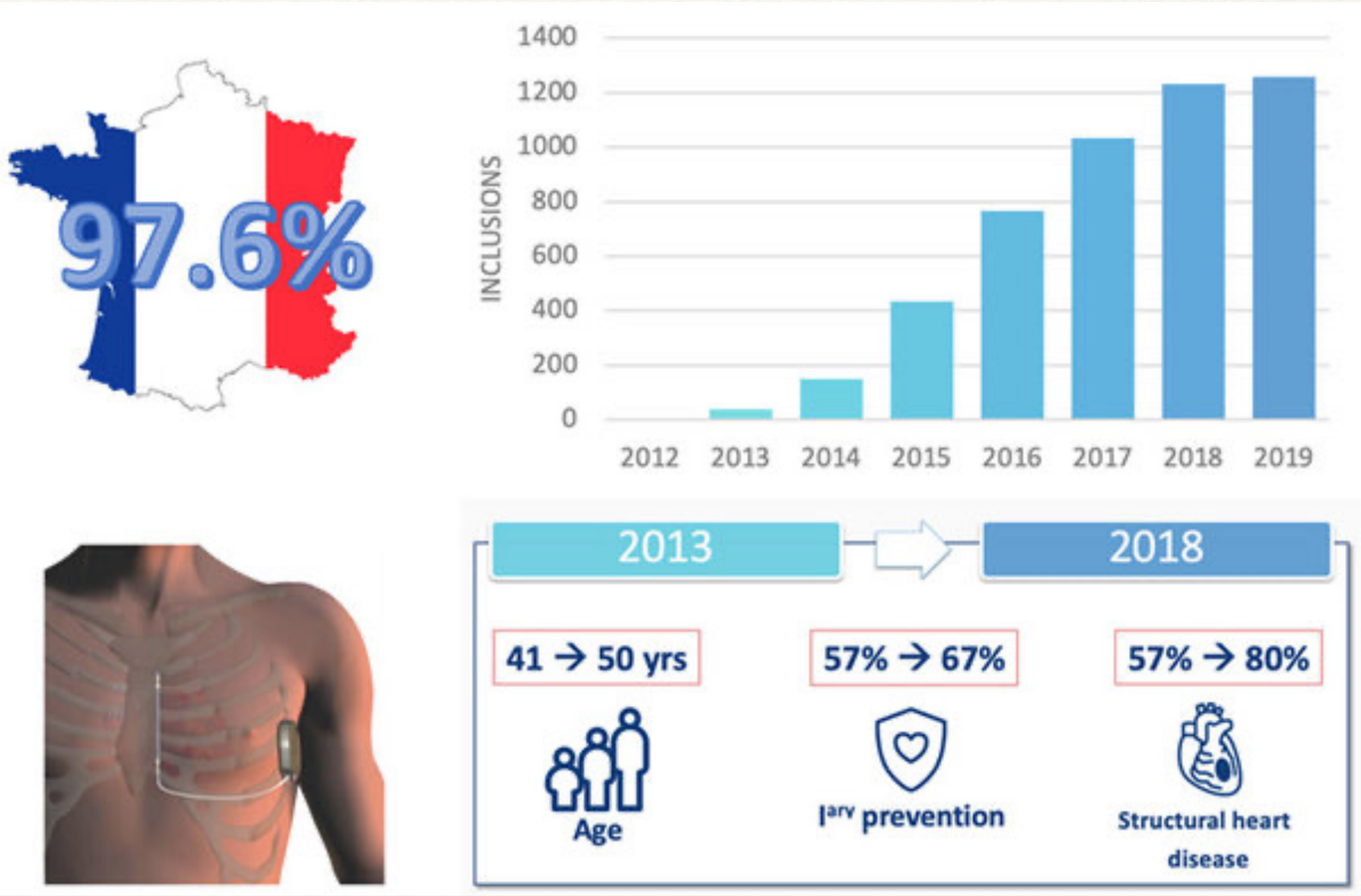
Antiarrhythmic drugs: 90% (n=42)



AF Ablation: 13% (n=6)

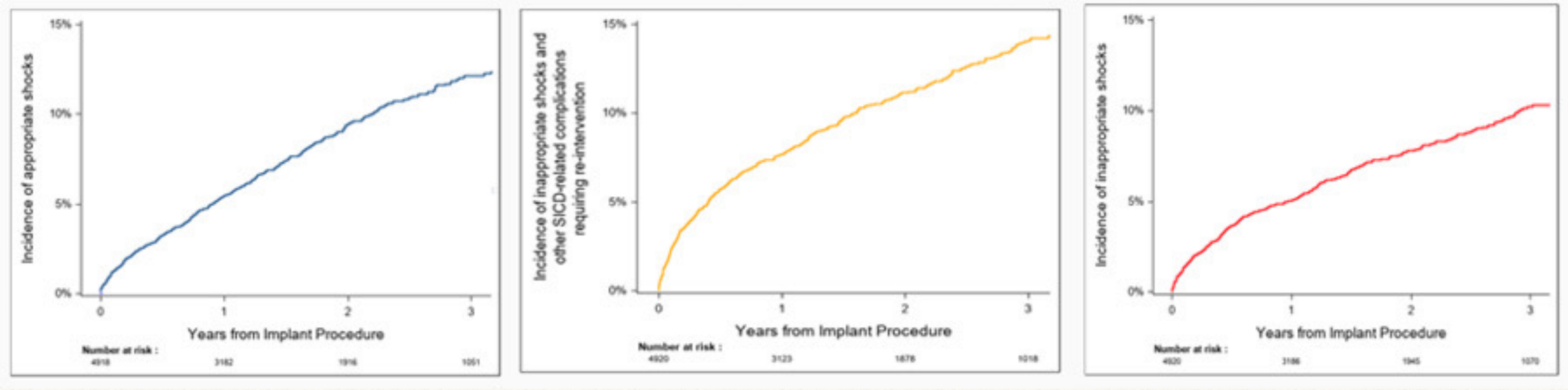
HONEST Trial : registre S-ICD

- Cohorte nationale, rétrospective
- 4926 patients, 150 centres



HONEST Trial

- 528 patients (10,7%) avec complications
- 365 patients (7,4%) avec Choc inapproprié, à 1 an (5,1%)
- 54 patients (1%) avec indication de stimulation



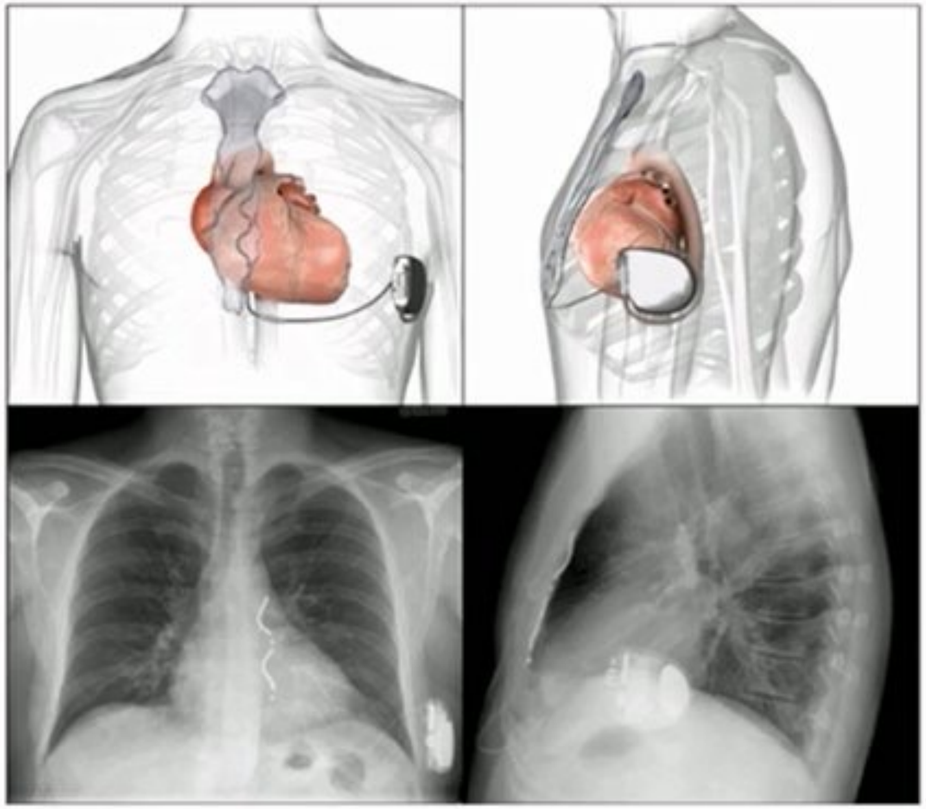
EV-ICD

The NEW ENGLAND JOURNAL of MEDICINE

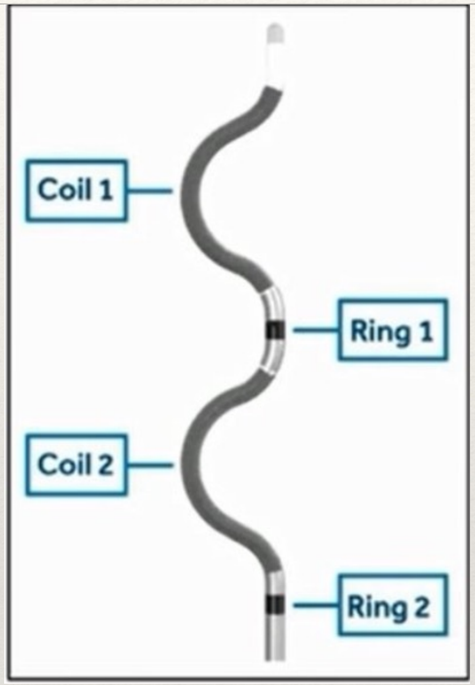
ORIGINAL ARTICLE

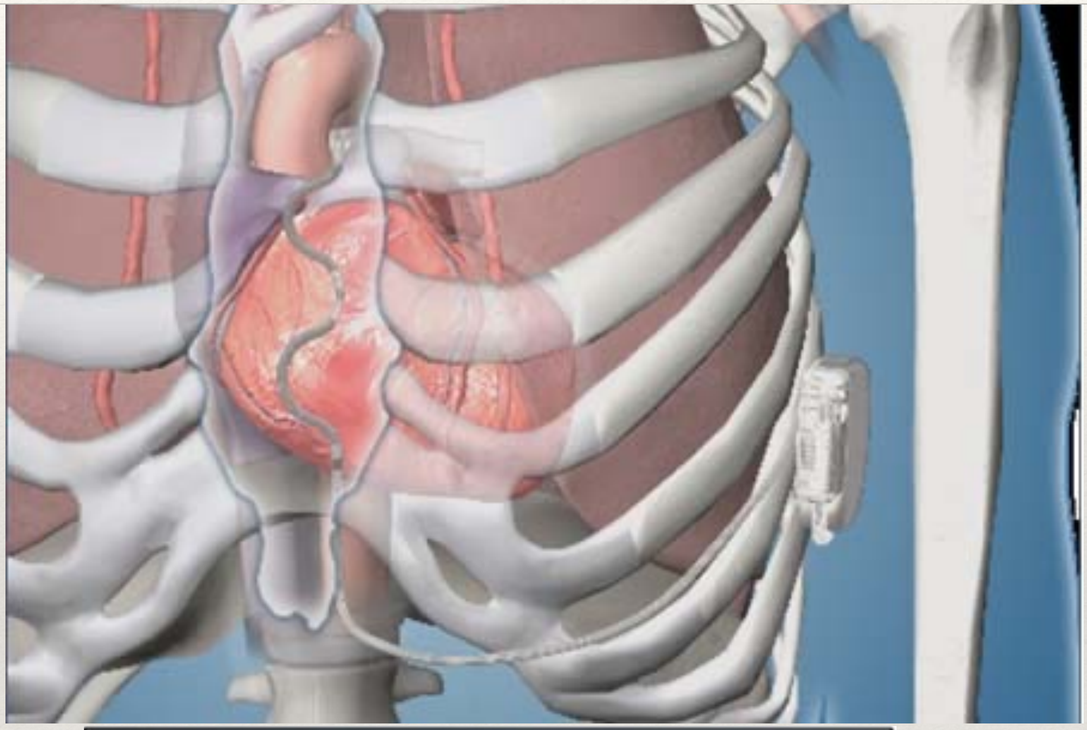
Efficacy and Safety of an Extravascular Implantable Cardioverter–Defibrillator

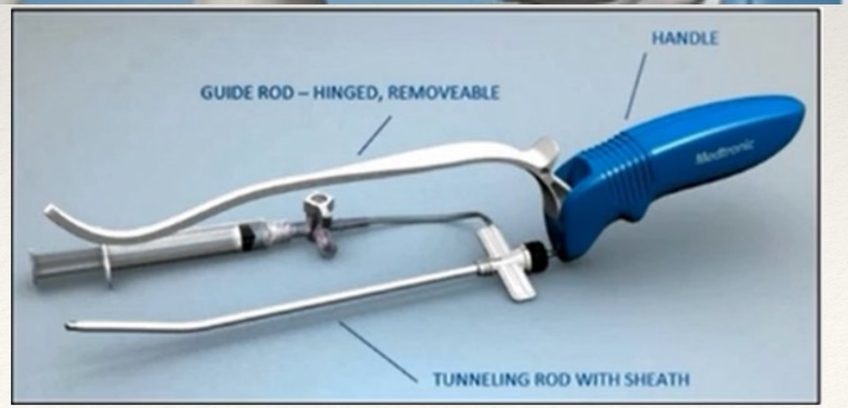
Paul Friedman, M.D., Francis Murgatroyd, F.R.C.P., Lucas V.A. Boersma, M.D., Ph.D., Jaimie Manlucu, M.D., David O'Donnell, M.B., B.S., Bradley P. Knight, M.D., Nicolas Clémenty, M.D., Ph.D., Christophe Leclercq, M.D., Ph.D., Anish Amin, M.D., Béla P. Merkely, M.D., Ph.D., D.Sc., Ulrika M. Birgersdotter-Green, M.D., Joseph Y.S. Chan, M.B., B.S., Mauro Biffi, M.D., Reinoud E. Knops, M.D., Ph.D., Greg Engel, M.D., Ignacio Muñoz Carvajal, M.D., Laurence M. Epstein, M.D., Venkata Sagi, M.D., Jens B. Johansen, M.D., Ph.D., Maciej Sterliński, M.D., Ph.D., Clemens Steinwender, M.D., Troy Hounshell, M.D., Richard Abben, M.D., Amy E. Thompson, M.S., M.B.A., Christopher Wiggenhorn, Ph.D., Sarah Willey, M.P.H., and Ian Crozier, M.B., C.H.B., for the Extravascular ICD Pivotal Study Investigators*



EV-ICD



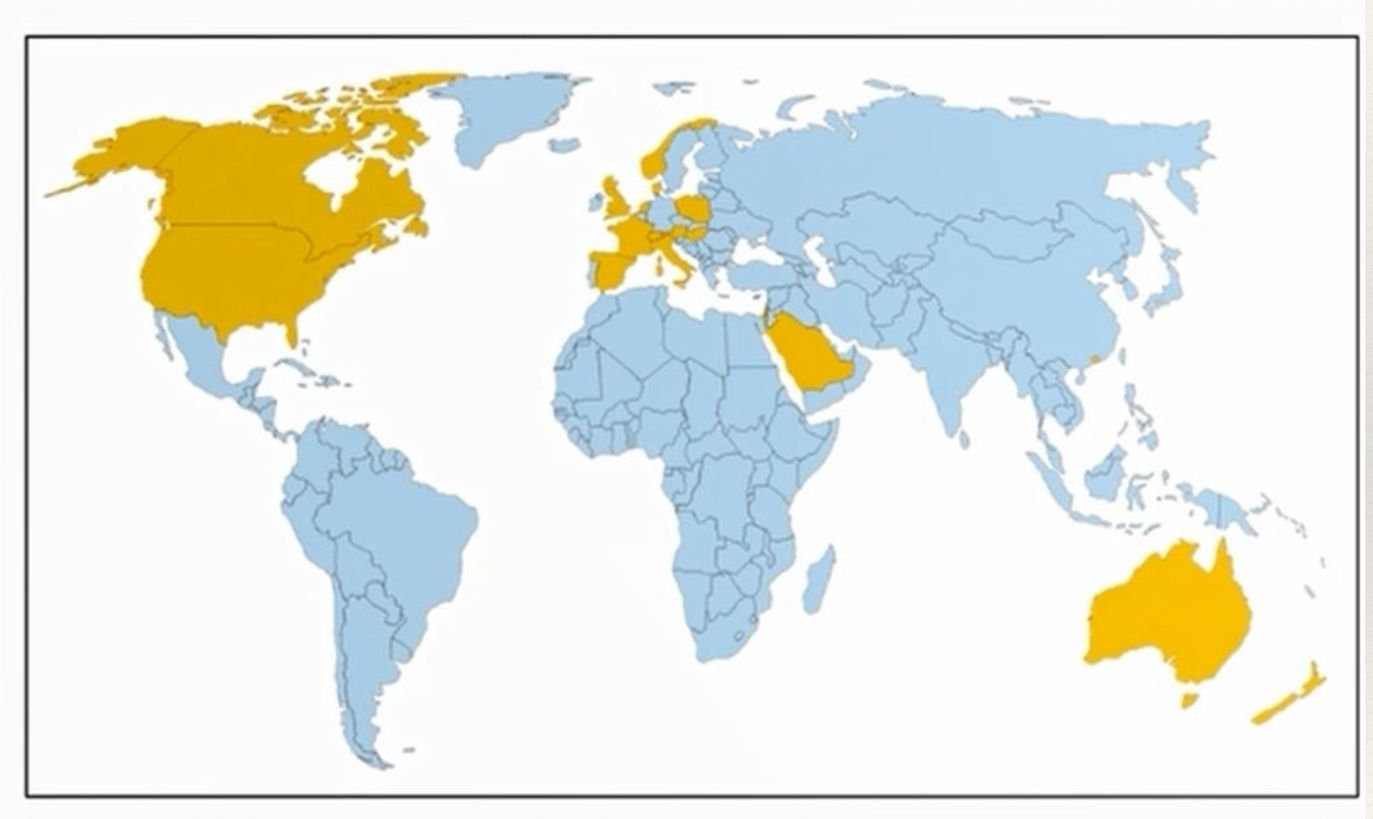




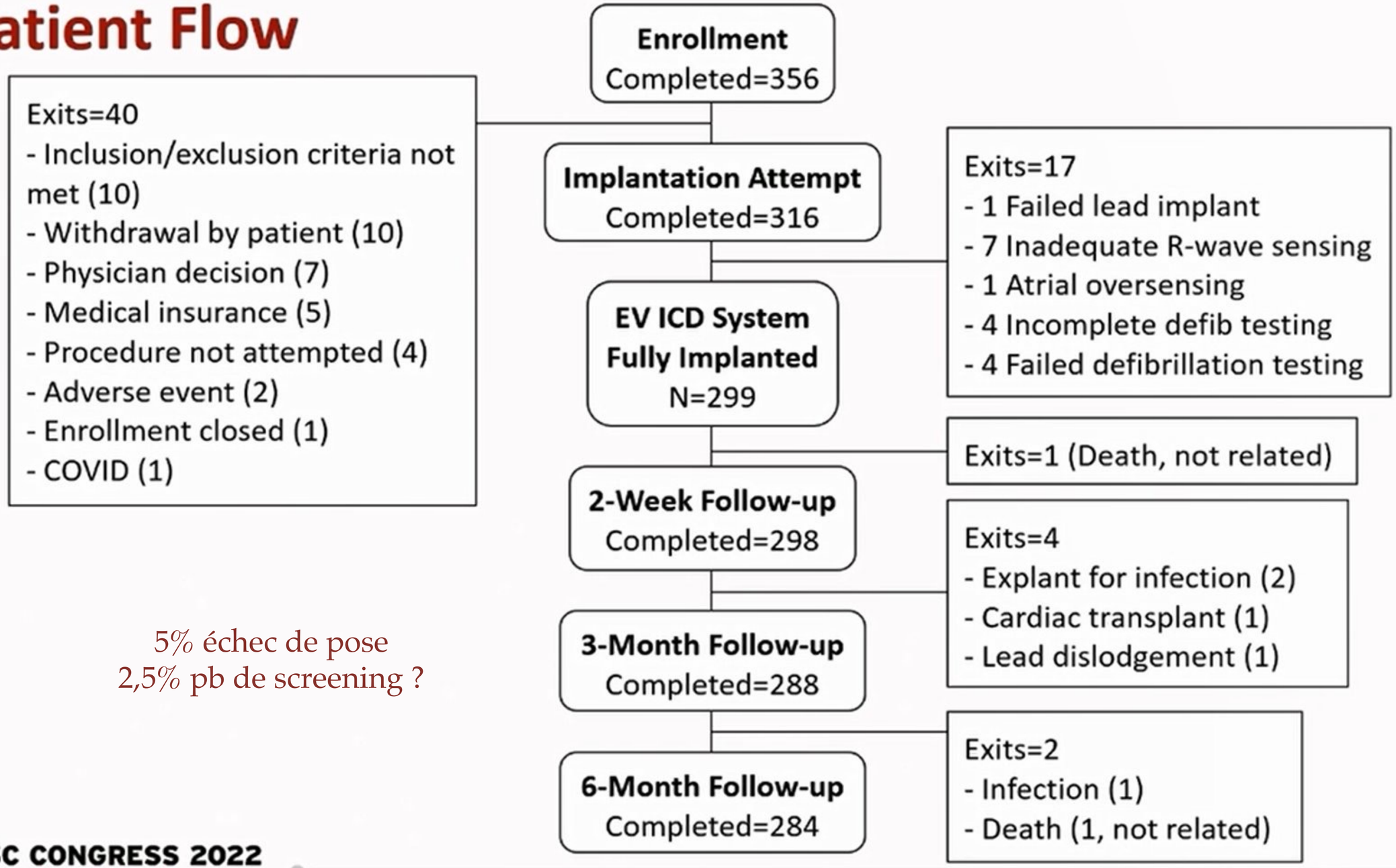
- 40 Joules
- 33cm3
- ATP
- Stimulation

EV-ICD

- Etude pivot pré-marché
- 46 sites, 17 pays
- Prospective, non randomisée

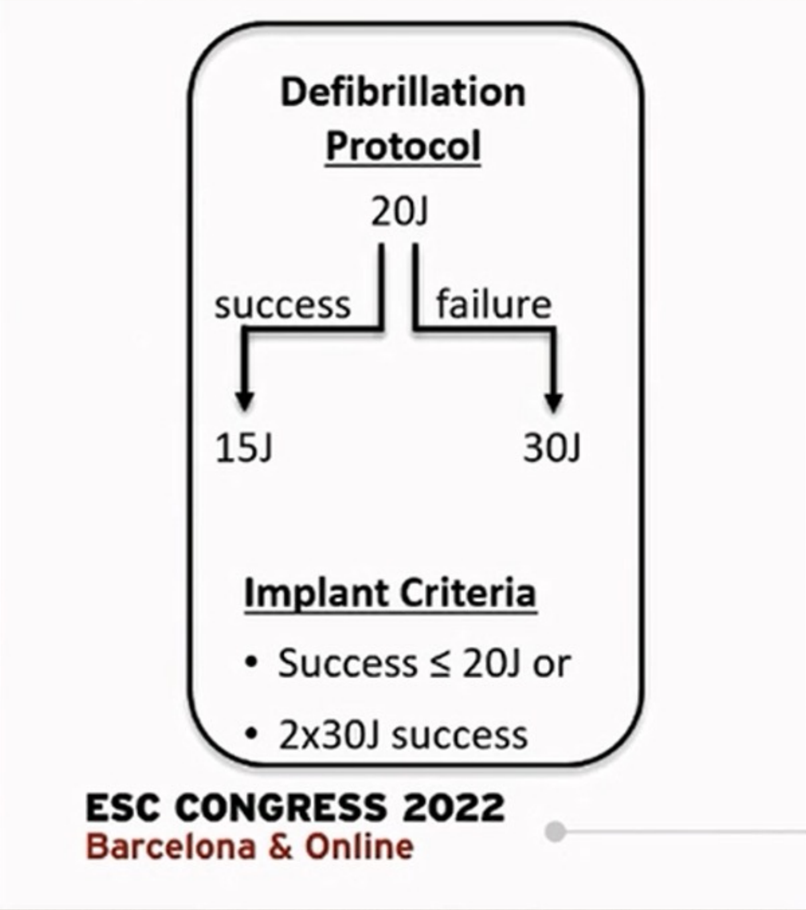


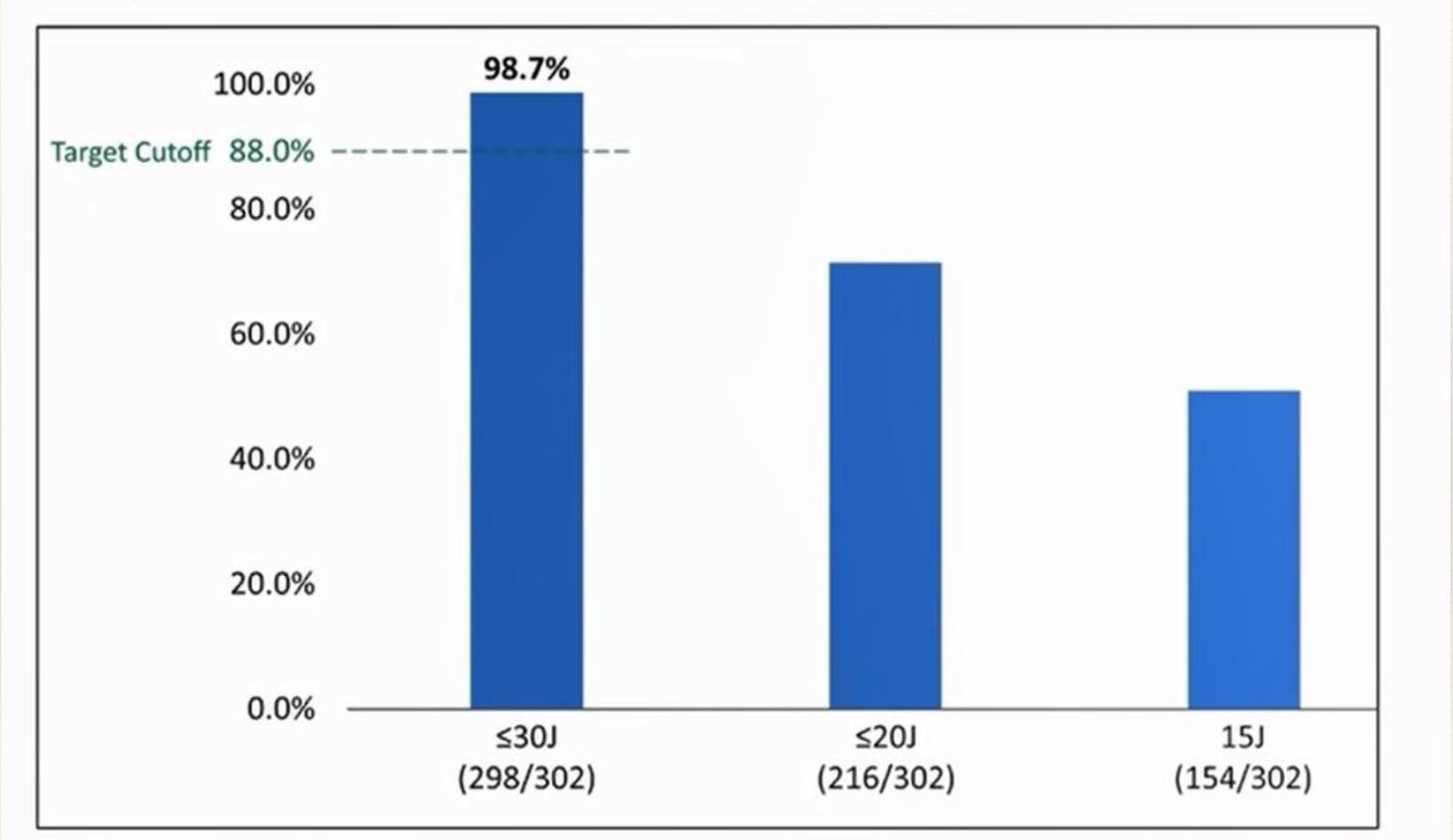
Patient Flow



5% échec de pose
2,5% pb de screening ?

Objectif primaire : efficacité

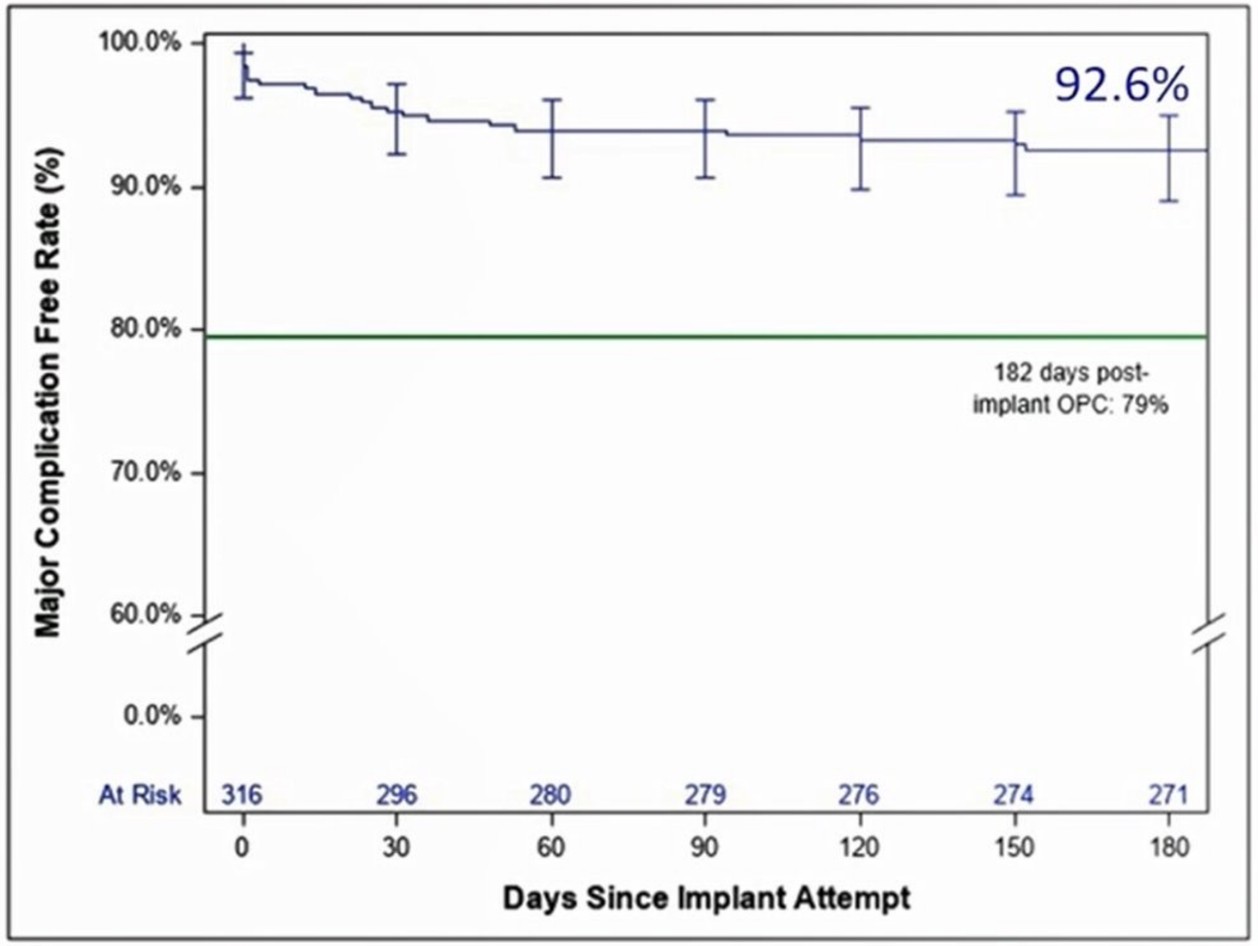




Objectif primaire : sécurité

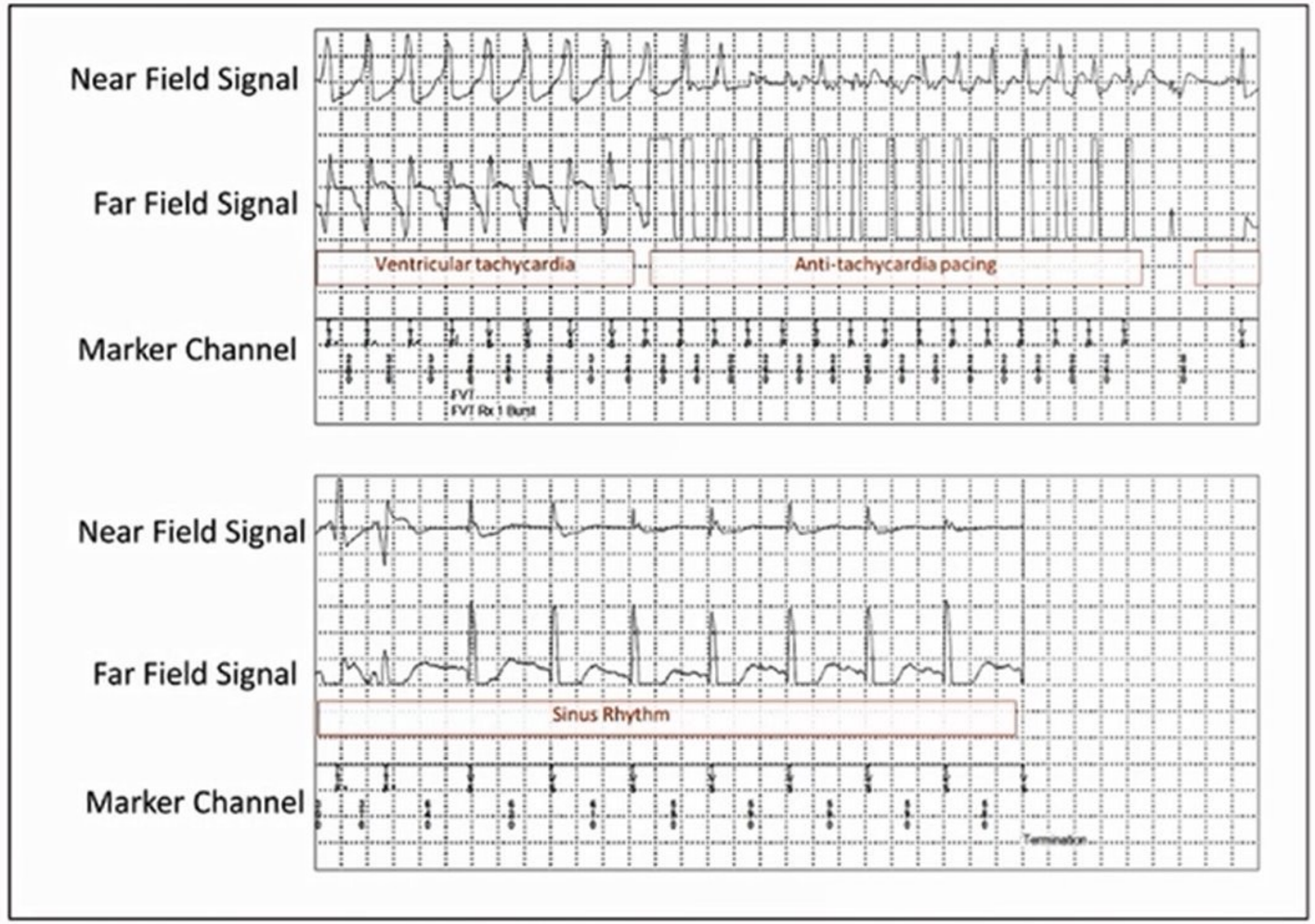
- 25 évènements / 23 patients (7,3%)

System revision required	**18**
Lead dislodgement	9
Infection	5
Discomfort/haematoma	2
Lead reposition/oversensing	1
Device lockup	1
No revision required	**7**
Wound related	3
Hospitalization for inappropriate shock	3
Lead dislodgement	1



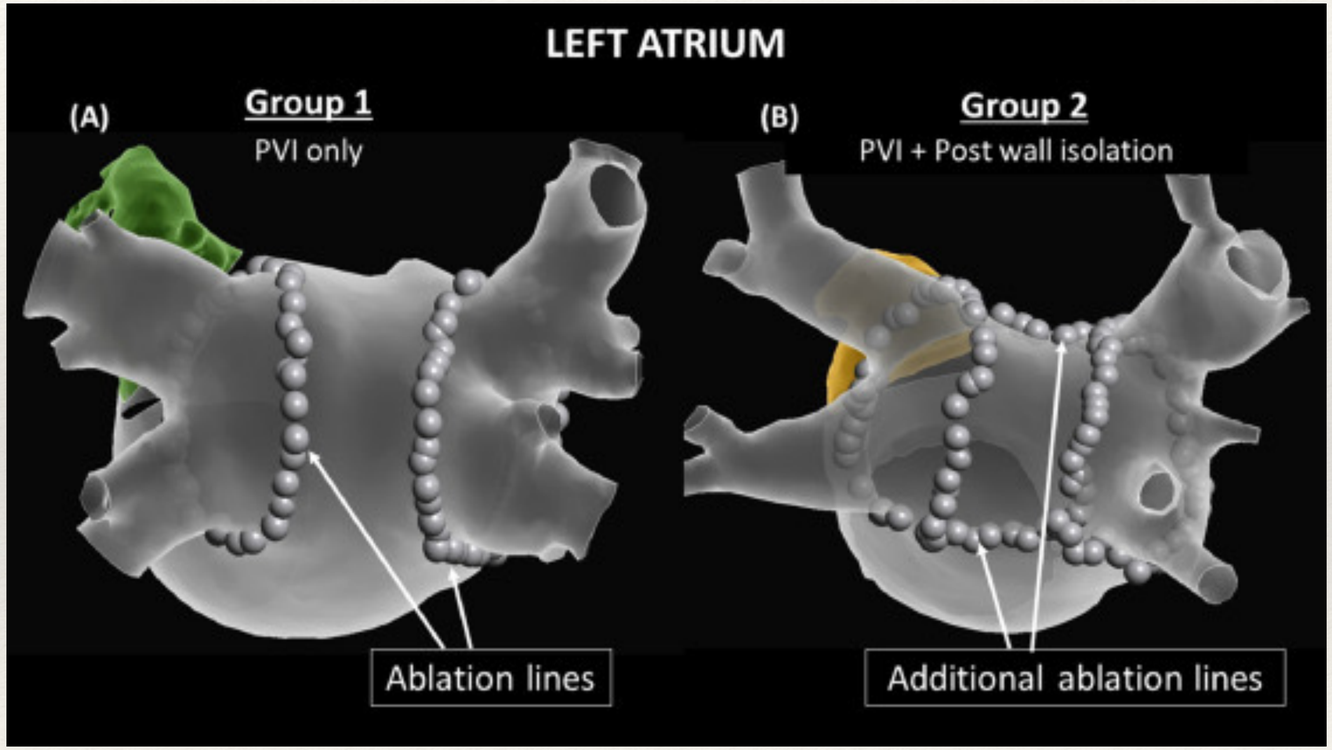
Thérapies

- ATP : 32/46 (70% succès)
- CEI : 18/18 succès
- CEI inappropriés :
  - 29 patients (9,7%)
  - 81 épisodes
  - 118 chocs



CAPLA Study

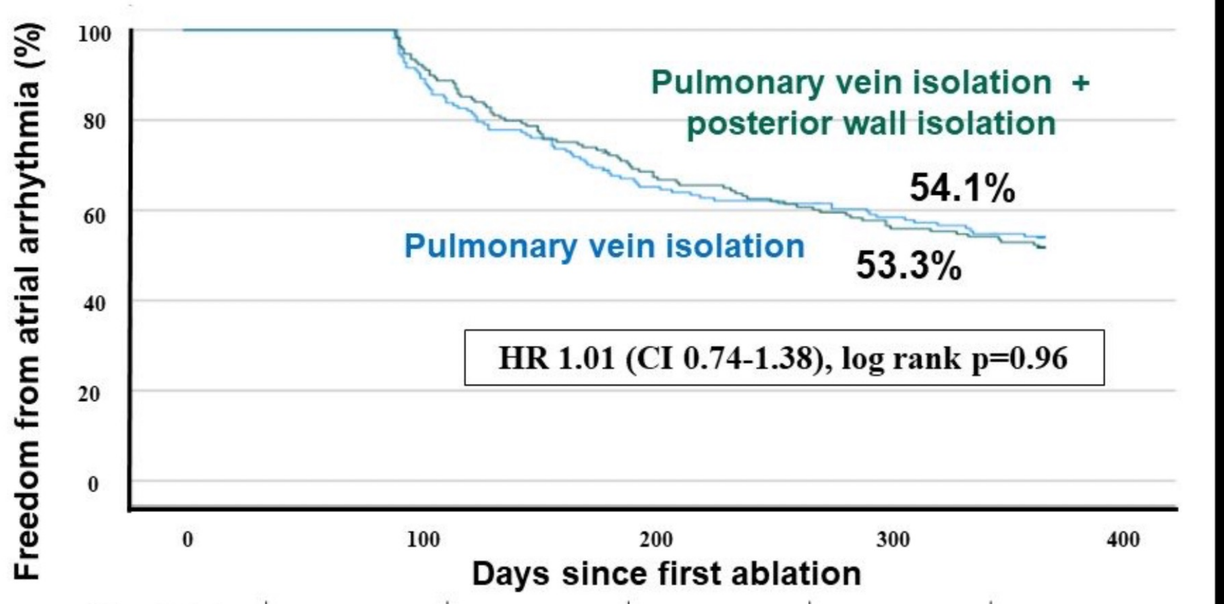
- Multicentrique, randomisée
- 338 patients
- Suivi 1 an



Chieng D, Sugumar H, Kistler PM et al. Catheter ablation for persistent atrial fibrillation: A multicenter randomized trial of pulmonary vein isolation (PVI) versus PVI with posterior left atrial wall isolation (PWI) - The CAPLA study. Am Heart J. 2022 Jan;243:210-220. doi: 10.1016/j.ahj.2021.09.015. Epub 2021 Oct 4. PMID: 34619143

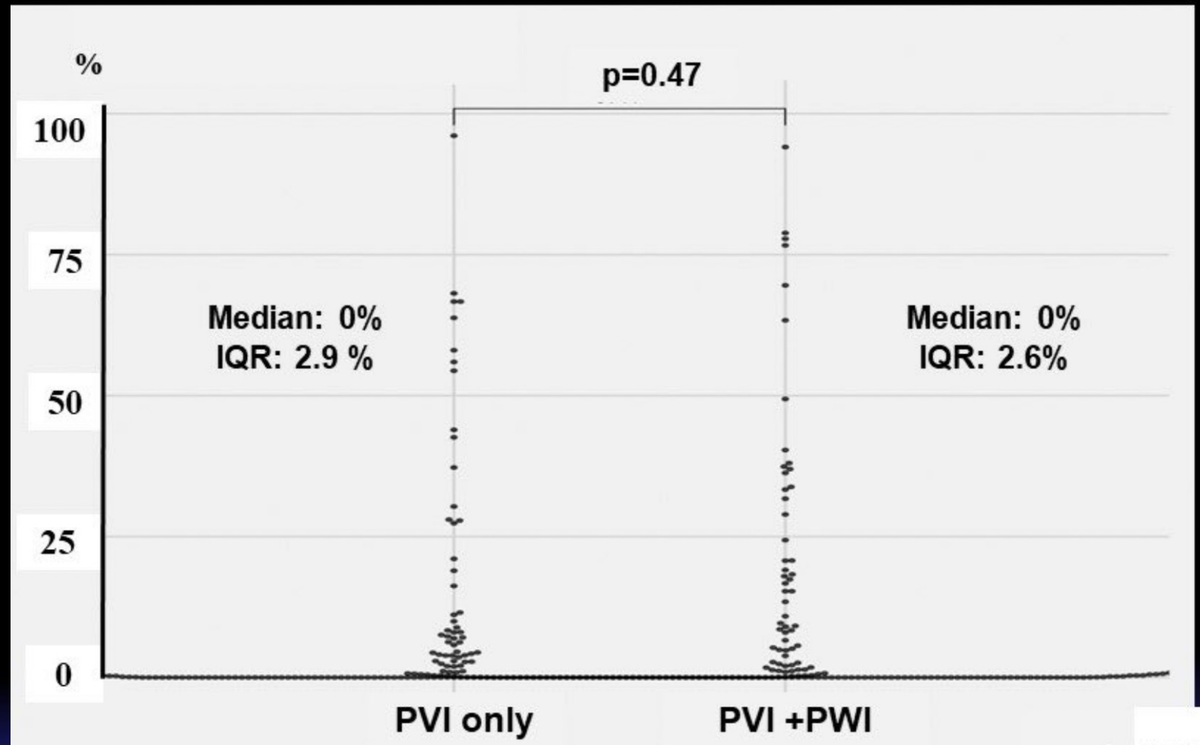
CAPLA Study

1 endpoint: Freedom from AF/AT off AADs at 12months

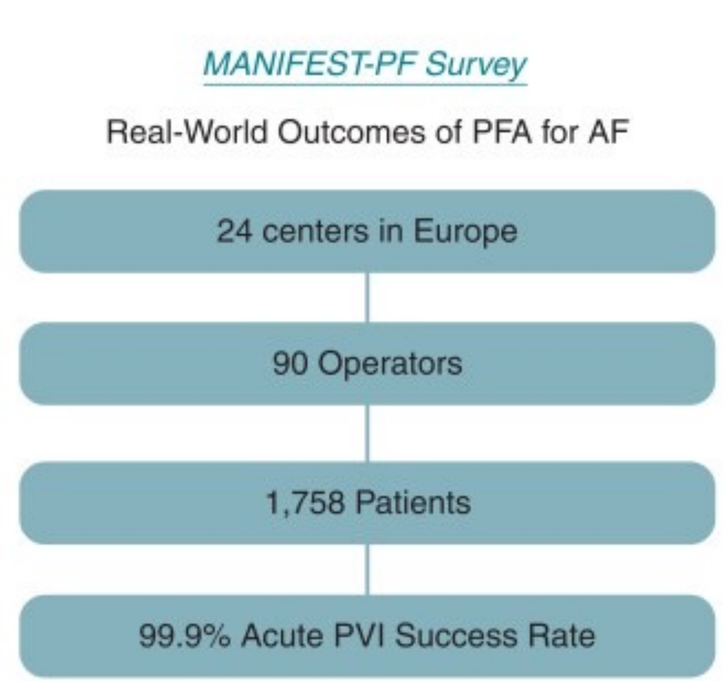


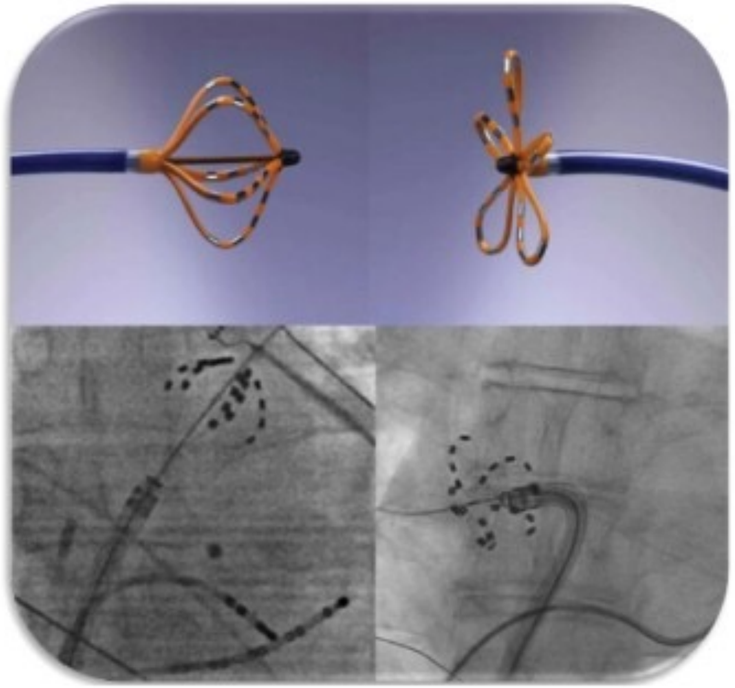
No. at risk					
PVI alone	167	152	107	95	86
PVI + PWI	170	158	114	94	88

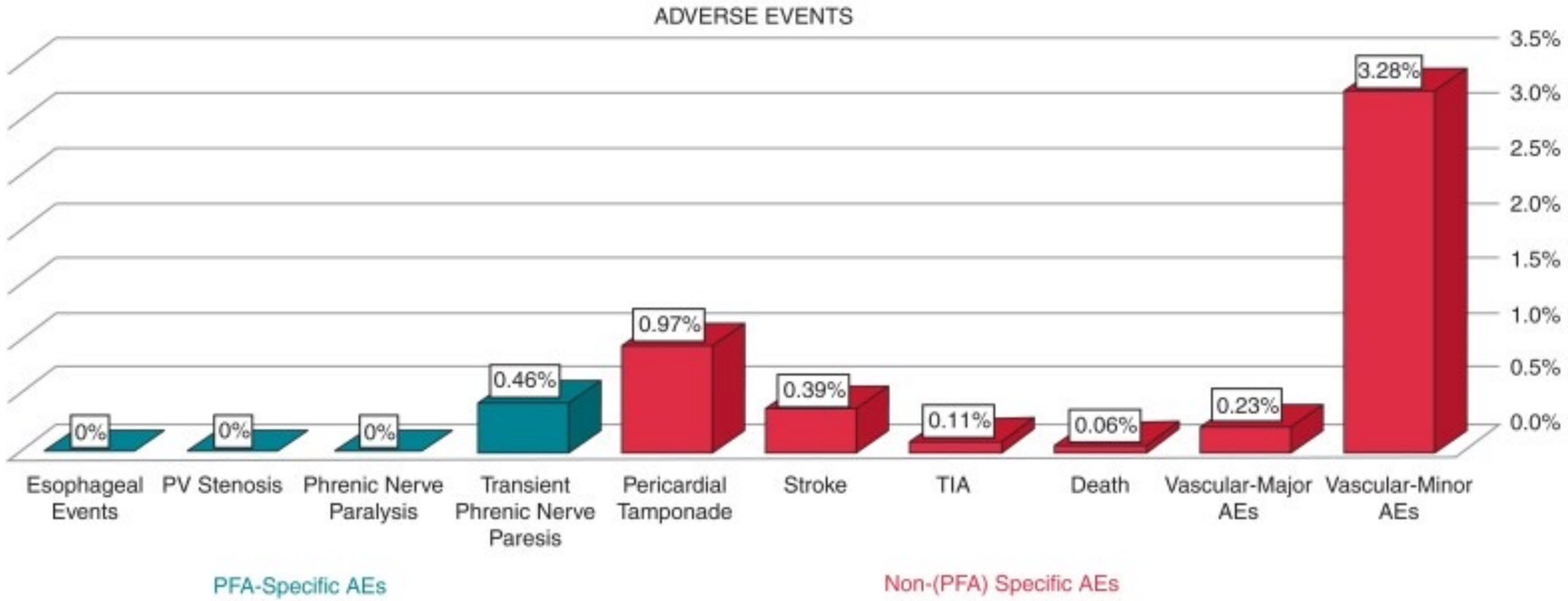
AF Burden



MANIFEST-PF







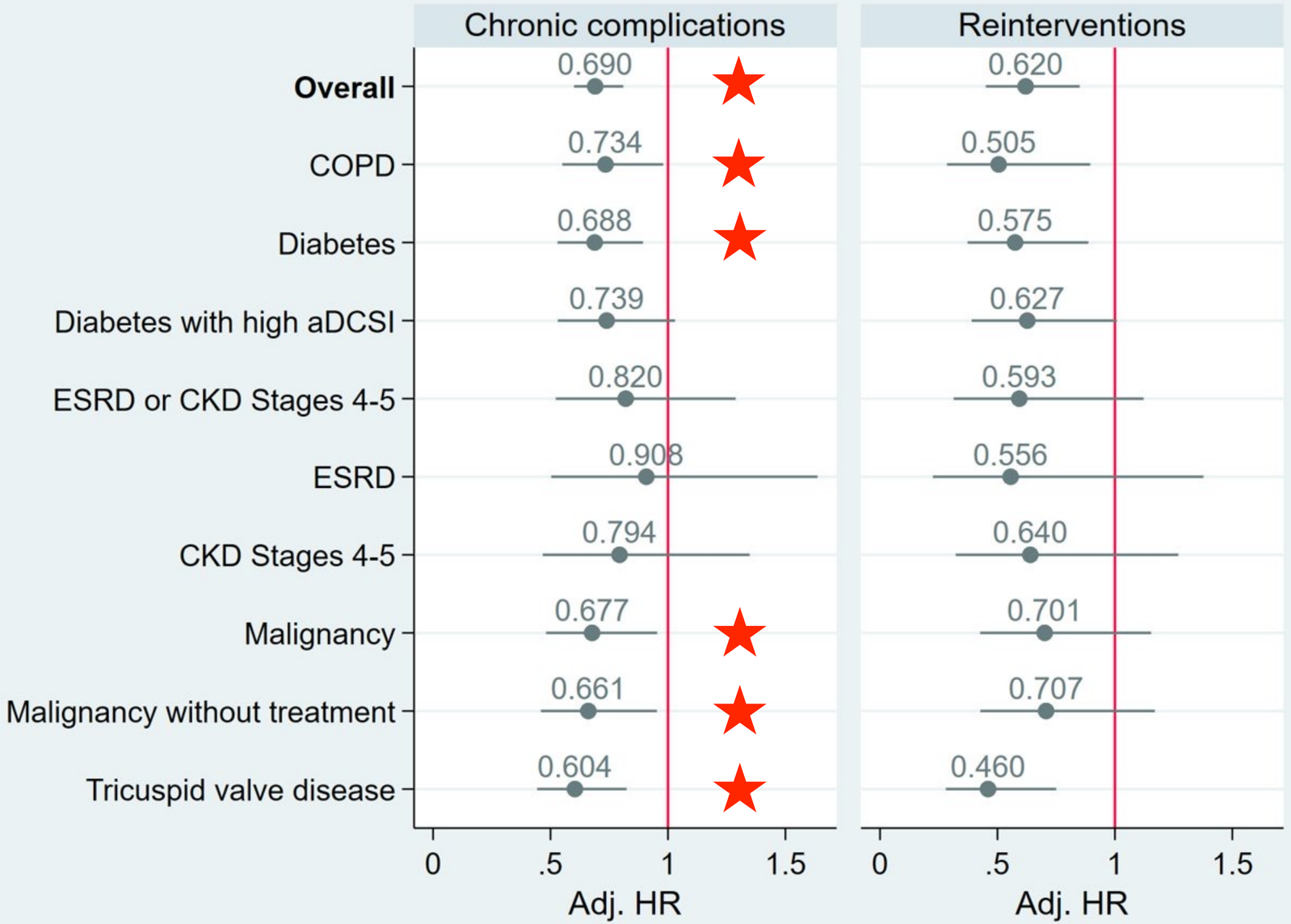
Ekanem, E., Reddy, V. Y., Scherr, D., et al. MANIFEST-PF Cooperative (2022). Multi-national survey on the methods, efficacy, and safety on the post-approval clinical use of pulsed field ablation (MANIFEST-PF). Europace, 24(8), 1256–1266.

Chronic outcomes of leadless vs transvenous single chamber ventricular pacemakers in high-risk subgroups

Real-world evidence of safety outcomes of leadless pacing in patients with higher risk of pacemaker complications

Serge Boveda, MD, PhD, FEHRA, FESC; Lucas Higuera, PhD; Colleen Longacre, PhD, MPH; Claudia Wolff, PhD; Kael Wherry, PhD; Kurt Stromberg, MS; Mikhael F. El-Chami, MD, FHRS

August 27th, 2022



- Diminution des complications :
  - BPCO
  - Diabète
  - Néoplasie
  - Maladie tricuspide

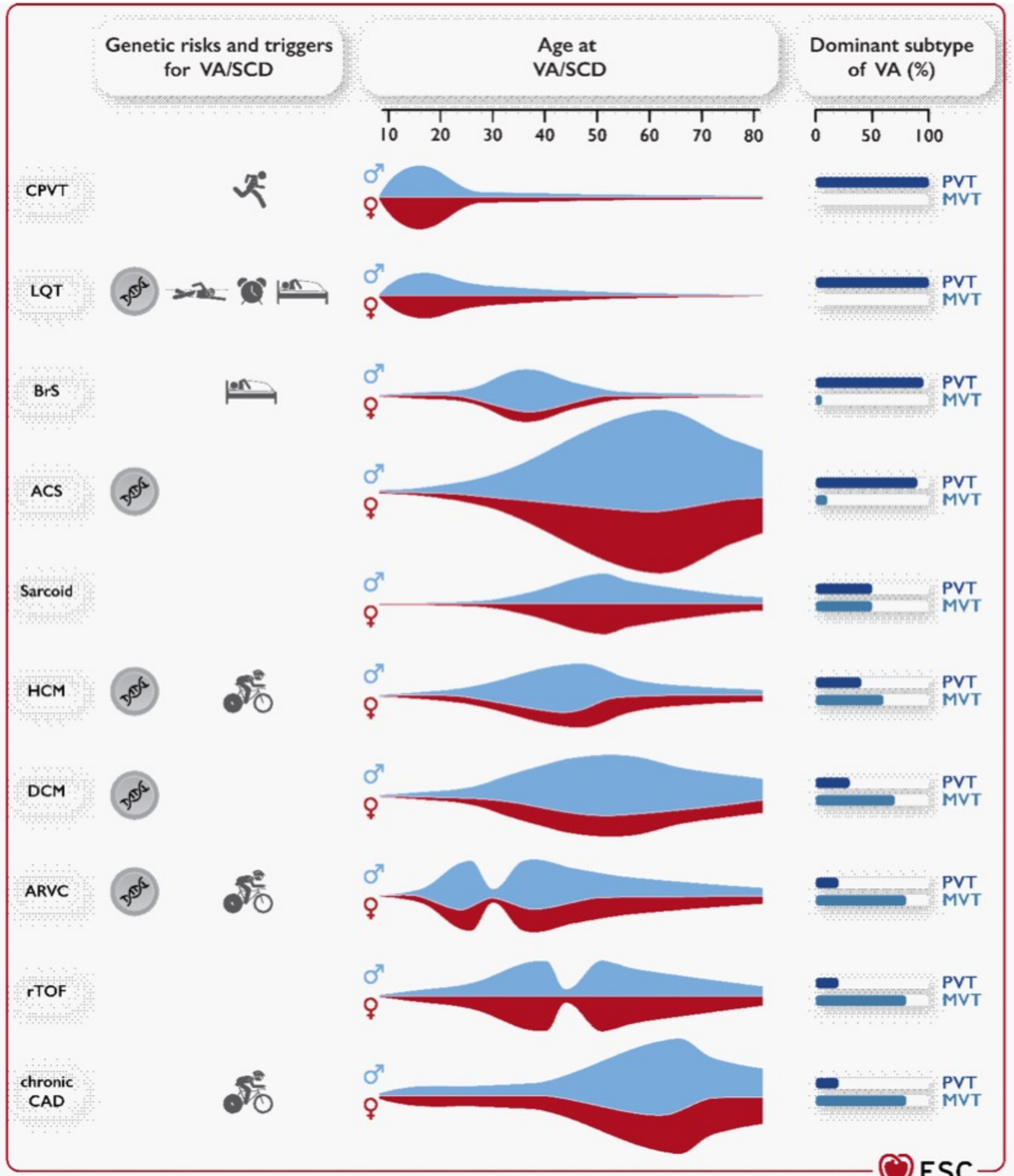
2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death

Official ESC Guidelines slide set

ESC
European Society of Cardiology

Messages clés

- Bilan génétique ++
- Stratification du risque : IRM, génétique, scores, EEP, …. et FEVG
- Place de l'ablation : ESV / CMI / Orage rythmique


Genetic risks and triggers for VA/SCD
Age at VA/SCD
Dominant subtype of VA (%)
10 20 30 40 50 60 70 80
0 50 100
CPVT
LQT
BrS
ACS
Sarcoid
HCM
DCM
ARVC
rTOF
chronic CAD
PVT
MVT
ESC

ESC

Recommendations for ICD implantation (general aspects)

Recommendations	Class	Level
Implantation of a cardioverter defibrillator is only recommended in patients who have an expectation of good quality survival >1 year.	I	C
Secondary prevention of SCD and treatment of VAs		
ICD implantation is recommended in patients without ongoing ischaemia with documented VF or haemodynamically not-tolerated VT occurring later than 48 h after MI.	I	A
ICD implantation should be considered in patients with CAD, LVEF ≤ 40% despite ≥ 3 months of OMT, and NSVT, if they are inducible for SMVT by PES.	IIa	
DCM/HNDCM		
ICD implantation should be considered in patients with DCM/HNDCM, symptomatic heart failure (NYHA class II–III), and LVEF ≤ 35% after ≥ 3 months of OMT.	I	IIa

2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death
(European Heart Journal; 2022 – doi: 10.1093/eurheartj/ehac262)

Recommendations for ICD implantation (general aspects)

DCM/HNDCM (continued)	
ICD implantation should be considered in DCM/HNDCM patients with a LVEF < 50% and ≥ 2 risk factors (syncope, LGE on CMR, inducible SMVT at PES, pathogenic mutations in LMNA, *PLN*, *FLNC*, and *RBM20* genes).	**IIa**
HCM	
ICD implantation should be considered in HCM patients aged 16 years or more with an intermediate 5-year risk of SCD (≥ 4 to < 6%) and with (a) significant LGE at CMR (usually ≥ 15% of LV mass); or (b) LVEF < 50%; or (c) abnormal blood pressure response during exercise test; or (d) LV apical aneurysm; or (e) presence of sarcomeric pathogenic	**IIa**

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Ablation

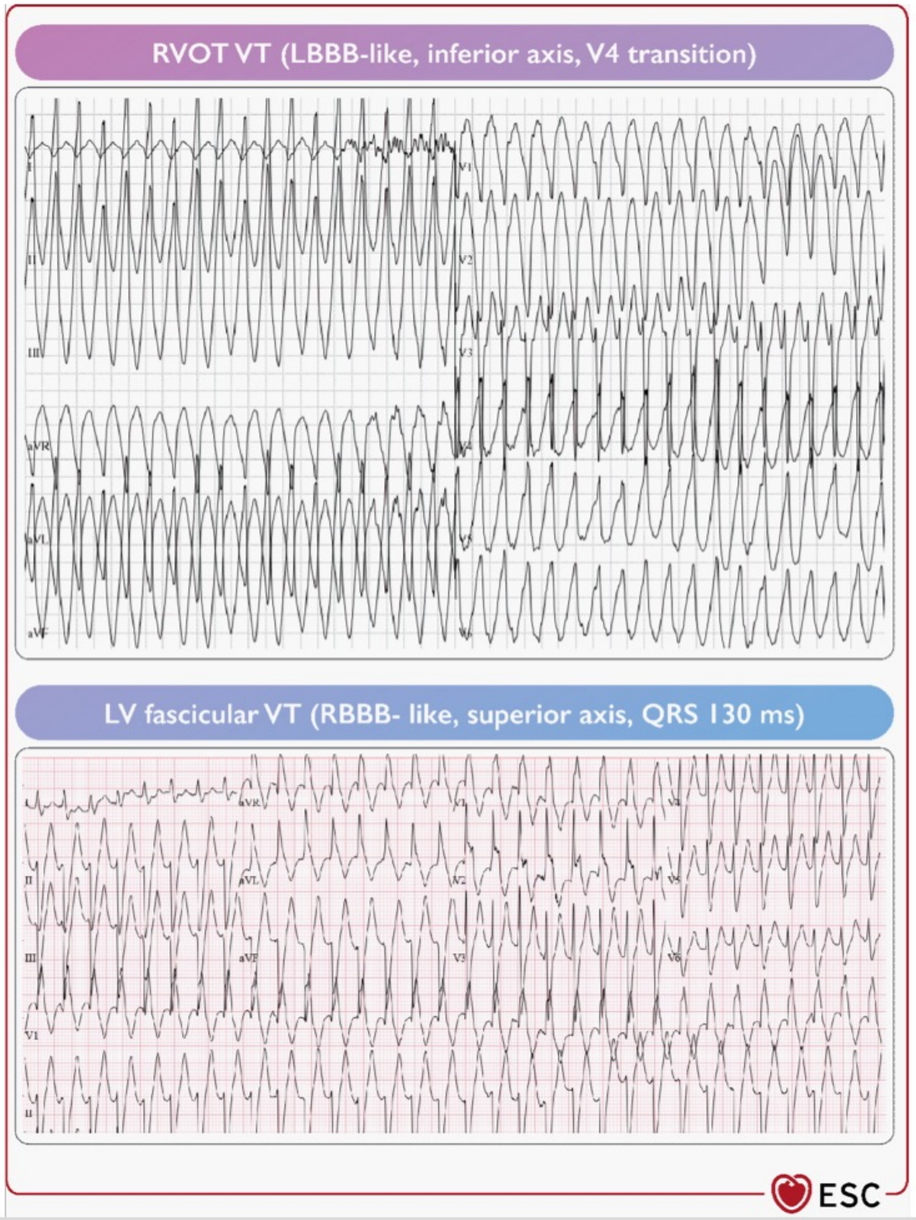
Coronary artery disease	
In patients with CAD and recurrent, symptomatic SMVT or ICD shocks for SMVT despite chronic amiodarone therapy, catheter ablation is recommended in preference to escalating AAD therapy.	**I**
In patients with CAD and haemodynamically well-tolerated SMVT and LVEF ≥ 40%, catheter ablation in experienced centres should be considered as an alternative to ICD therapy, provided that established endpoints have been reached.	**IIa**
Catheter ablation should be considered in patients with CAD and recurrent, symptomatic SMVT or ICD shocks for SMVT despite beta-blocker or sotalol treatment.	**IIa**

Ablation

Idiopathic PVC/VT and PVC-induced cardiomyopathy	
Catheter ablation as first-line treatment is recommended for symptomatic idiopathic VT/PVCs from the RVOT or the left fascicles.	**I**
Catheter ablation or flecainide should be considered in symptomatic patients with idiopathic VT/PVCs from an origin other than the RVOT or the left fascicles.	**IIa**
In non-responders to CRT with frequent, predominately monomorphic PVCs limiting optimal biventricular pacing despite pharmacological therapy, catheter ablation or AADs should be considered.	**IIa**
Catheter ablation may be considered for idiopathic VT/PVCs in asymptomatic patients with repeatedly more than 20% of PVCs per day at follow-up.	**IIb**
HCM	
Catheter ablation in specialized centres may be considered in selected patients with HCM and recurrent, symptomatic SMVT or ICD shocks for SMVT, in whom AAD are ineffective, contraindicated, or not tolerated.	**IIb**

Figure 4

Typical idiopathic VT morphologies



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Summary of the recommendations for the treatment of patients with frequent idiopathic PVC/VT or PVC-induced cardiomyopathy

	Ablation	Beta-blocker	CCB	Flecainide	Amiodarone
RVOT/Fascicular PVC/VT: Symptomatic, normal LV function	Class I	Class IIa	Class IIa	Class IIa	Class III
PVC/VT other than RVOT/Fascicular: Symptomatic, normal LV function	Class IIa	Class I	Class I	Class IIa	Class III
RVOT/Fascicular PVC/VT: LV dysfunction	Class I	Class IIa	Class III	Class IIa	Class IIa
PVC/VT other than RVOT/Fascicular: LV dysfunction	Class I	Class IIa	Class III	Class IIa	Class IIa
PVC: Burden > 20%, asymptomatic, normal LV function	Class IIb				Class III

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Recommendations for genetic testing

Recommendations	Class	Level
Genetic testing is recommended when a condition is diagnosed in a living or deceased individual with a likely genetic basis and a risk of VA and SCD.	I	B
When a putative causative variant is first identified, evaluation for pathogenicity is recommended using an internationally accepted framework.	I	C
When a Class IV or Class V variant has been identified in a living or deceased individual with a condition that carries a risk of VA and SCD, genetic testing of first-degree and symptomatic relatives and obligate carriers is recommended.	I	C
It is recommended that genetic testing and counselling on its potential consequences should be undertaken by an expert multidisciplinary team.	I	C
It is recommended that Class III (variants of uncertain significance) and Class IV variants should be evaluated for segregation in families where possible, and the variant re-evaluated periodically.	I	C
It is not recommended to undertake genetic testing in index patients with insufficient evidence of a genetic disease.	III	C

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Genetic tests and suggested work-up of probands and relatives with primary electrical diseases

			LQTS	BrS	CPVT	Idiopathic VF	ERS
Proband	Genetic test		Class I	Class I	Class I	Class IIb	Class IIb
	Initial clinical test	Cornerstone for diagnosis	ECG Exercise test	ECG and high precordial lead ECG Sodium channel blockers provocative test	Exercise test	See section 5.2.3, scenario 3	ECG
		Other tests/processes	Exclude acquired LQTS	Exclude phenocopy	Exclude phenocopy / SHD		Holter Echocardiography
	Follow-up	1–3 years dependent on level of risk					
Relatives	Clinical screening		ECG Exercise test (when feasible) From birth	ECG and high precordial lead ECGs: Start at 10 y Sodium channel blockers provocative test Start > 16y unless clinically indicated	ECG Exercise test From birth	ECG and high precordial lead ECGs Exercise test Echocardiogram	ECG. Echocardiogram
	Follow-up	Positive phenotype and/or Class IV/V variant	1–3 years dependent on level of risk				
		negative phenotype and No Class IV/V variant	Discharge				

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