



**ESC Congress**  
**2025** Madrid

TOGETHER WITH

**World Congress of  
Cardiology**

29 August to 1 September

# L'essentiel de l'ESC

Prof Mohammed Chettibi, MD, PhD, FESC

## CARDIAC TIES

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Lebanese Society of Cardiology  
Libyan Cardiac Society  
Lithuanian Society of Cardiology  
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National Society of Cardiology of North Macedonia  
Netherlands Society of Cardiology  
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## THANK YOU TO OUR ESC CARDIAC SOCIETY PARTNERS *Uniting Experts. Advancing Knowledge.*



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Emirates Cardiac Society  
Guatemalan Association of Cardiology  
Gulf Heart Association  
Hong Kong College of Cardiology  
Indonesian Heart Association  
Iranian Heart Association  
Iraqi Cardiothoracic Association

## GLO

Afghanistan  
Argentina  
Asia



# The Gift of Time

Transforming  
Lives for 75 Years



# THE PAST 75 YEARS

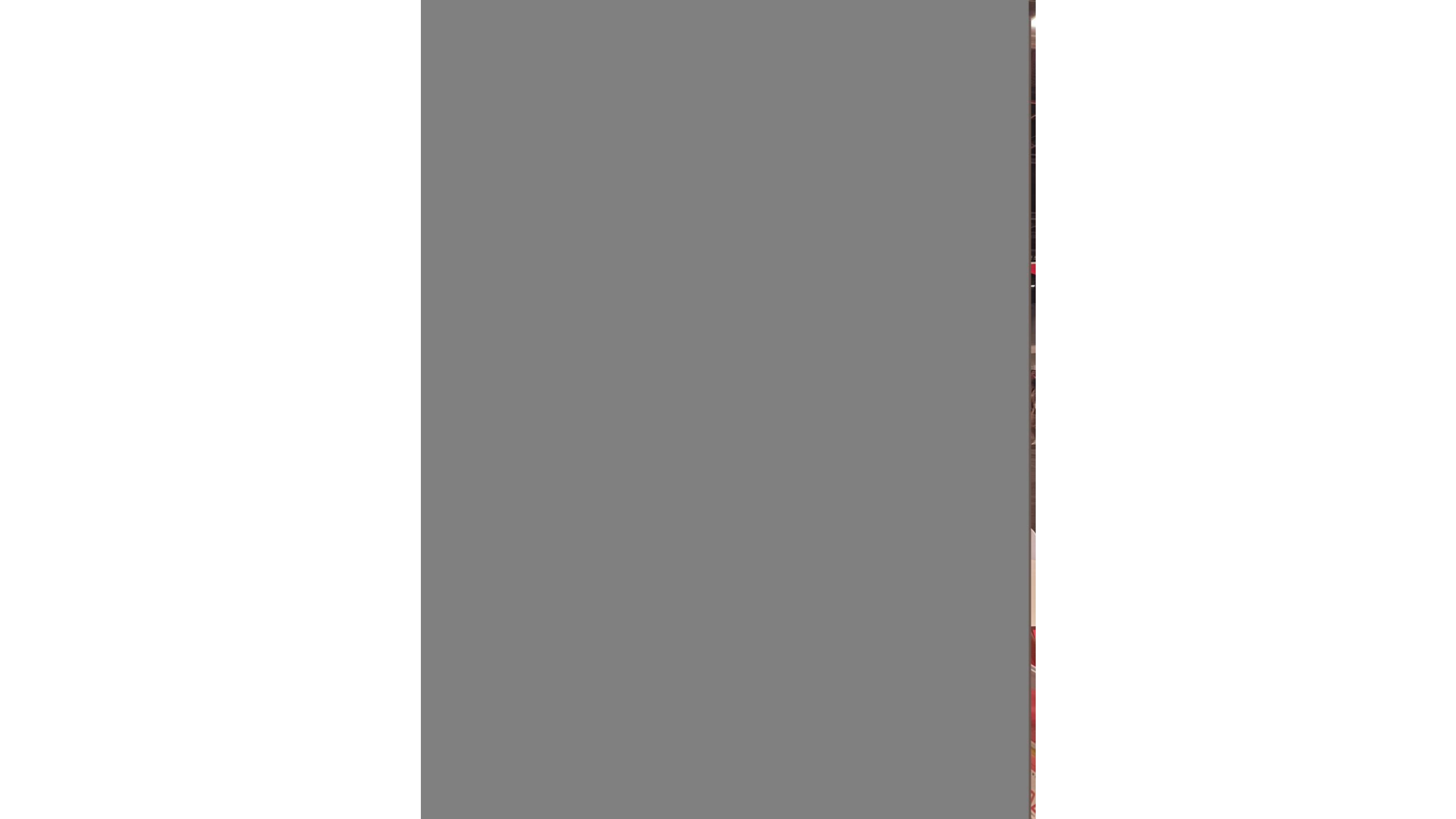


In 1950, the cardiovascular healthcare community confronted a challenge we still face today:  
**How can breakthroughs and trustworthy science be shared?**  
This is why the ESC was born

**Join us on a journey through 75 years of the ESC**



























2025 Valvular Heart Disease

2025 Myocarditis and Pericarditis

2025 CVD and Pregnancy

2025 Dyslipidaemias

2025 Mental Health and CVD





# **ESC/EACTS Guidelines for the management of valvular heart disease**



## **2025 ESC Guidelines for the management of cardiovascular disease and pregnancy**



## **2025 Focused Update of the 2019 ESC/EAS Guidelines for the management of dyslipidaemias**

## **2025 ESC Guidelines for the management of myocarditis and pericarditis**



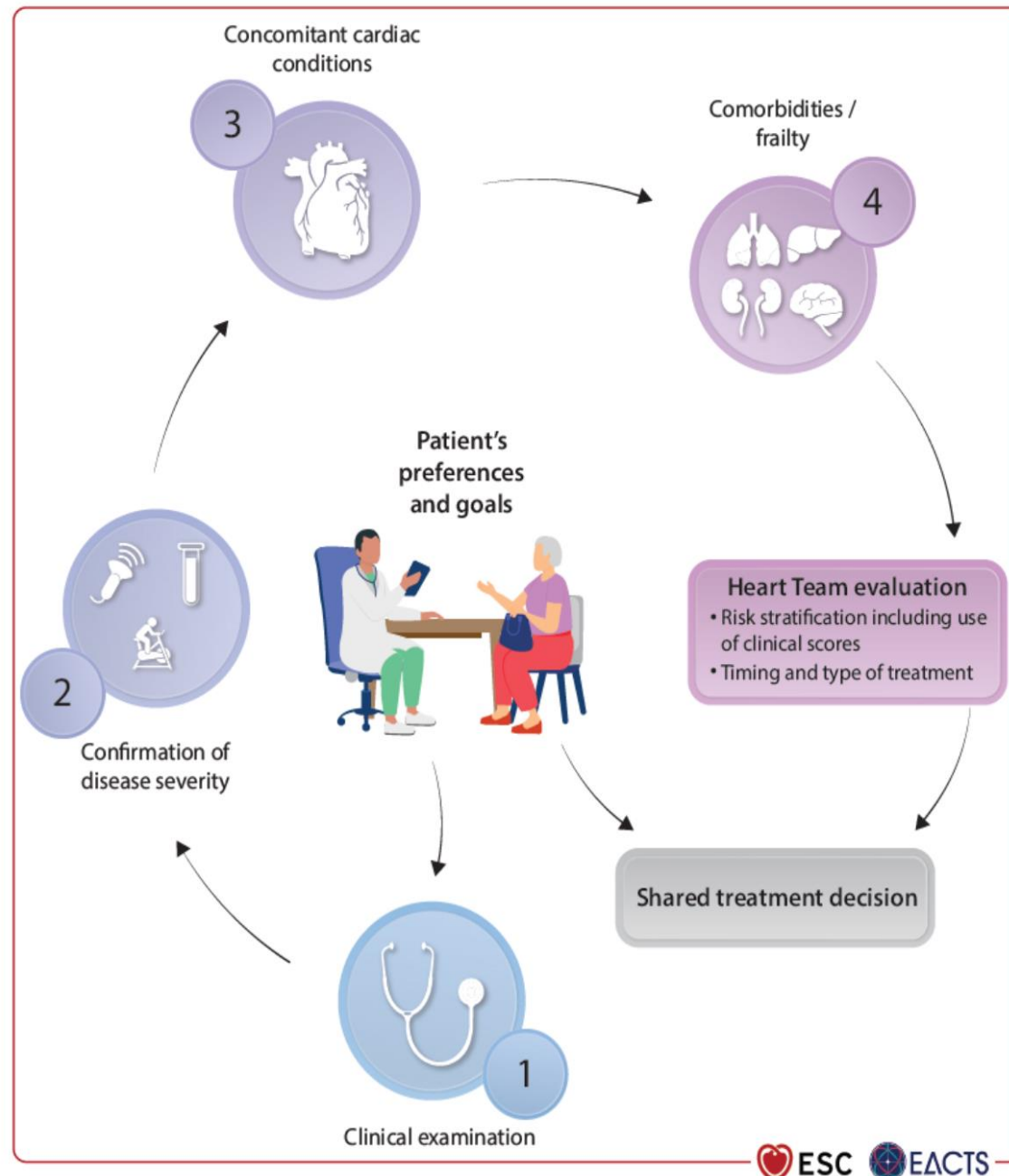
## **2025 ESC Clinical Consensus Statement on mental health and cardiovascular disease**

# ESC/EACTS Guidelines for the management of valvular heart disease



# Figure 3

## Central illustration Patient-centred evaluation for treatment





# Complex procedures ideally performed in the most experienced Heart Valve Centres



Transcatheter interventions	Surgical interventions
<ul style="list-style-type: none"><li>• Transfemoral TAVI in patients with high-risk features:<ul style="list-style-type: none"><li>○ Low coronary ostia</li><li>○ Difficult femoral anatomy</li><li>○ Bicuspid valve</li><li>○ Severe calcification protruding into the LVOT</li><li>○ Severe LV and/or RV impairment</li><li>○ Pure AV regurgitation</li><li>○ Multiple valve disease</li><li>○ Complex coronary artery disease</li><li>○ Severe extracardiac disease (e.g. renal failure, PH)</li></ul></li><li>• Non-transfemoral TAVI</li><li>• Valve-in-valve (including TAV-in-TAV)</li><li>• All leaflet modification procedures (BASILICA, LAMPOON etc.)</li><li>• PVL closure</li><li>• Complex M-TEER</li><li>• Redo M-TEER procedures</li><li>• Tricuspid or mitral valve-in-ring or valve-in-valve, valve-in-MAC</li><li>• TMVI</li><li>• All tricuspid procedures</li></ul>	<ul style="list-style-type: none"><li>• High-risk procedures (especially in patients with LV and/or RV impairment)</li><li>• Redo procedures</li><li>• Minimally invasive and robotic valve surgery</li><li>• Complex MV repair<ul style="list-style-type: none"><li>○ Barlow disease</li><li>○ Anterior or bileaflet prolapse</li><li>○ High risk of SAM</li><li>○ Severe MAC</li></ul></li><li>• AV repair</li><li>• Ross procedure</li><li>• Valve surgery combined with complex surgery of the aorta</li><li>• Endocarditis surgery</li></ul>

## Requirements for a Heart Valve Centre



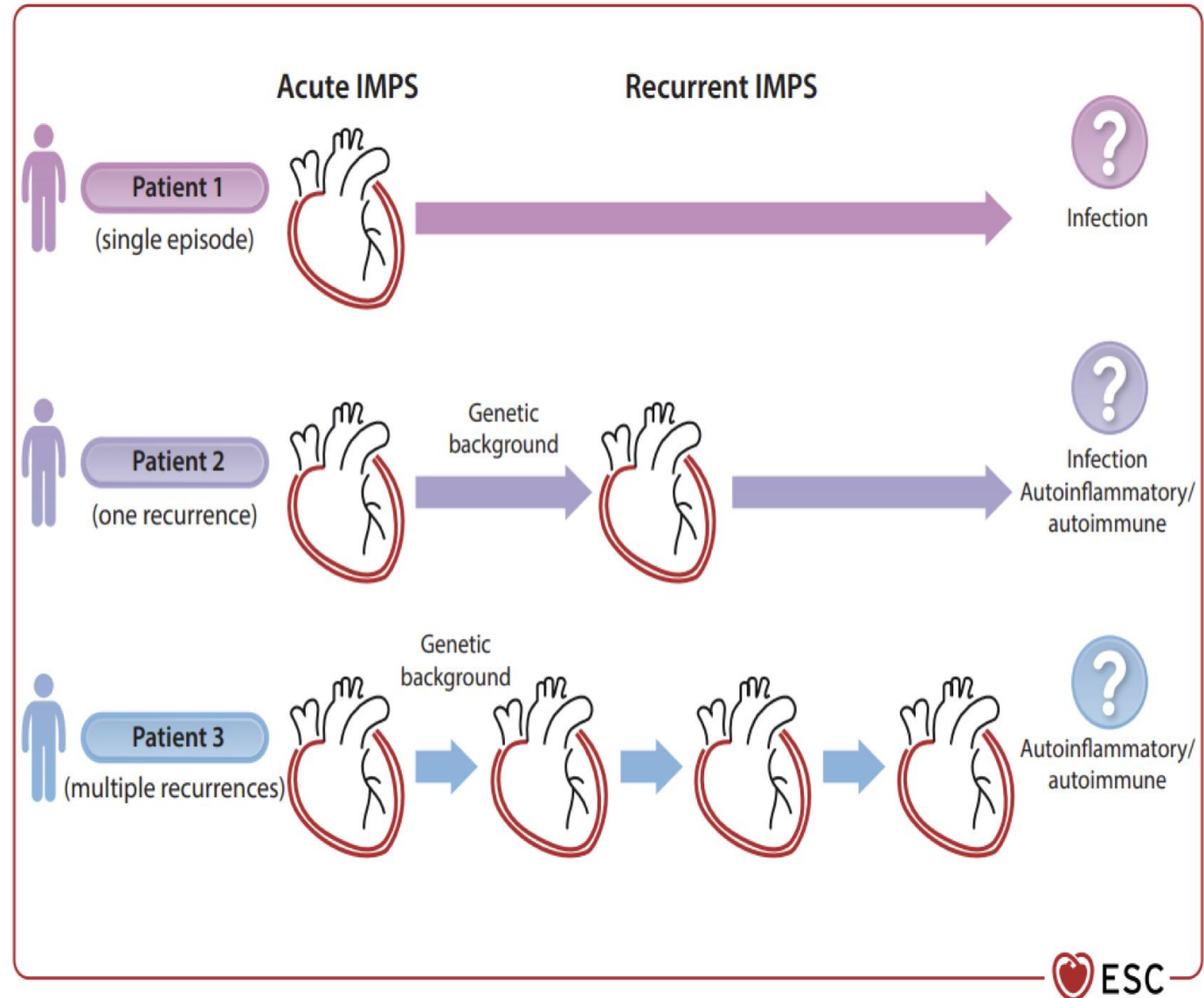
Requirements
<p>Centre performing heart valve procedures with on-site interventional cardiology and cardiac surgery departments providing 24 h/7 day services.</p> <p><b>Heart Team core members:</b> Cardiologist with imaging expertise, interventional cardiologist, cardiac surgeon.</p> <p><b>Additional specialists, if required (Extended Heart Team):</b> Specialized nursing personnel, HF specialist, electrophysiologist, cardiovascular anaesthetist, geriatrician, and other specialists (e.g. intensive care, vascular surgery, infectious diseases, neurology, radiology).</p> <p>The Heart Team must meet on a regular basis and work according to locally defined standard operating procedures and clinical governance arrangements.</p> <p>A hybrid cardiac catheterization laboratory is desirable.</p> <p>High volume for hospital and individual operators.</p> <p>Multimodality imaging (including advanced echocardiography, CCT, CMR, and nuclear techniques) and expertise in peri-procedural imaging guidance of surgical and transcatheter procedures.</p>
Heart Valve Clinic for outpatient assessment and follow-up.
<p>Data review: continuous monitoring, evaluation, and reporting of procedural volumes and quality indicators, including clinical outcomes, as well as PROMs complemented by local/external audits.</p> <p>Education programmes targeting primary care and referring physicians, operators, and diagnostic and interventional imaging specialists.</p>

# **2025 ESC Guidelines for the management of myocarditis and pericarditis**

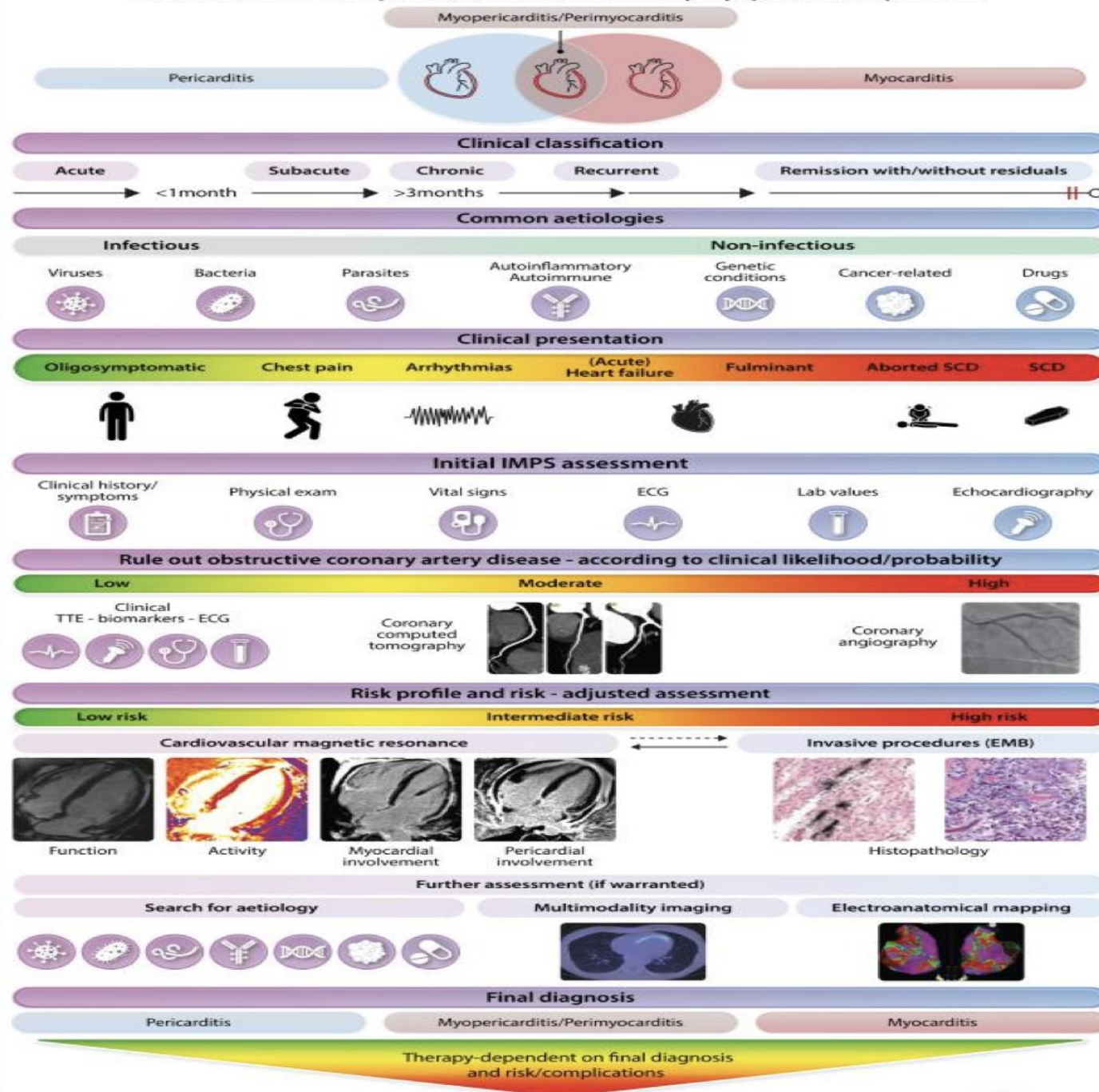




**The different courses of inflammatory myopericardial syndromes and the interplay between genetic background inflammation and autoimmunity beyond the initial infectious trigger**



# Umbrella: IMPS - The spectrum of the inflammatory myopericardial syndrome





# 2025 ESC Guidelines for the management of cardiovascular disease and pregnancy



# Pregnancy Heart Team

Extended with specific multidisciplinary teams if indicated



## Pre-conception

- Risk assessment mWHO 2.0
- Genetic counselling
- Lifestyle counselling
- Reproductive technology
- Drug review
- Clinical optimization
- Contraception

## Pregnancy

- Disease-specific
- Regular follow-up and risk assessment
  - Regular foetal assessment
  - Documented delivery plan

## Delivery (plan)

- Timing and mode of delivery
- Foetal and maternal monitoring
- Anaesthesia and pain relief methods
- Drug management and bleeding control
- Device management

## Post-partum

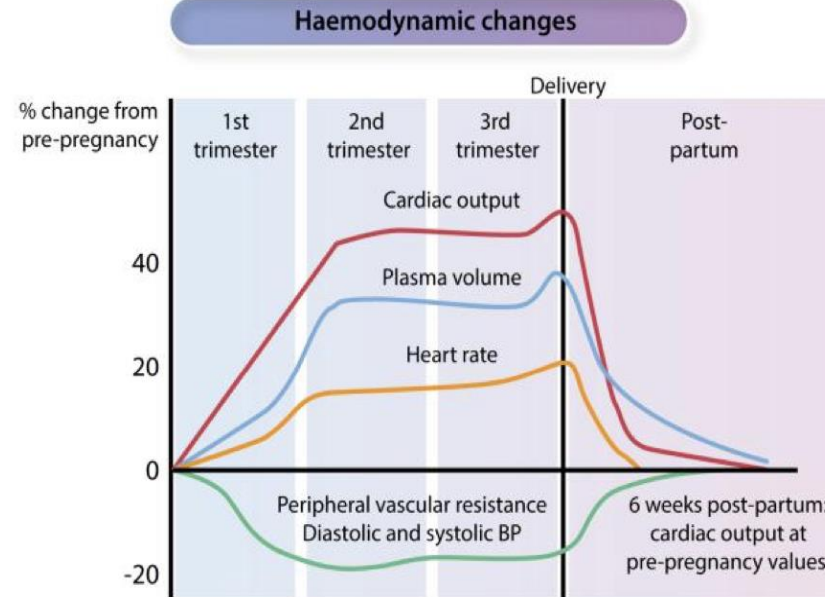
- Breastfeeding and lactation
- Contraception
- Maternal cardiac follow-up

## Long term

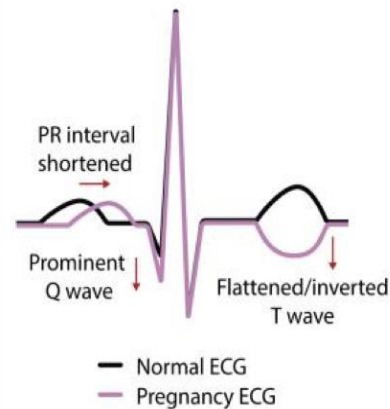
- Identify adverse pregnancy outcome
- Women's Heart Clinic
- Cardiovascular risk factor screening



# Physiology of haemodynamic changes and changes in electrocardiogram and echocardiography during and post pregnancy



## ECG changes



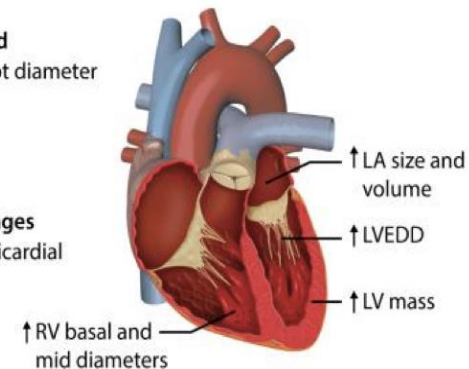
## Echocardiographic changes

### Unchanged

- Aortic root diameter
- LVEF
- RVEF
- SPAP

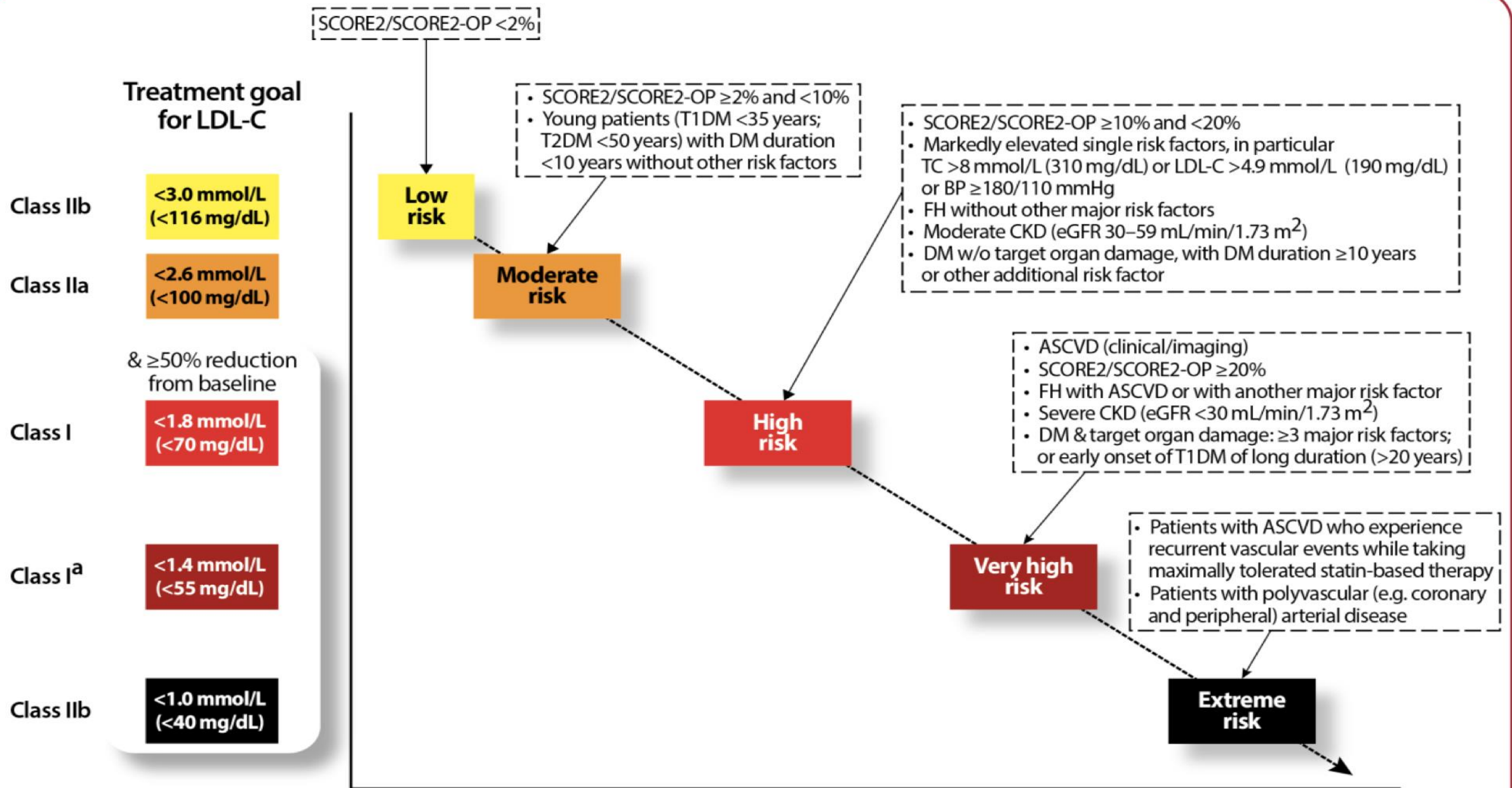
### Small changes

- Small pericardial effusion



**2025 Focused Update of the  
2019 ESC/EAS Guidelines for the  
management of dyslipidaemias**





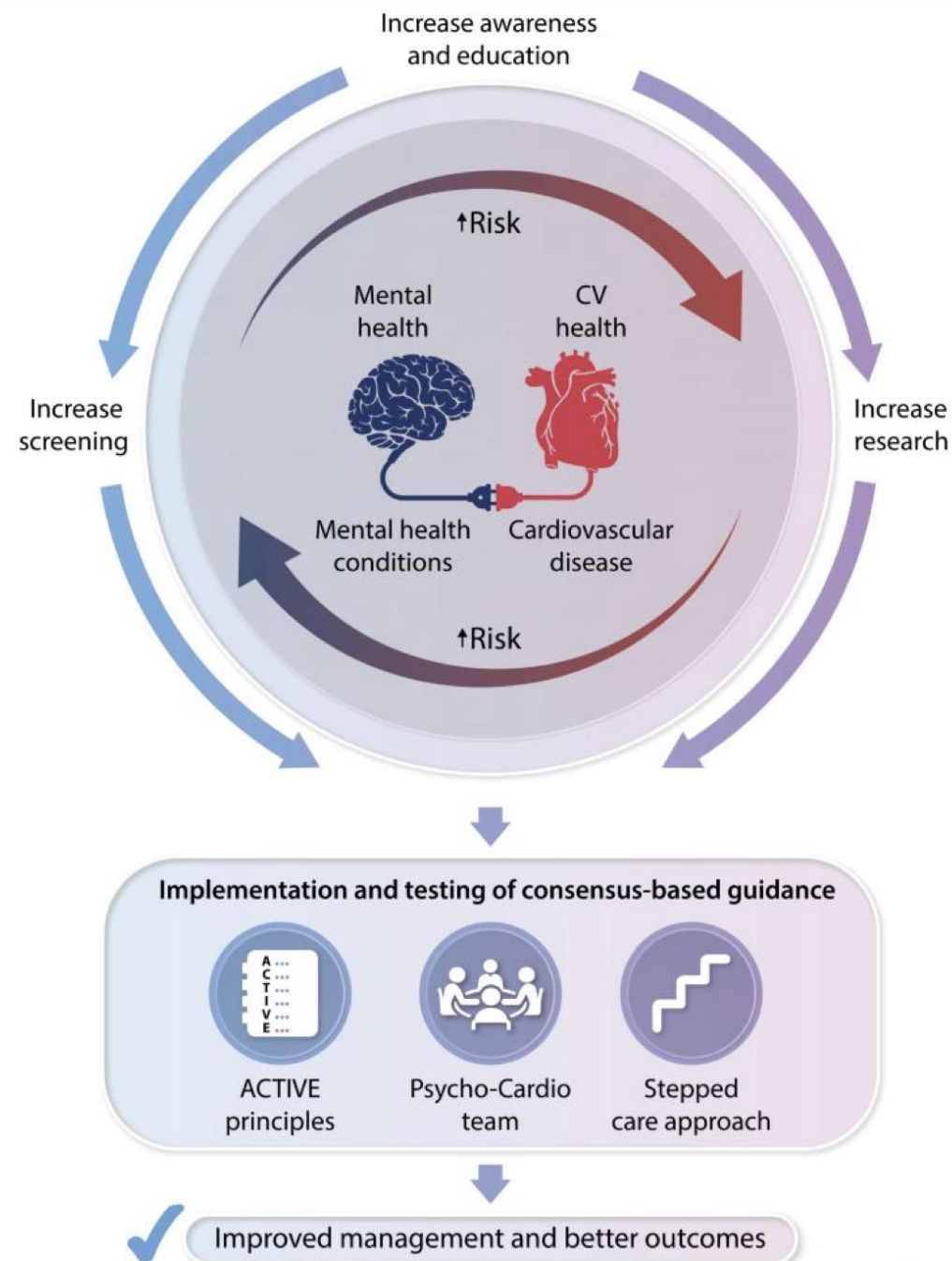
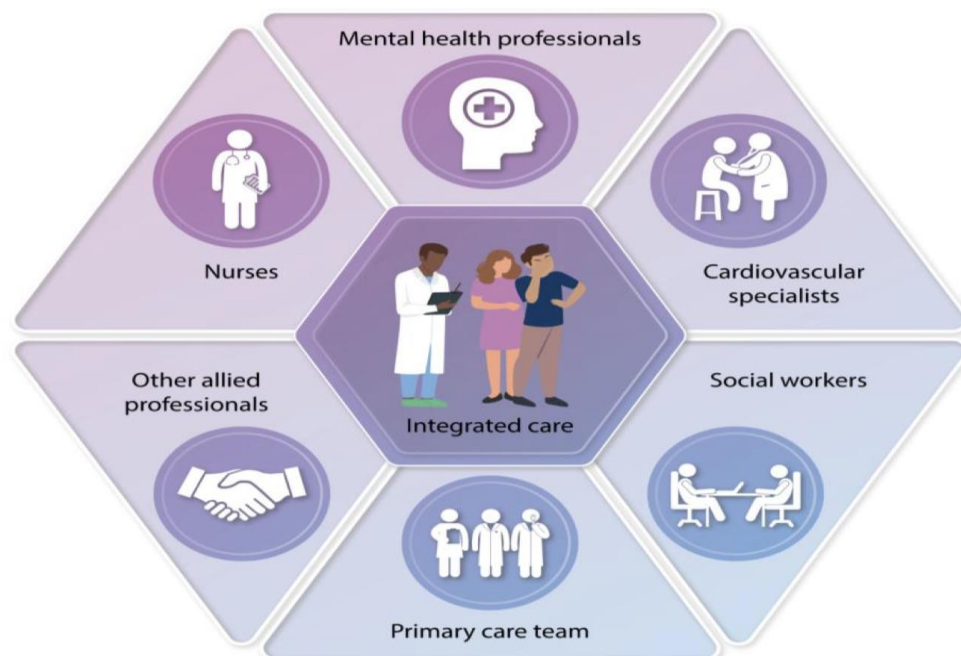
<sup>a</sup>Class IIa for individuals in primary prevention with FH at very high risk

# **2025 ESC Clinical Consensus Statement on mental health and cardiovascular disease**



## SECTION SUMMARY POINTS

1. Mental health and mental health conditions interact with CV health and CVD in a multidirectional way.
2. The coexistence of CVD and mental health conditions can create a mutual interaction that worsens both mental and CV health, leading to poorer outcomes.
3. Routine CV clinical practice lacks integrated, systematic and appropriate screening, evaluation, communication, and management of mental health.
4. There is limited evidence on the best ways to communicate, promote, maintain, and improve mental health and resilience in people with CVD and their family members.
5. The evidence base to guide practice in relation to the screening and management of mental health conditions in people with CVD is limited.





What's new in DAPT



# Aspirin in Patients with Chronic Coronary Syndrome Receiving Oral Anticoagulation

G. Lemesle,<sup>1-4</sup> R. Didier,<sup>5-7</sup> P.G. Steg,<sup>4,8-10</sup> T. Simon,<sup>4,9,11-13</sup> G. Montalescot,<sup>11,14-16</sup>  
 N. Danchin,<sup>4,17</sup> C. Bauters,<sup>1,3,18</sup> D. Blanchard,<sup>19</sup> C. Bouleti,<sup>20,21</sup> D. Angoulvant,<sup>22-24</sup>  
 S. Andrieu,<sup>25</sup> G. Vanzetto,<sup>26</sup> M. Kerneis,<sup>14</sup> V. Decalf,<sup>27</sup> E. Puymirat,<sup>8,19,28</sup>  
 D. Mottier,<sup>6,7,29,30</sup> A. Diallo,<sup>12,16,31-33</sup> E. Vicaut,<sup>12,16,31-33</sup> M. Gilard,<sup>5-7</sup>  
 and G. Cayla,<sup>16,34,35</sup> for the AQUATIC Trial Investigators\*

## AQUATIC TRIAL

### AQUATIC

**A**ssessment of **Q**uitting versus **U**sing **A**spirin **T**herapy **I**n  
 patients with stabilized **C**oronary artery disease after  
 stenting who require long-term oral anticoagulation



**Investigator-driven, randomized, double-blind, placebo-controlled, multicenter trial**

**The problem: you cannot simultaneously prevent all three!**

**Stent thrombosis/MI**

**Stroke**

**DAPT**

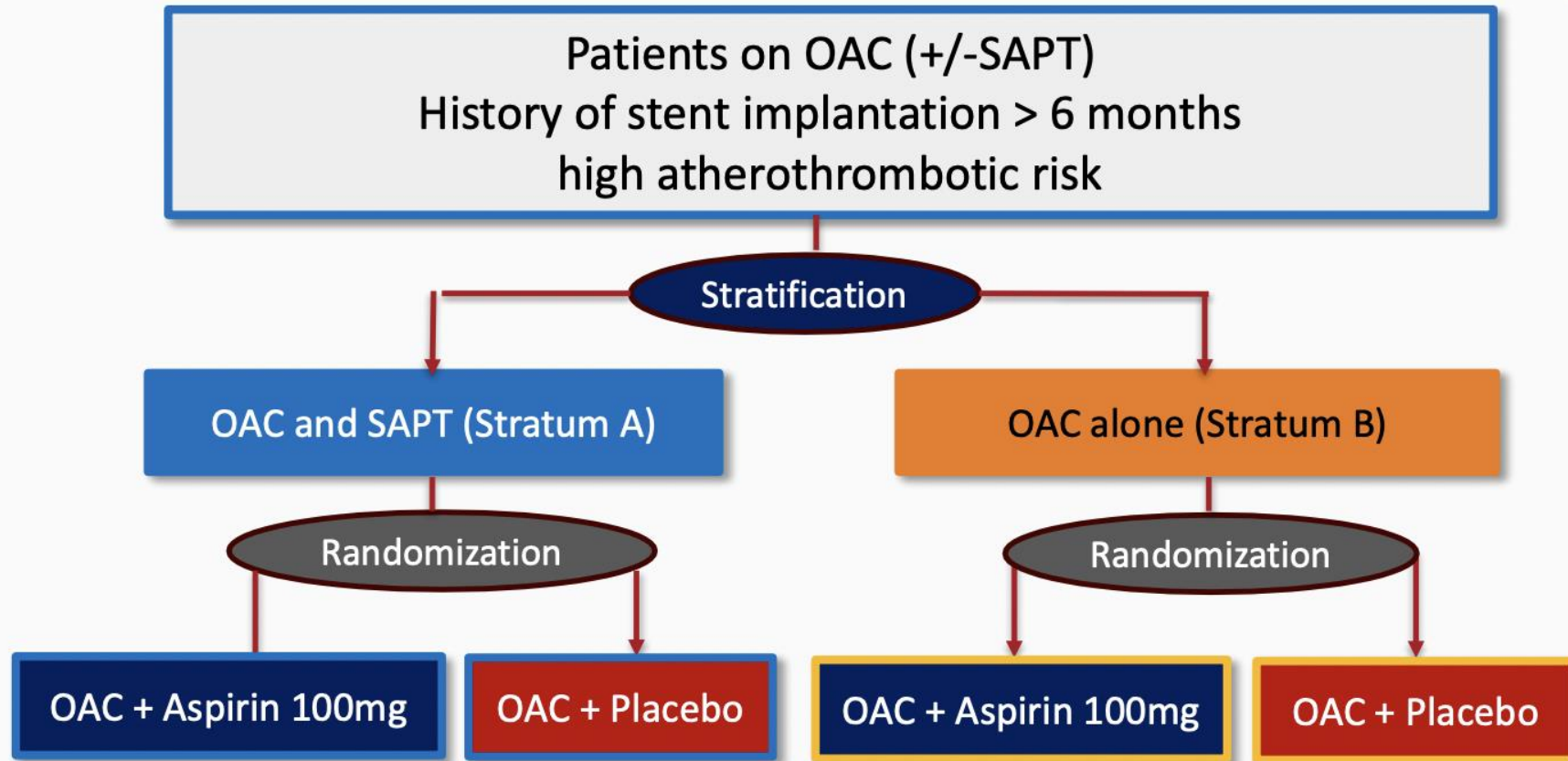
**+**

**OAC**

**Major bleeding**



# AQUATIC design



**Primary outcome:** CV death, MI, stroke, systemic embolism, any coronary revascularization, acute limb ischemia

**Key secondary safety outcome:** Major bleeding events (ISTH classification)



# AQUATIC DESIGN

## Main Inclusion criteria

**Long term OAC treatment + Stent**  
**and**  
**High risk of atherothrombotic events:**  
**PCI for ACS**  
**or**

### **Any of these criteria**

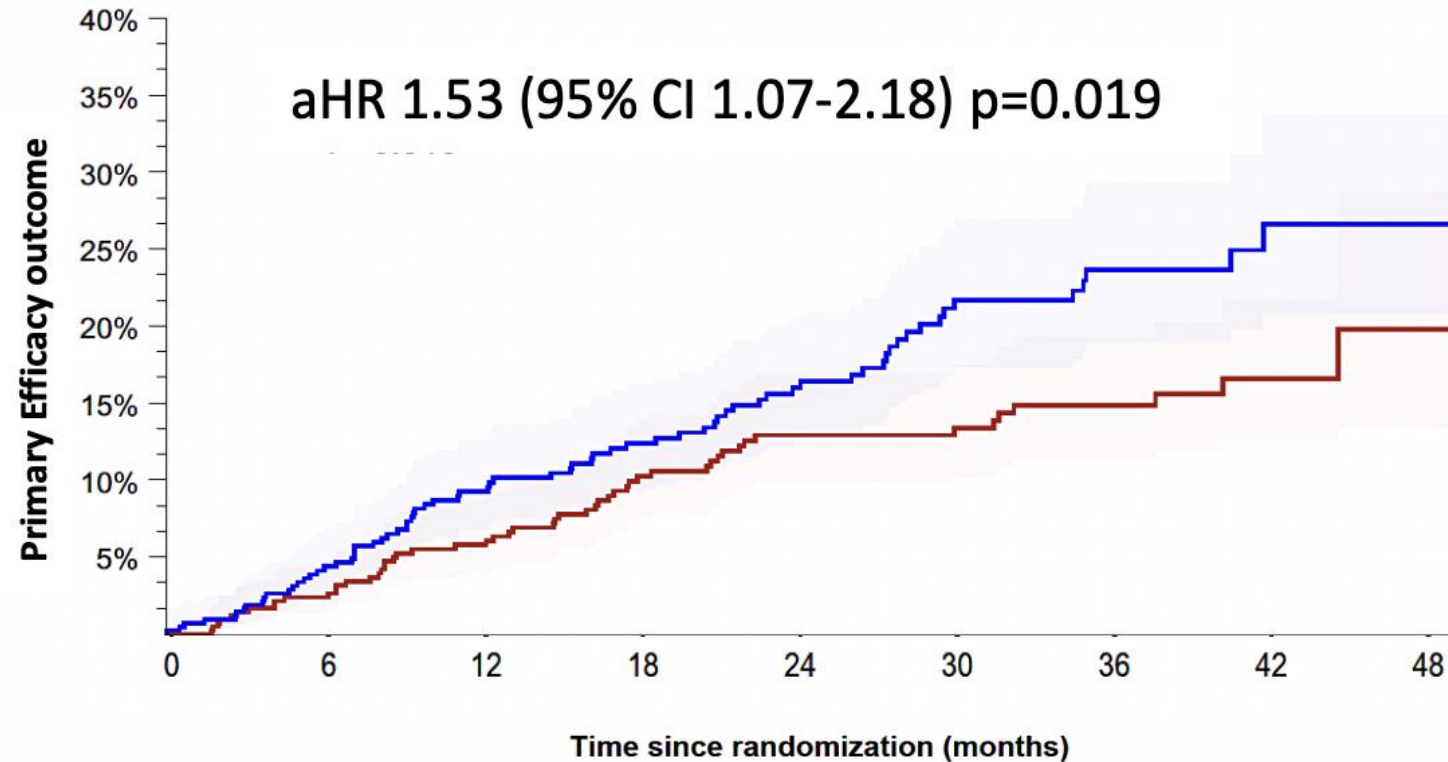
- Diabetes
- Chronic kidney disease
- Peripheral artery disease
- Multivessel coronary disease
- Complex PCI (Left main, CTO, 3 lesions...)
- History of stent thrombosis

## Main Exclusion criteria

Recent coronary or bleeding event  
Haemorrhagic disease  
Stroke within 1 month  
Any history of haemorrhagic stroke  
Contraindication to aspirin or OAC  
Severe renal or hepatic insufficiency  
Severe uncontrolled heart failure

# Primary efficacy outcome

CV death, MI, stroke, systemic embolism,  
any coronary revascularization and acute limb ischemia

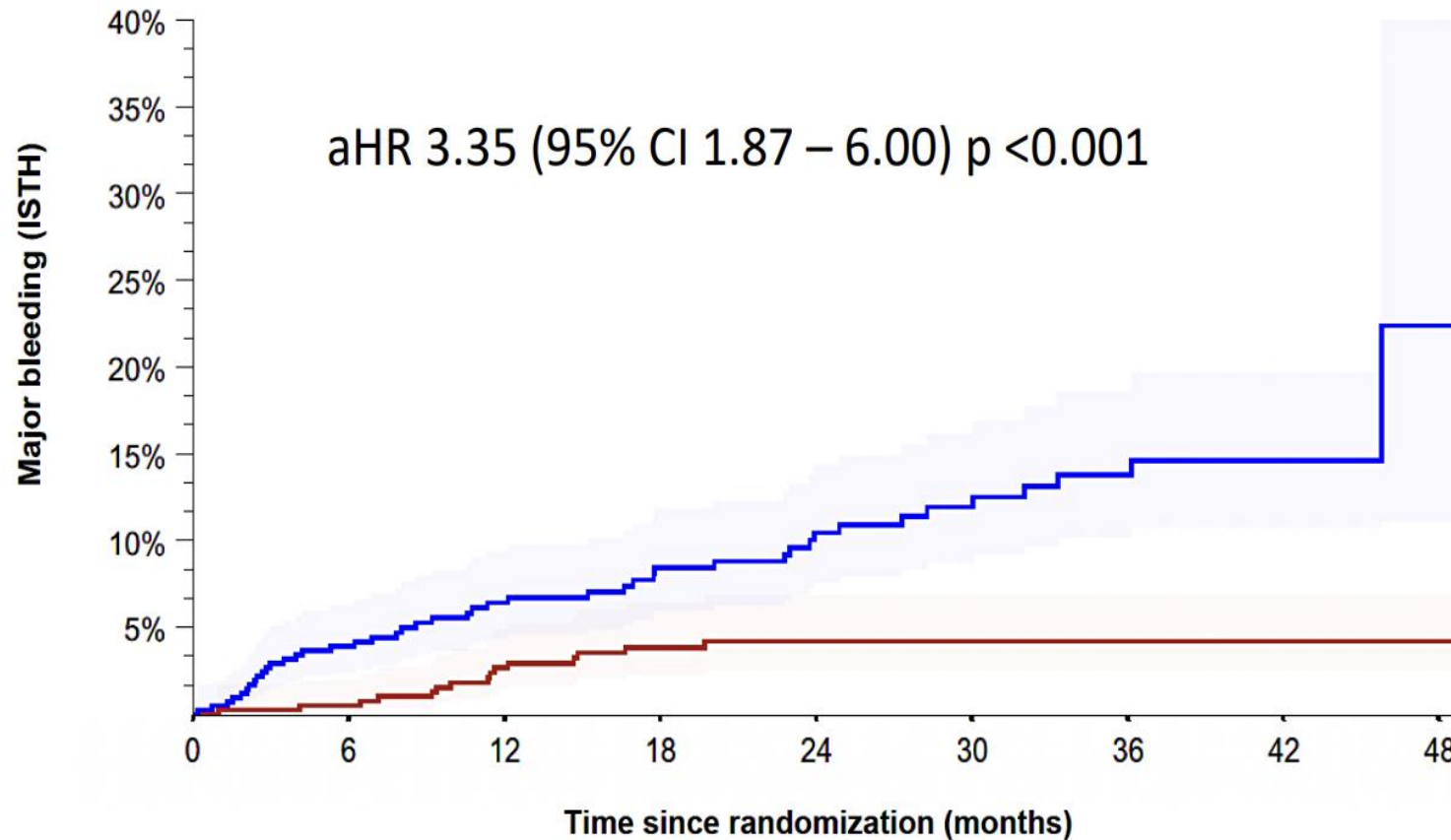


— OAC + Aspirin  
— OAC + Placebo

## No. at Risk

OAC and placebo	439	386	340	278	238	183	129	58	2
OAC and aspirin	433	373	311	257	206	145	109	39	4

# Secondary safety outcome: ISTH major bleeding



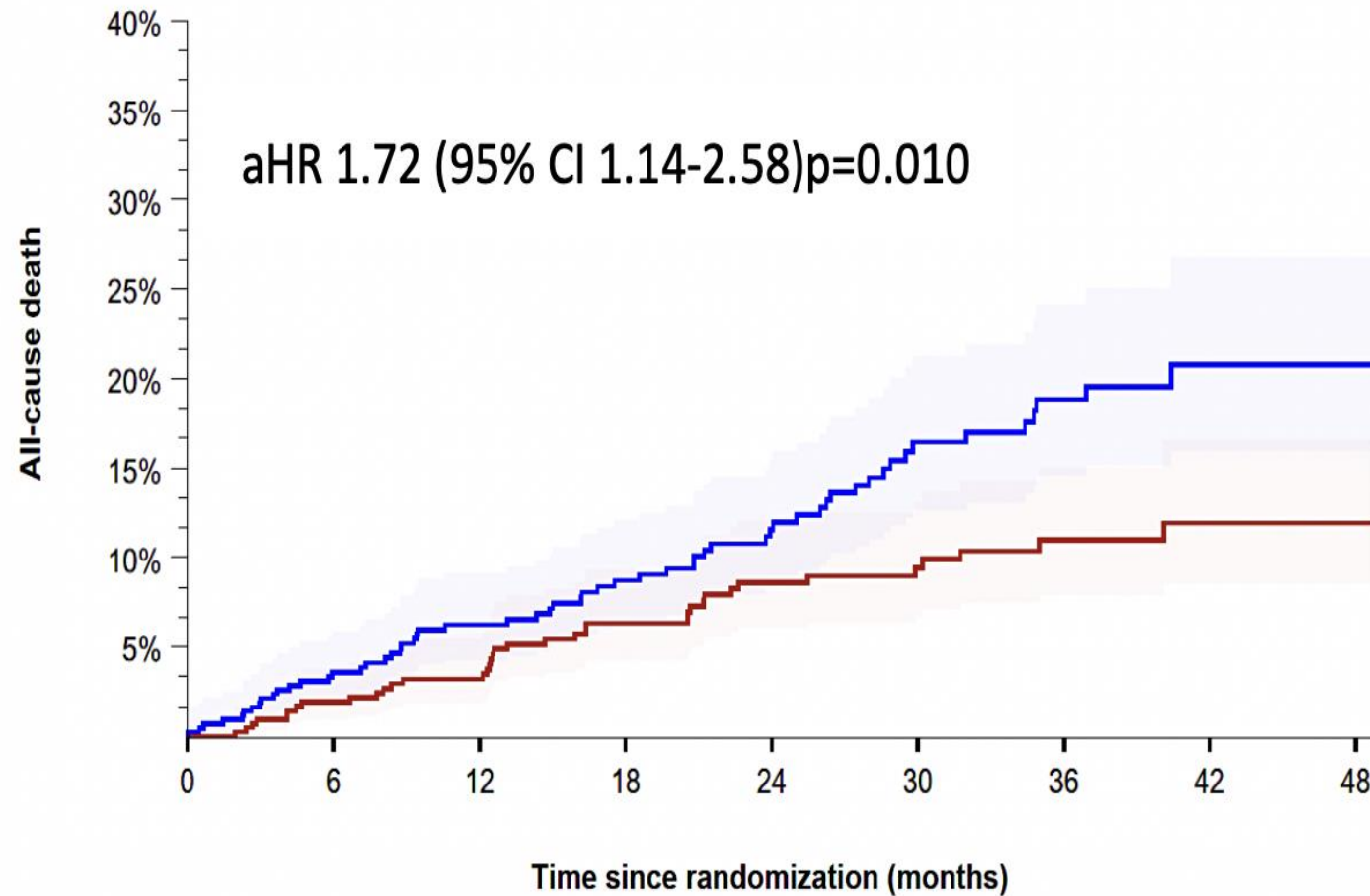
— OAC + Aspirin  
— OAC + Placebo

## No. at Risk

OAC and placebo	437	387	345	289	248	192	139	64	3
OAC and aspirin	429	367	307	257	206	149	109	40	4



# All cause death



— OAC + Aspirin  
— OAC + Placebo

## No. at Risk

OAC and placebo	439	389	352	297	256	197	142	64	3
OAC and aspirin	433	382	327	277	225	163	120	43	4



The NEW ENGLAND  
JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Aspirin in Patients with Chronic Coronary Syndrome Receiving Oral Anticoagulation

G. Lemesle,<sup>1-4</sup> R. Didier,<sup>5-7</sup> P.G. Steg,<sup>4,8-10</sup> T. Simon,<sup>4,9,11-13</sup> G. Montalescot,<sup>11,14-16</sup>  
N. Danchin,<sup>4,17</sup> C. Bauters,<sup>1,3,18</sup> D. Blanchard,<sup>19</sup> C. Bouleti,<sup>20,21</sup> D. Angoulvant,<sup>22-24</sup>  
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and G. Cayla,<sup>16,34,35</sup> for the AQUATIC Trial Investigators\*

**Stented patients on OAC should not receive long term aspirin  
even if they are at high atherothrombotic risk**

What's new in heart failure





# **DIGIT-HF: Digitoxin in Patients with Heart Failure and Reduced Ejection Fraction**

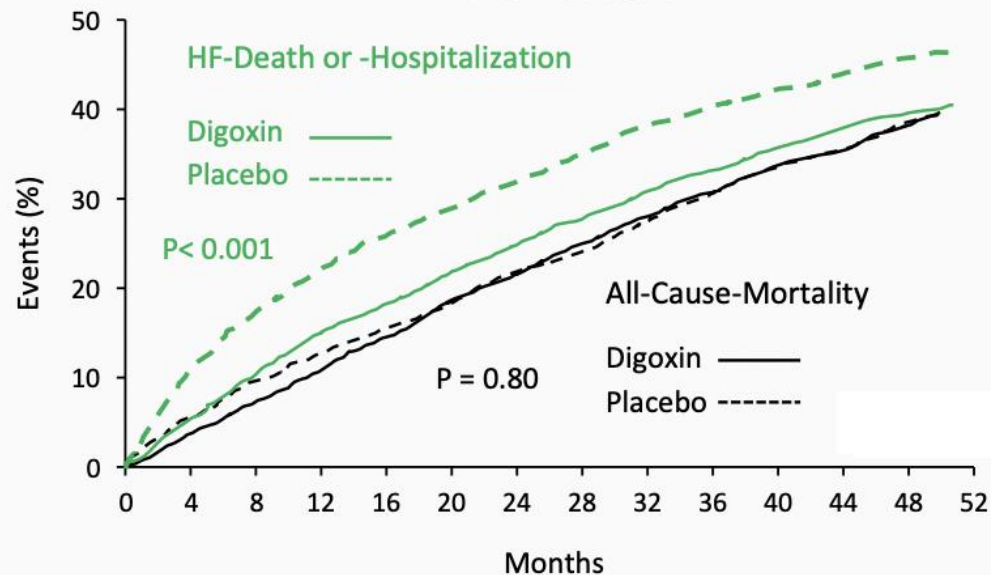
Udo Bavendiek, MD

Department of Cardiology and Angiology, Hannover Medical School, Hannover, Germany

L'essai **DIG (DIG Investigation Group, 1997)** a montré une réduction des hospitalisations pour aggravation de l'IC, **mais un effet neutre sur la mortalité globale, et un signal de risque à des concentrations élevées de digoxine.**



## DIG trial



Worsening HFH: Risk Ratio 0.72 (0.66-0.79),  $p < 0.001$

Bavendiek U, Bauersachs J, ESC Textbook of Heart Failure 2023  
Adapted from DIG Investigators NEJM 1997, 336:525

Potential benefit particularly if

- LVEF <25%
- NYHA III/IV
- Digoxin 0.5-0.9 ng/ml

Digoxin > 1.0 ng/ml

- association with worse outcomes

## Digitoxin

- more stable serum concentrations even if worsening renal function
- no clinical trials of appropriate size

Rathore SS et al., JAMA 2003, 289:871  
Belz GG, Eur J Clin Invest 2001, 31(2):10  
Gheorghiade M et al., EJHF 2013, 15:551

With funding from the:



Digitoxin présente des **avantages pharmacocinétiques** : élimination hépatique complémentaire (entérohépatique), moins dépendante de la fonction rénale, ainsi qu'une stabilité de concentration plus élevée

# Study design and recruitment



investigator-initiated, multicentre, randomized, double-blind, placebo-controlled, event-driven phase IV trial  
investigating whether digitoxin improves outcomes in patients with heart failure and reduced ejection fraction

## Main inclusion criteria

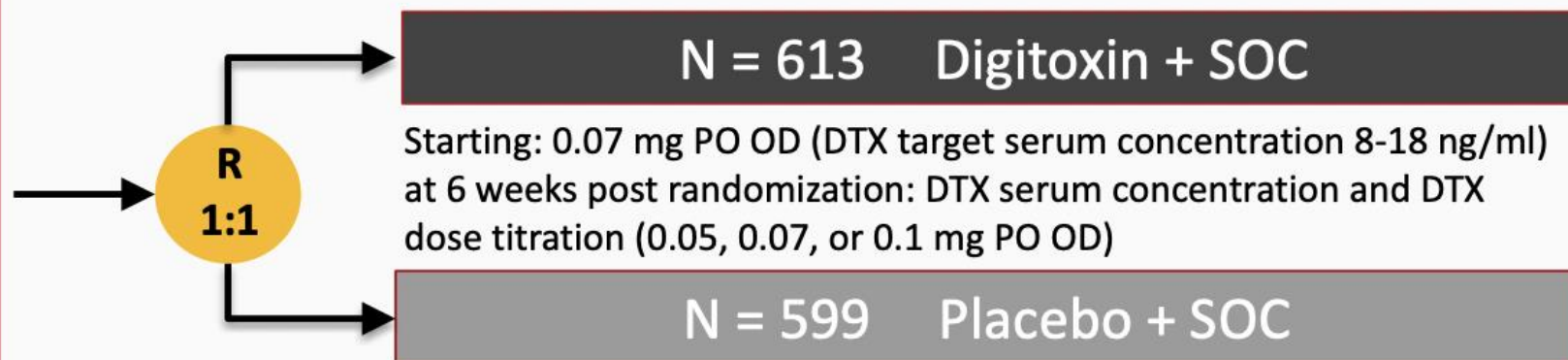
- Chronic HF
- NYHA II and LVEF  $\leq 30\%$   
or  
NYHA III-IV and LVEF  $\leq 40\%$
- Evidence based HF therapy  
 $\geq 6$  months

## Main exclusion criteria

- Amiodarone
- Heart rate  $< 60$  b.p.m  
(except CRT-in place)
- Recent ( $< 2$  month)  
procedure potentially  
improving LVEF/HF

Randomization of 1240 patients (05/2015 – 09/2023, LPLV 29.11.2024,  
55 sites: Germany 89%, Austria 3%, Serbia 8%)

Intention to treat population:  $n = 1212$  (at least one dose of IMP)



Follow-Up every 6 month after randomization

Sample size calculation based on estimation

- at initial trial design:  $n = 2190$
- after trial extension 2019:  $n = 1653$

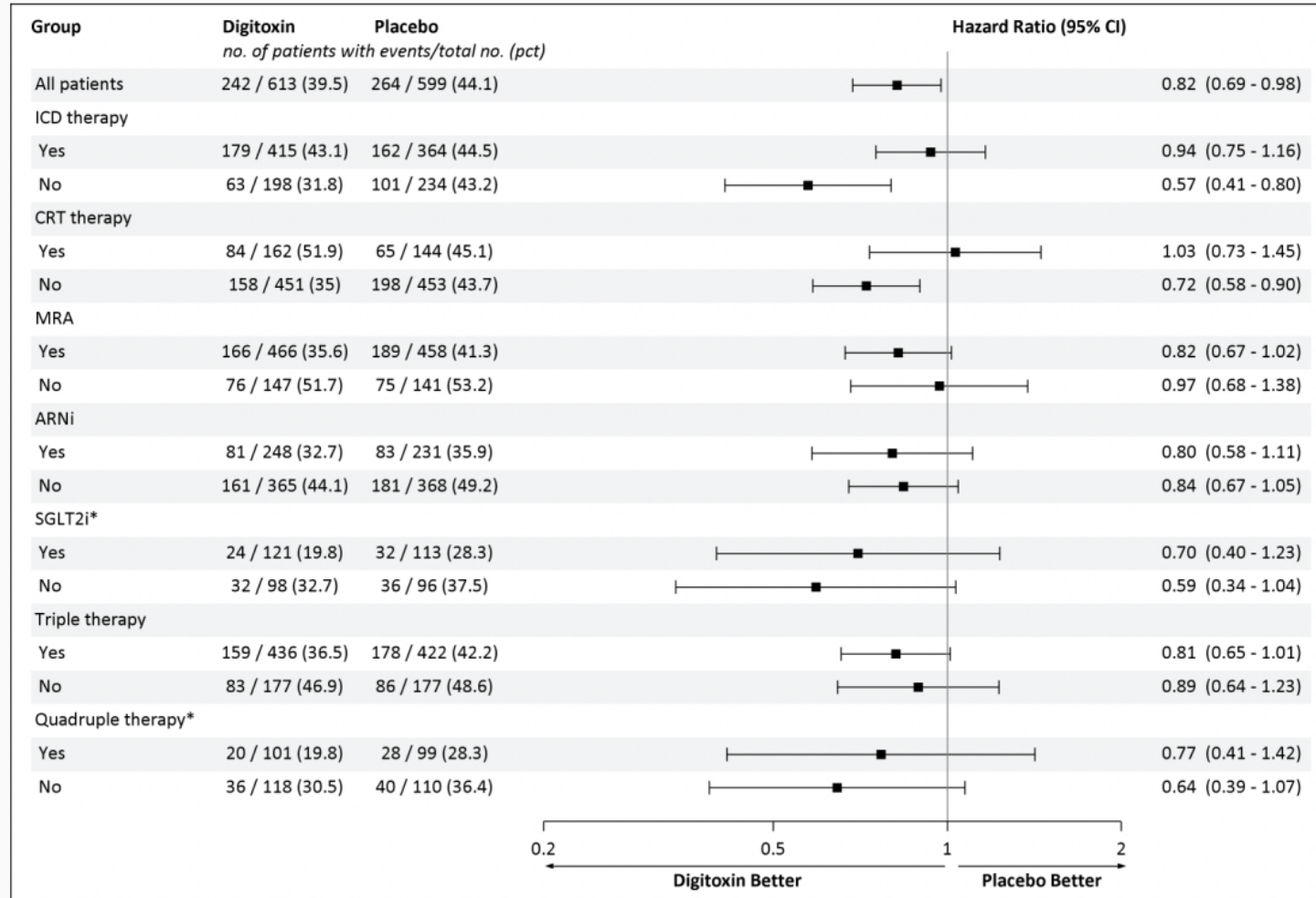
With funding from the:





# Prespecified Subgroups for Primary Outcome II

*Treatment effect of digitoxin appeared to be consistent*



ARNi



SGLT2i



Triple therapy



Quadruple therapy

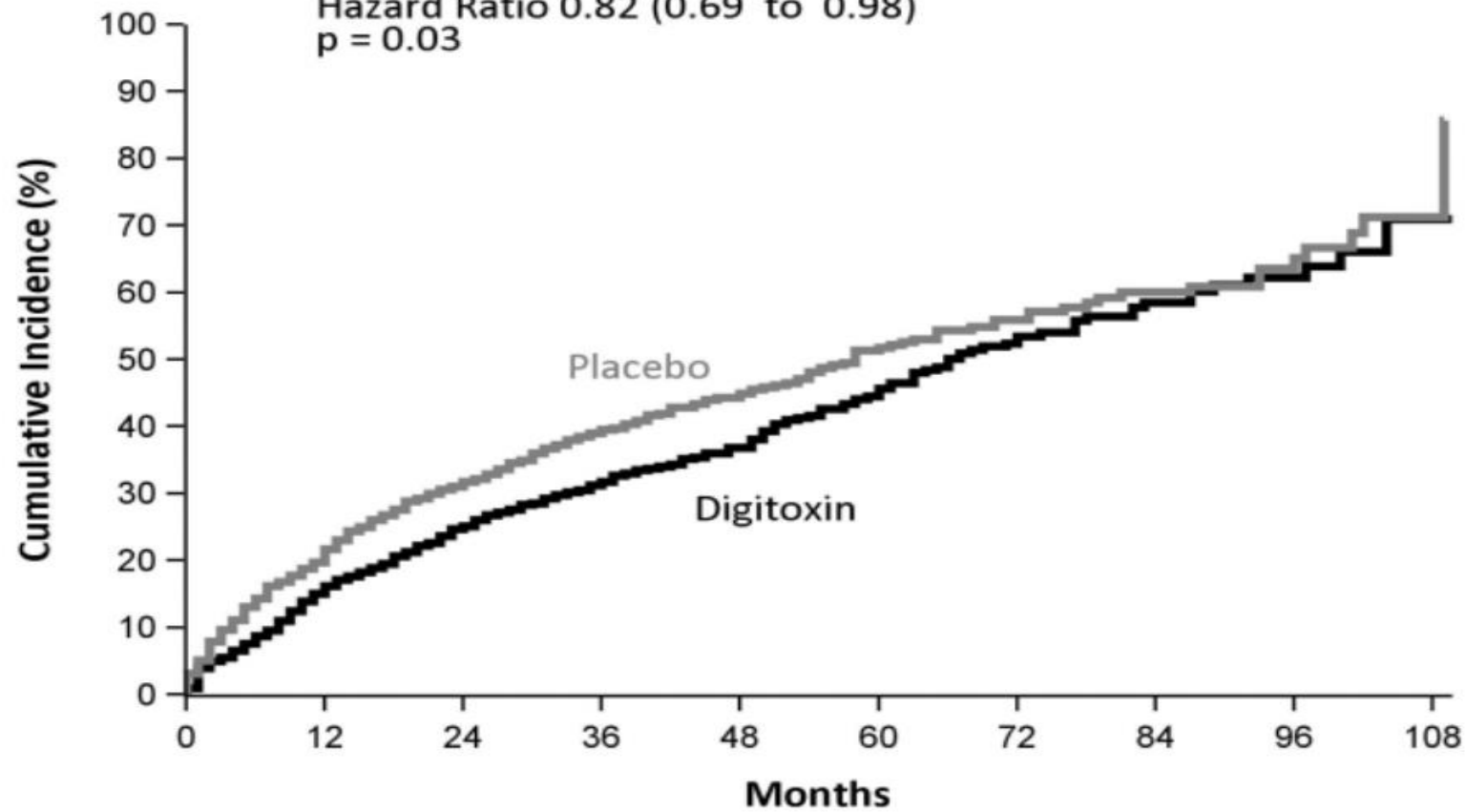
With funding from the:



Federal Ministry  
of Research, Technology  
and Innovation

## Death from any cause or first hospitalization for heart failure

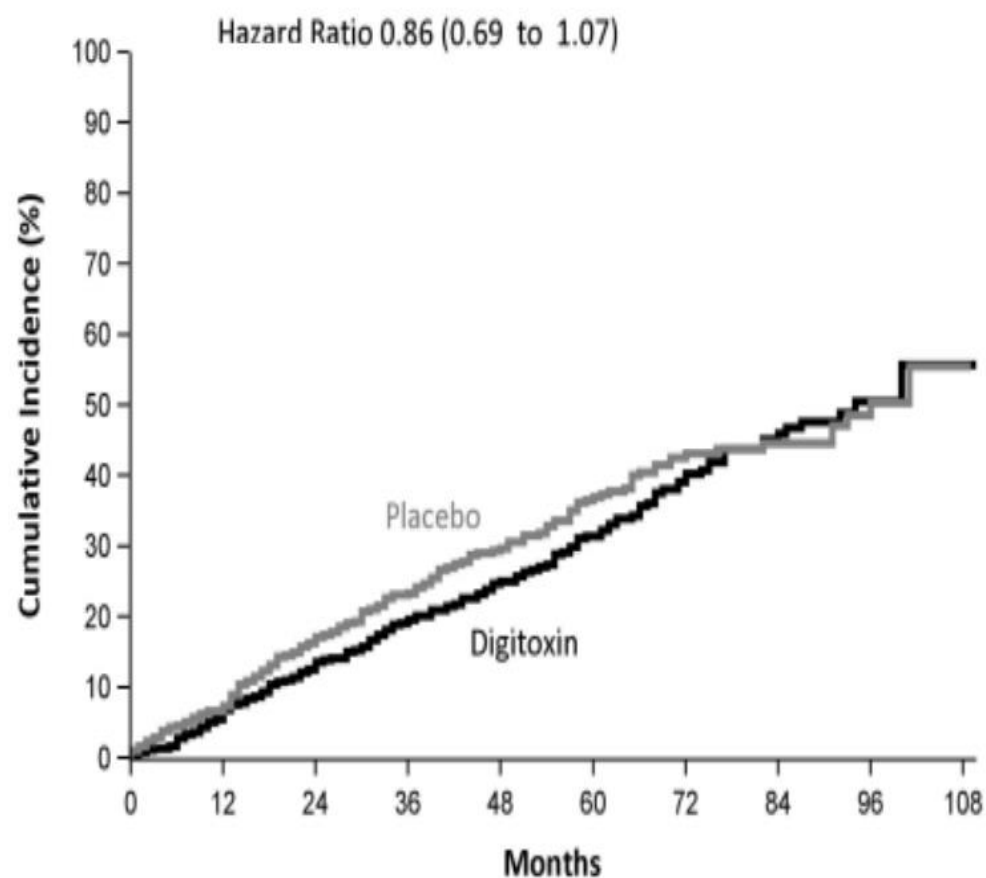
Hazard Ratio 0.82 (0.69 to 0.98)  
 $p = 0.03$



### No. at Risk

Placebo	599	421	309	234	184	126	78	47	24	4
Digitoxin	613	460	346	276	208	144	92	55	25	3

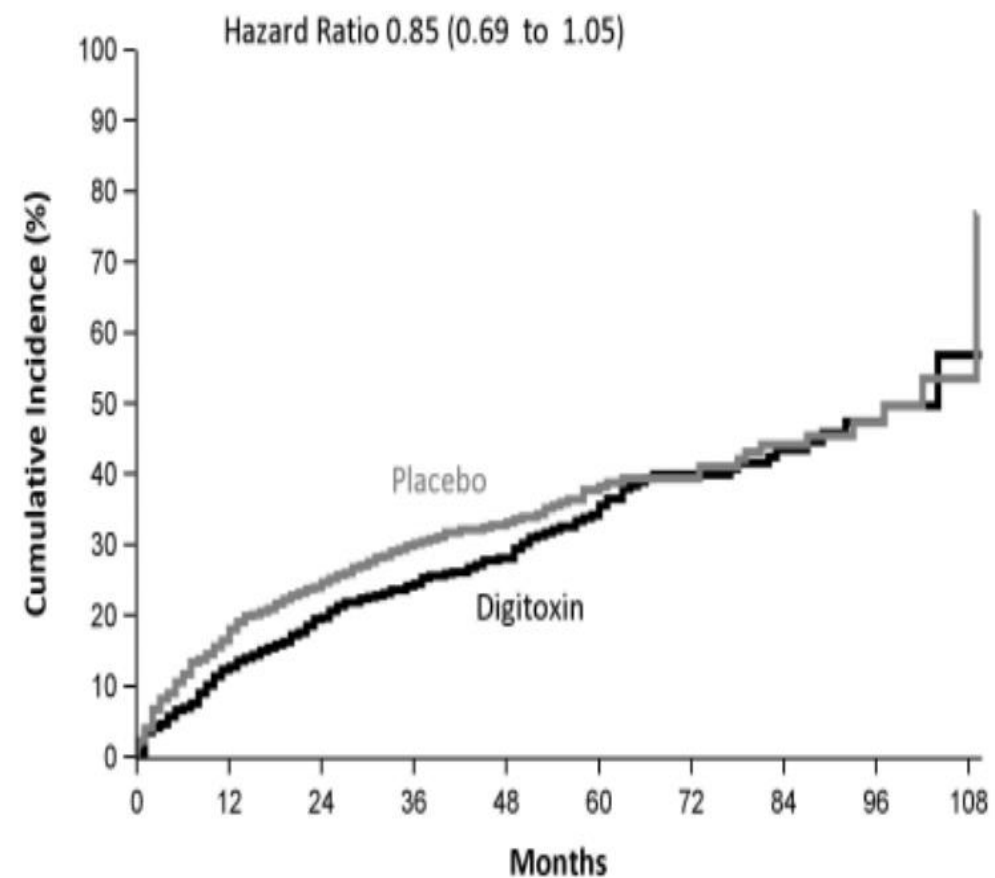
### Death from any cause \*



#### No. at Risk

Placebo	599	485	370	291	229	162	103	60	29	4
Digitoxin	613	507	398	317	239	172	113	70	28	4

### First hospitalization for heart failure



#### No. at Risk

Placebo	599	421	309	234	184	126	78	47	24	4
Digitoxin	613	460	346	276	208	144	92	55	25	3

\* $<0.001$  for noninferiority (hazard ratio margin 1.303)

With funding from the:



## Conclusion



- Digitoxin reduced the risk of a composite of all-cause death and hospital admission for worsening heart failure among patients with HFrEF receiving a well-implemented guideline-recommended medical therapy.
- These findings appeared to be consistent among all pre-specified subgroups, including patients treated with ARNI and SGLT2-inhibitors.
- Treatment with digitoxin appeared to be safe in contradiction to previous nonrandomized studies or post-hoc analysis claiming harmful effects of cardiac glycosides in heart failure with and without atrial fibrillation.
- These data support the use of digitoxin in patients with heart failure and reduced ejection fraction.

What's new in cardiac  
arrhythmias?

# The ALONE AF randomized trial

**JAMA**

Kim D, Joung B, et al, for the ALONE-AF Investigators

## **Long-Term Anticoagulation Discontinuation After Catheter Ablation for Atrial Fibrillation**

The ALONE-AF Randomized Clinical Trial

Published online August 31, 2025

ESC (European Society of Cardiology) Congress

Available at [jama.com](https://jama.com)



**Scan to read the article**



## Background: Current guidelines (long-term OAC after AF ablation)

Recommendations	Class	Level
Continuation of oral anticoagulation is recommended for at least 2 months after AF ablation in all patients, irrespective of rhythm outcome or CHA <sub>2</sub> DS <sub>2</sub> -VA score, to reduce the risk of peri-procedural ischaemic stroke and thromboembolism.	IC	C
<u>Continuation of oral anticoagulation is recommended after AF ablation according to the patient's CHA<sub>2</sub>DS<sub>2</sub>-VA score, and not the perceived success of the ablation procedure, to prevent ischaemic stroke and thromboembolism.</u>	IC	C

2024 ESC Guidelines. EHJ 2024

COR	LOE	Recommendation
1	B-NR	In patients who have undergone catheter ablation of AF, oral anticoagulation should be continued for at least 3 months after the procedure with a longer duration determined by underlying risk.
1	B-NR	In patients who have undergone catheter ablation of AF, <u>continuation of longer-term oral anticoagulation should be dictated according to the patients' stroke risk (eg, CHA<sub>2</sub>DS<sub>2</sub>-VASc score ≥2).</u>

2023 AHA Guidelines. Circ 2023

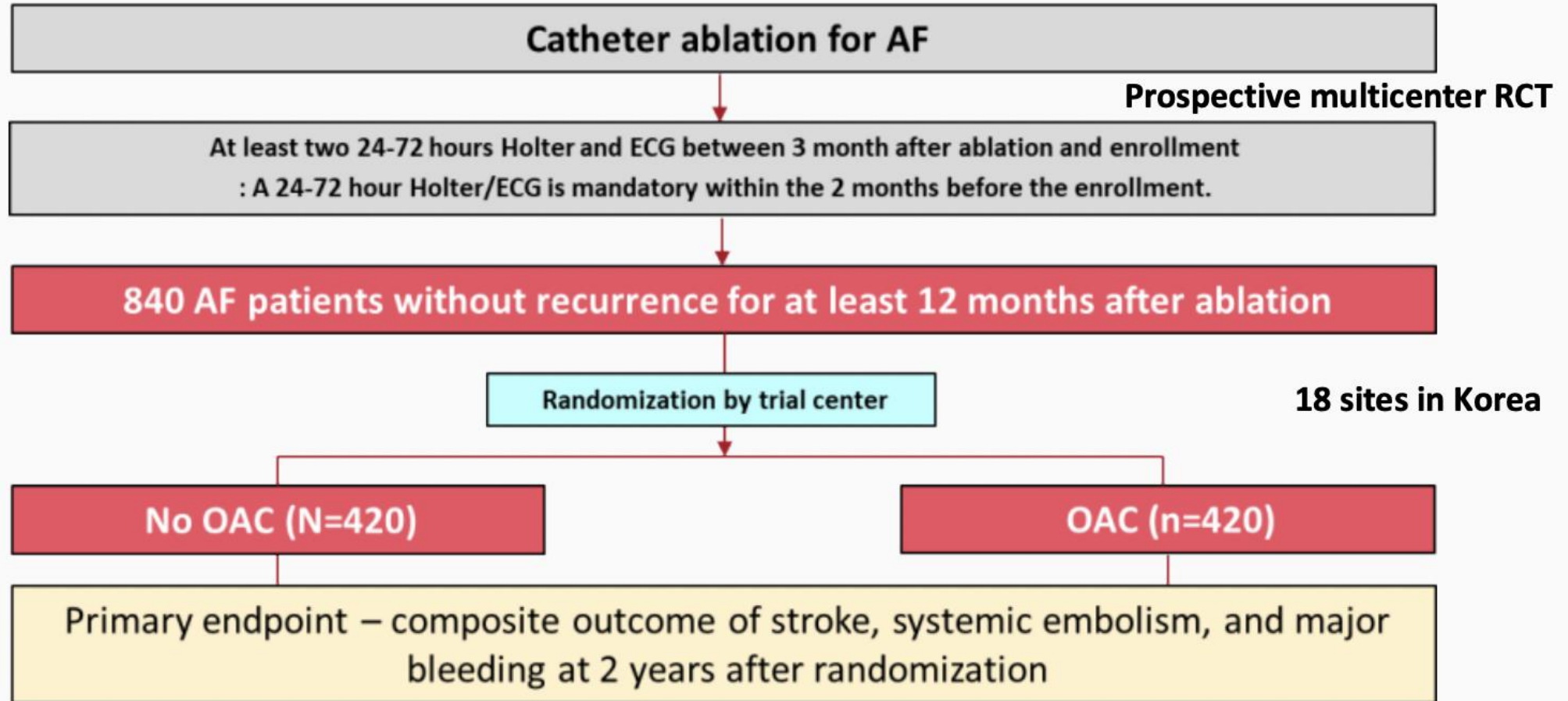
## Objective

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- To compare the primary composite outcome (including stroke, systemic embolism, and major bleeding) of therapy with and without direct oral anticoagulant (DOAC) in patients without documented atrial arrhythmia recurrence following AF ablation.
- The primary hypothesis was that discontinuing DOAC therapy would decrease the risk of net primary outcomes compared to continued DOAC therapy in patients without apparent atrial arrhythmia recurrence for at least 12 months post-AF ablation.

# ALONE Trial Design

AnticoaguLation **ONE** year after ablation of atrial fibrillation in patients with Atrial Fibrillation





# Enrollment criteria

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## Inclusion criteria

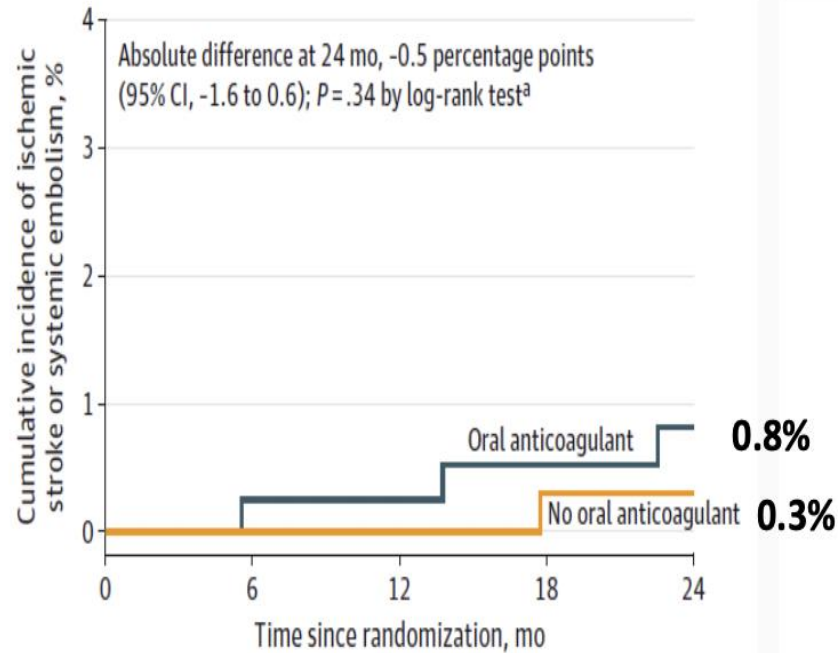
1. Age between 19 and 80 years
2. CHA<sub>2</sub>DS<sub>2</sub>-VASc score  $\geq 1$  (male) or  $\geq 2$  (female)
3. **No recurrence of atrial arrhythmia at least 12 months after their first-time catheter ablation of atrial fibrillation**, defined as an absence of  $\geq 30$  seconds of atrial fibrillation, atrial flutter, or atrial tachycardia in at least two 24–72 hour Holter and electrocardiogram recordings conducted beyond 3 months after the ablation and before enrollment (with at least one 24–72 hour Holter and electrocardiogram recording mandatory within the 2 months preceding enrollment)

## Exclusion criteria

1. Significant liver or renal disease
2. Requiring anticoagulation due to surgery with a mechanical prosthetic valve, moderate-to-severe mitral stenosis, or deep vein thrombosis
3. Significant structural heart disease (moderate-to-severe mitral regurgitation, severe valvular regurgitation or stenosis, DCMP, or HCMP)
4. Active malignancy
5. Pregnancy or breast-feeding
6. Life expectancy  $< 1$  year
7. Refuse or unable to understand the written informed consent

Cumulative incidence for composite of stroke, systemic embolism, and major bleeding, %

## Ischemic stroke or systemic embolism

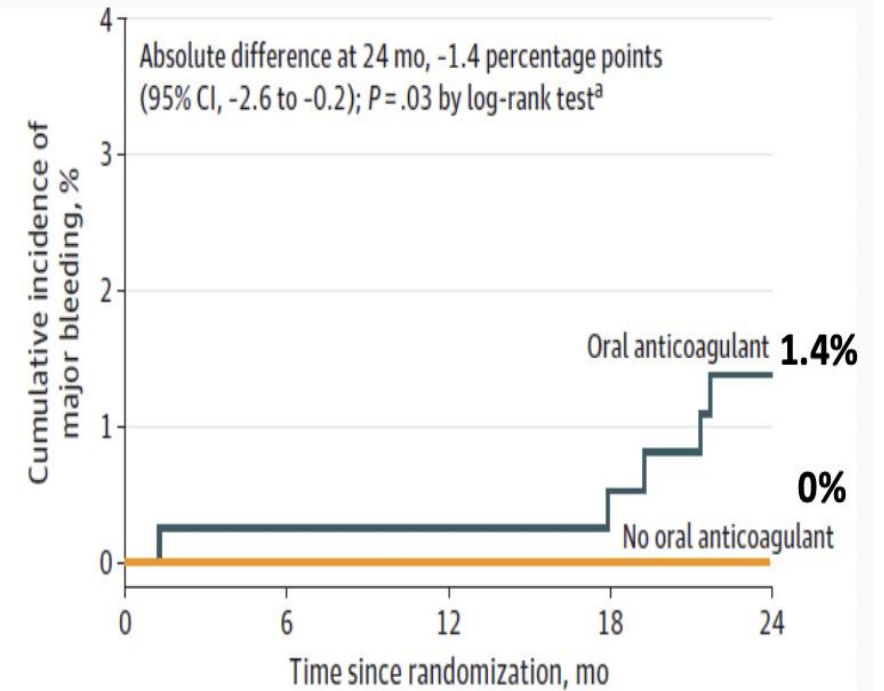


No. at risk

No oral anticoagulant	417	378	353	334	321
Oral anticoagulant	423	393	377	359	343

No. at risk  
No oral anticoagulant 417  
Oral anticoagulant 423

## Major bleeding



No. at risk

No oral anticoagulant	417	378	353	335	322
Oral anticoagulant	423	393	377	359	341

## Conclusion

---

- In this **ALONE-AF** involving **AF patients without AF recurrence following catheter ablation**,
- discontinuing OAC was associated with a lower risk of the composite outcome (stroke, systemic embolism, or major bleeding) versus continued OAC.
- The result appeared to be primarily driven by lower incidence of major bleeding events.
- The incidence of ischemic events appeared to be similar in the trial groups.

# POTCAST



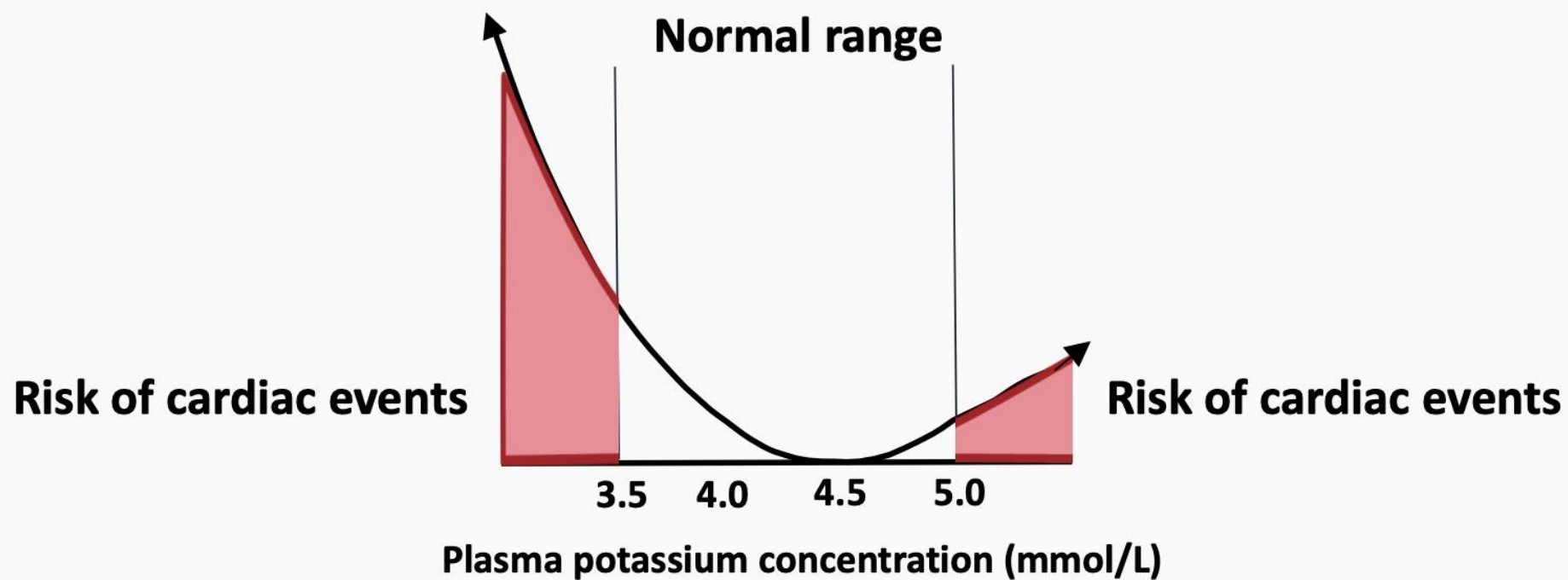
**A randomized controlled trial of arrhythmia prevention using  
targeted plasma potassium levels in ICD Patients**

**Christian Jons**

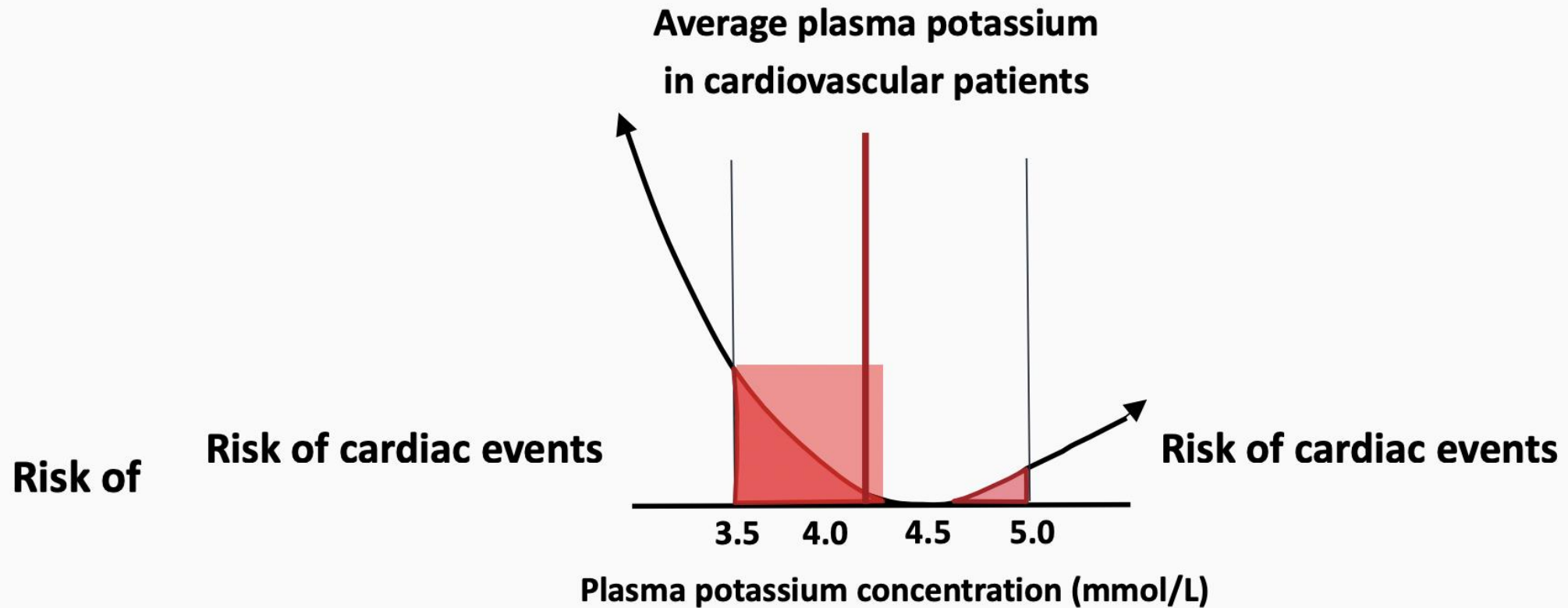
**The Heart Centre, Rigshospitalet, Copenhagen, Denmark**



## Background – The U-shaped risk

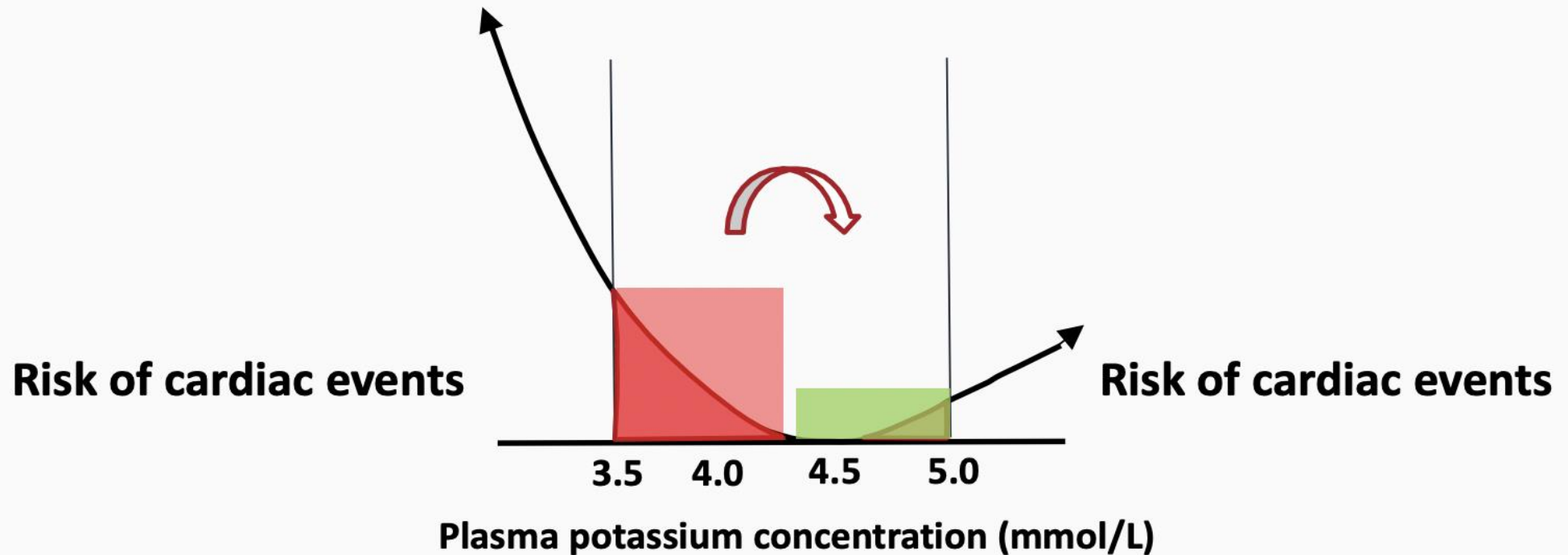


## Background – The U-shaped risk



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Effect of actively increasing plasma potassium from low-normal to high-normal levels?



# Study design



## Inclusion criteria

- Plasma potassium  $\leq 4.3$  mmol/l
- Age  $\geq 18$  years
- ICD or CRT-D implanted

## Exclusion criteria

- Renal function: eGFR  $< 30$  ml/min/1.73m<sup>2</sup>
- Pregnancy
- Lack of ability to understand and sign consent

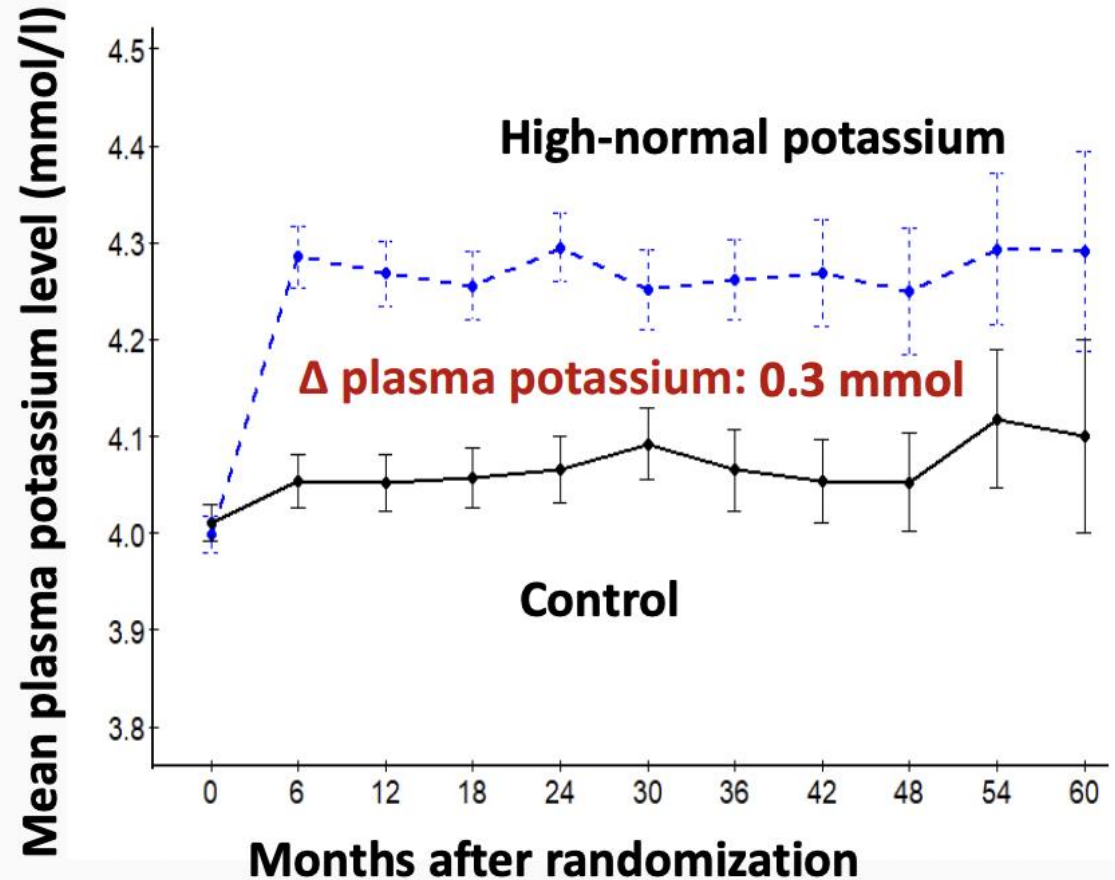


# Plasma potassium uptitration

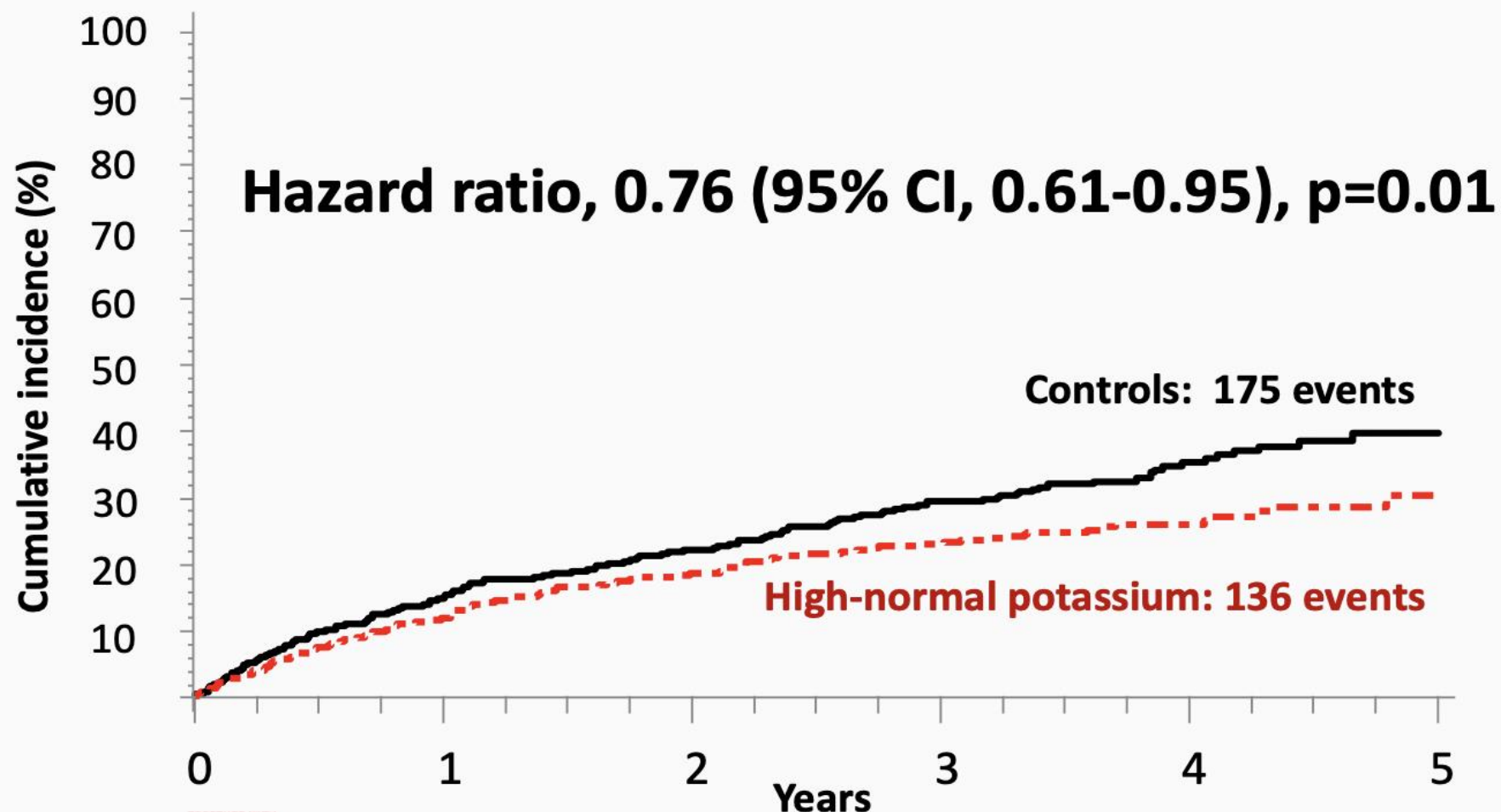
- Potassium-rich diet guidance
- Mineralocorticoid receptor antagonists
- Potassium supplements
- Potassium-losing diuretics reduced or stopped

Uptitration duration, mean 85 days

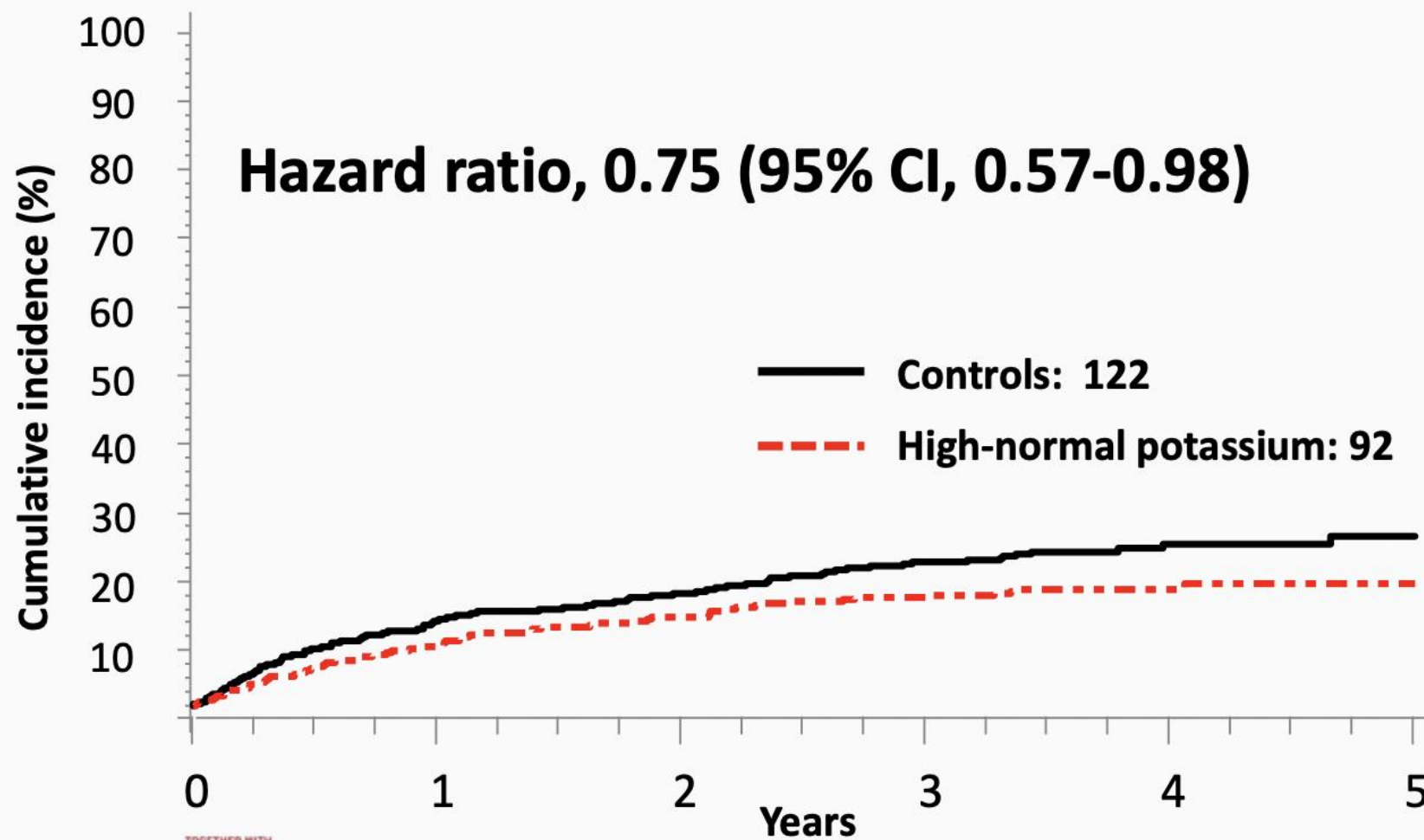
Plasma potassium increase  $\sim 0.3$  mmol/L



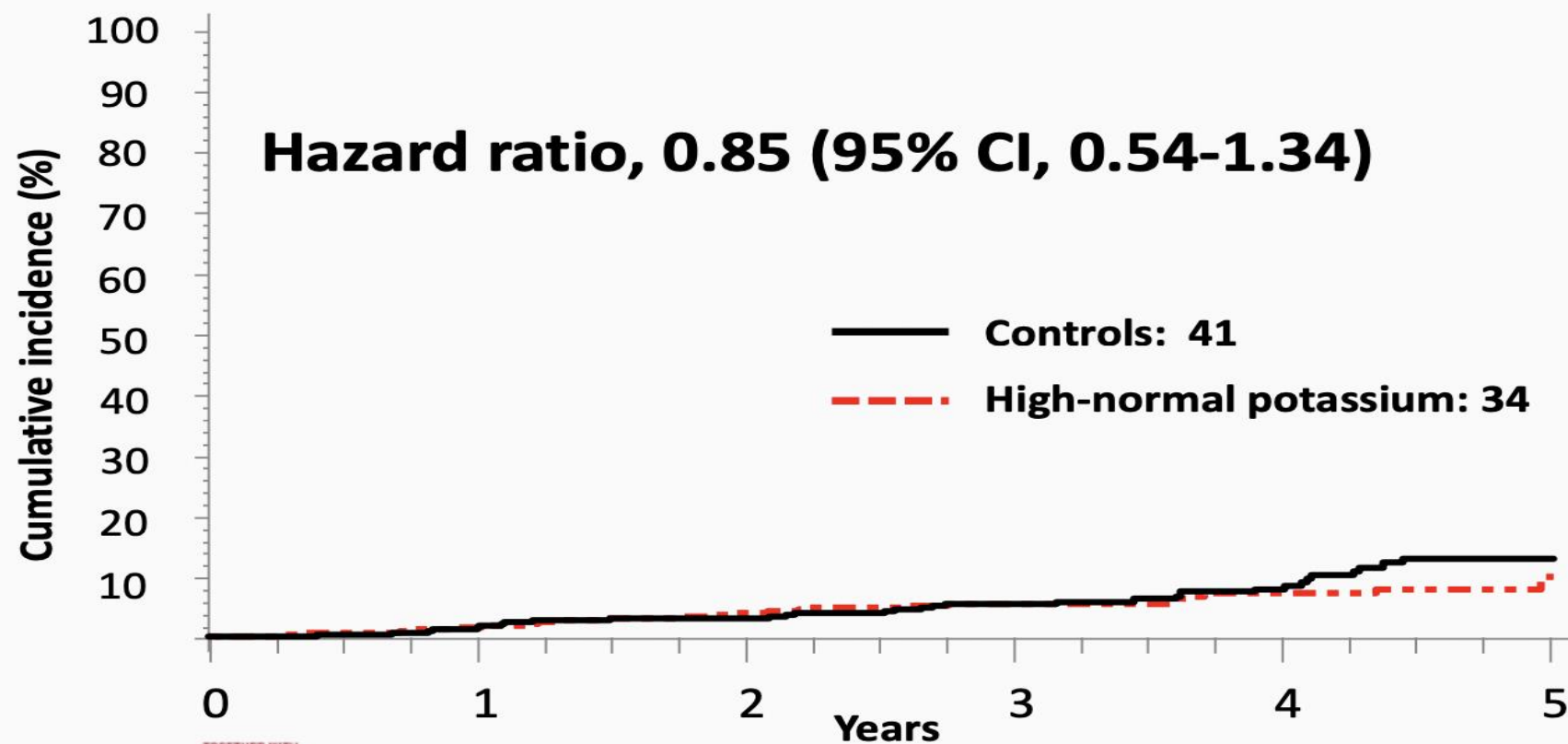
## Composite end point



# Appropriate ICD therapy or ECG-documented sustained VT

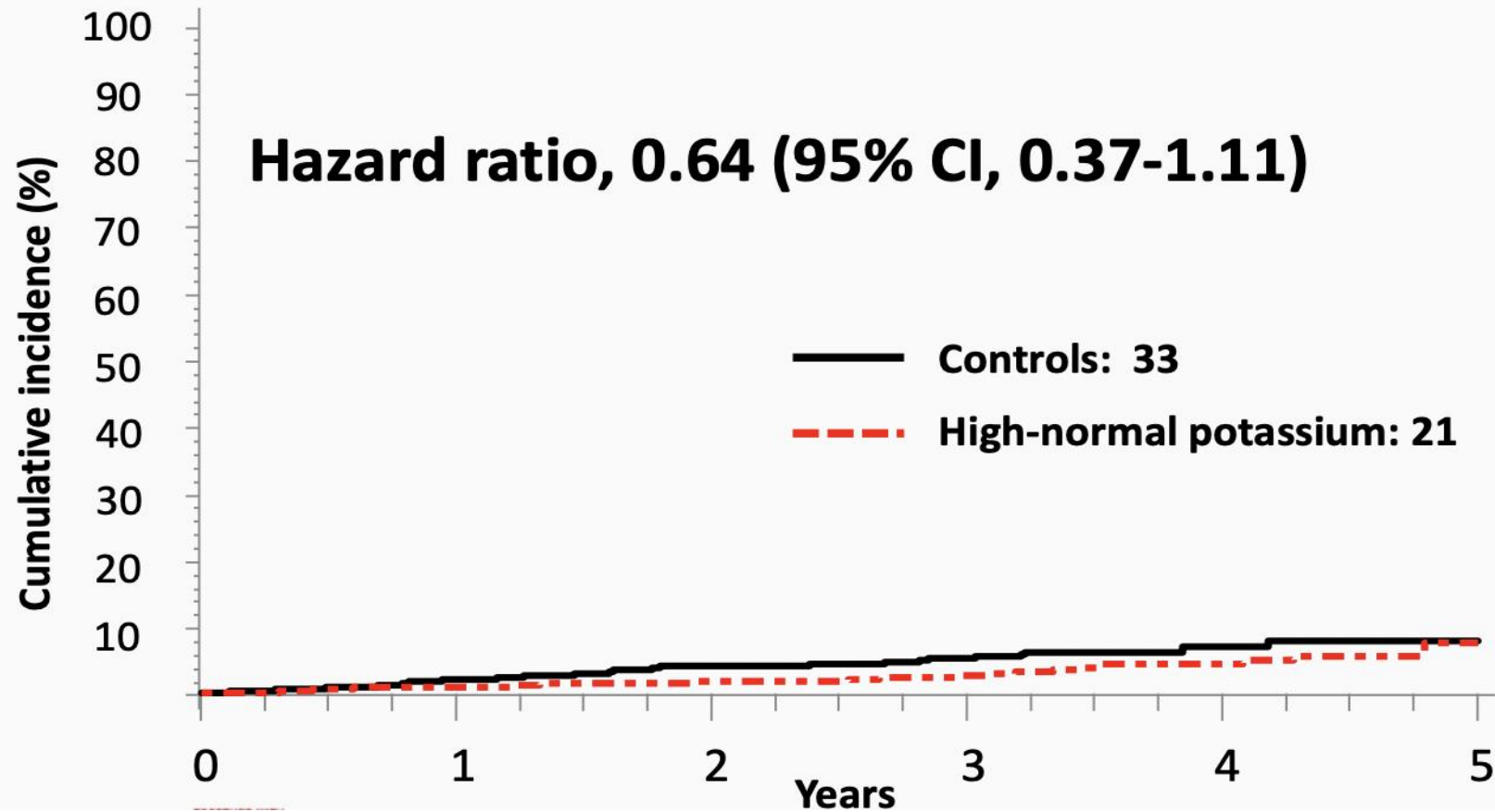


## Death (All causes)

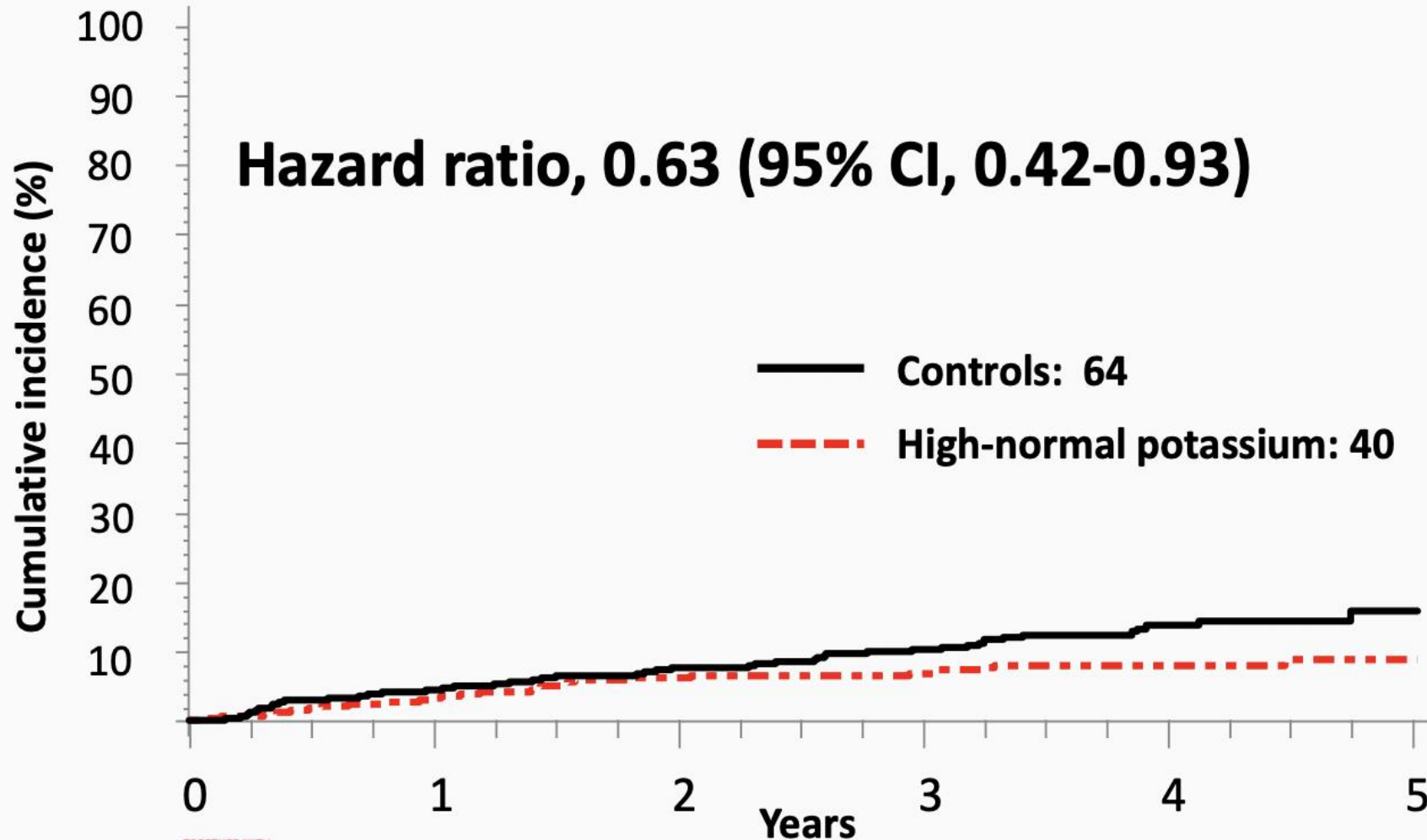




## Heart failure hospitalization



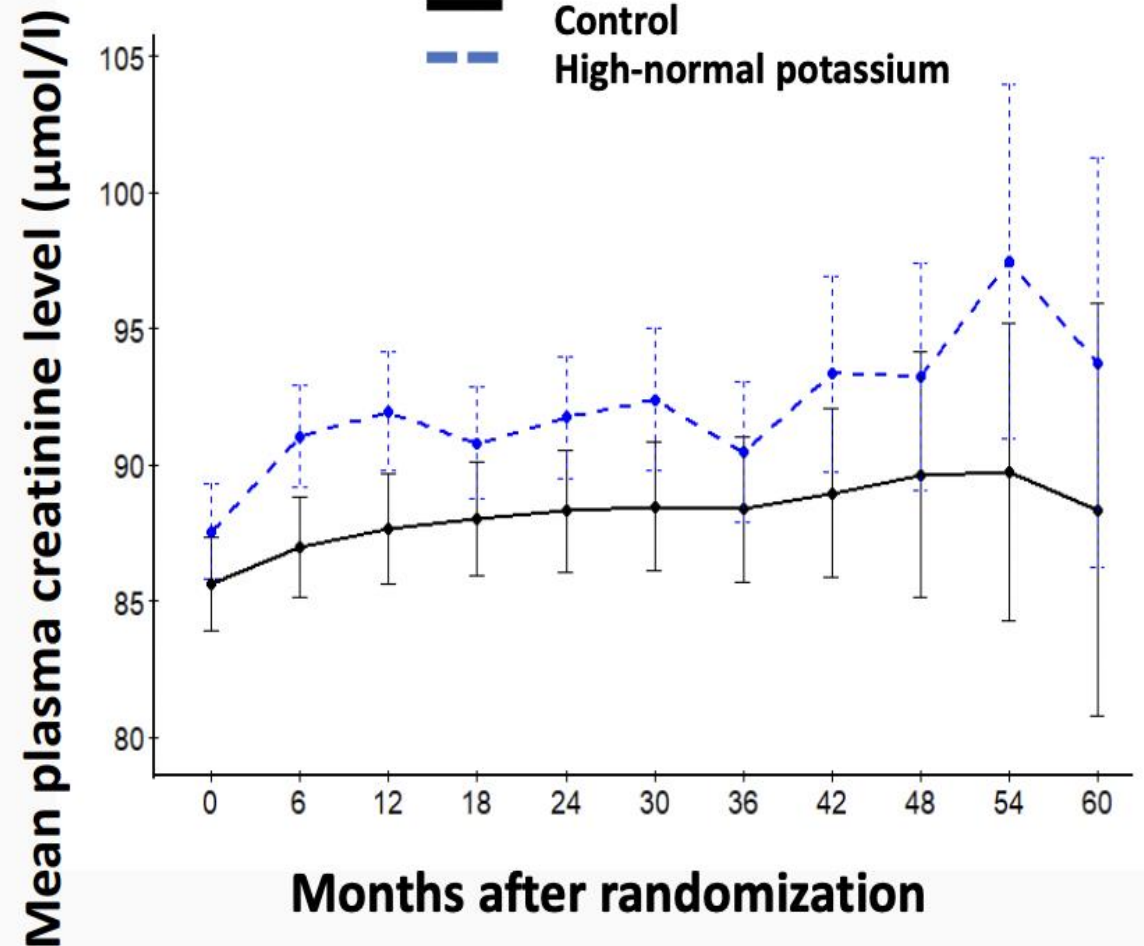
## Arrhythmia hospitalization



## Safety end points – Hospitalization for hypokalemia, hyperkalemia or renal failure

- No deaths related to intervention
- Plasma creatinine increased  $\sim 4 \mu\text{mol/l}$  in the high-normal potassium group
- High-normal potassium group:  
17 hospitalizations in 17 patients
- Control group:  
12 hospitalizations in 10 patients

HR, 1.75 (95% CI, 0.80 to 3.82),  $p=0.16$



## Conclusions

- The intervention increased plasma potassium levels by ~0.3 mmol/l - which was maintained for the duration of the trial
- The primary composite endpoint was reduced by 24% - mainly driven by ventricular arrhythmia
- No significant differences were seen in hospitalizations for renal failure and electrolyte disturbances between the two groups



Conclusion : ESC 2025 ?







