



**ESC Congress
2025 Madrid**

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**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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Maltese Cardiac Society
Moldavian Society of Cardiology
Montenegro Society of Cardiology
Moroccan Society of Cardiology
National Society of Cardiology of North Macedonia
Netherlands Society of Cardiology
Norwegian Society of Cardiology
Polish Cardiac Society
Portuguese Society of Cardiology
Romanian Society of Cardiology
Russian Society of Cardiology*
San Marino Society of Cardiology
Slovak Society of Cardiology
Slovenian Society of Cardiology
Spanish Society of Cardiology
Swedish Society of Cardiology
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Syrian Cardiovascular Association
Tunisian Society of Cardiology and Cardio-Vascular Surgery
Turkish Society of Cardiology

AFFIL

Afghanistan Cardiovascular Association
Argentine Society of Cardiology
Bangladesh Cardiac Society
Brazilian Society of Cardiology
Canadian Cardiovascular Society
Cardiac Society of Bahrain Darussalam
Cardiac Society of Australia and New Zealand
Cardiological Society of India
Cardiovascular Society of Mauritius
Caribbean Cardiac Society
Chilean Society of Cardiology and Cardiovascular
Chinese Society of Cardiology
Colombian Society of Cardiology and Cardiovascular
Costa Rican Association of Cardiology
Cuban Society of Cardiology
Dominican Society of Cardiology
Ecuadorian Society of Cardiology
Emirates Cardiac Society
Guatemalan Association of Cardiology
Gulf Heart Association
Hong Kong College of Cardiology
Indonesian Heart Association
Iranian Heart Association
Iraqi Cardiothoracic Society

GLO

Afghanistan
Argentina
Asia
Asia

THANK YOU TO OUR ESC CARDIAC SOCIETY PARTNERS

Uniting Experts. Advancing Knowledge.





The Gift of Time

Transforming
Lives for 75 Years

THE PAST 75 YEARS

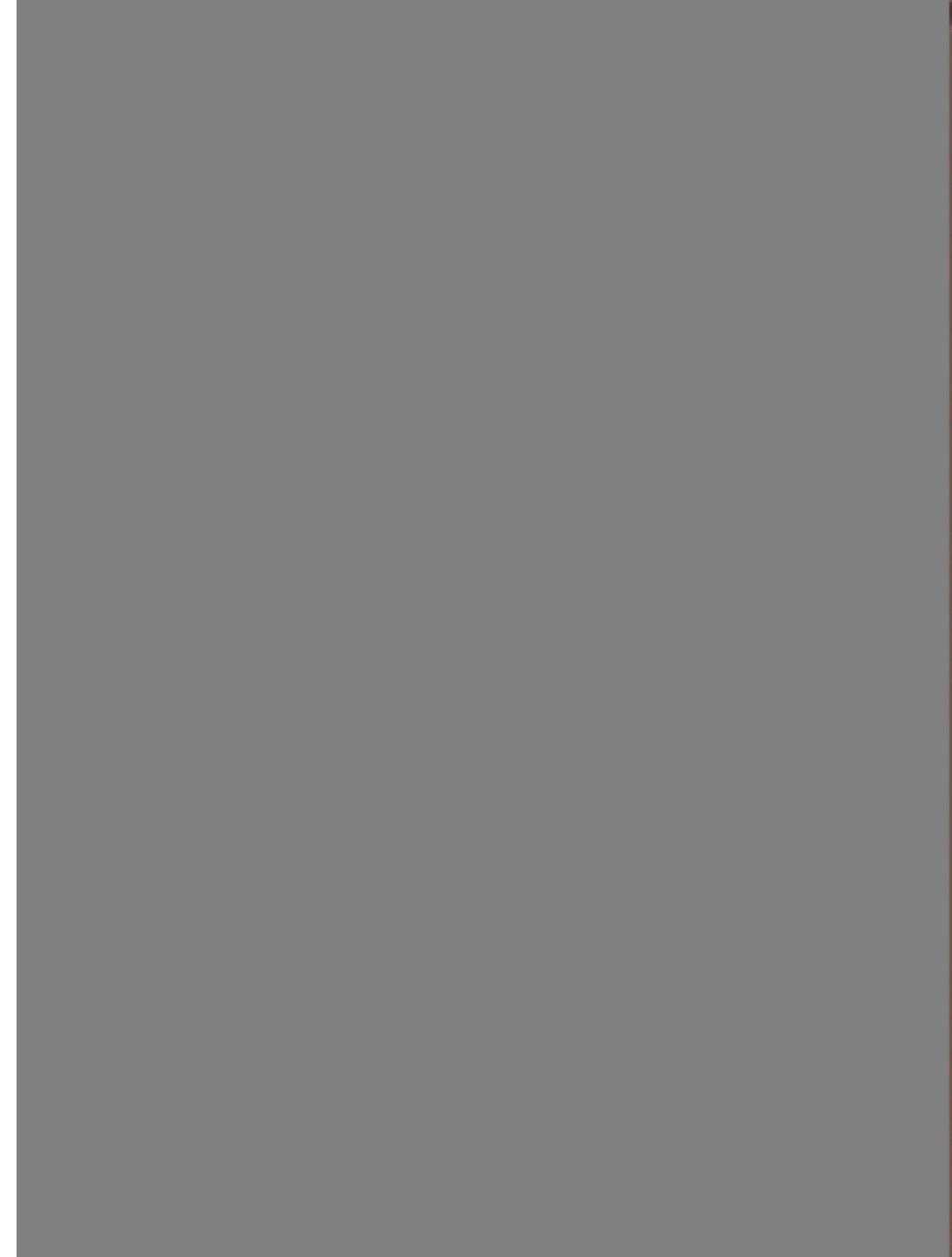
In 1950, the cardiovascular healthcare community confronted a challenge we still face today:

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



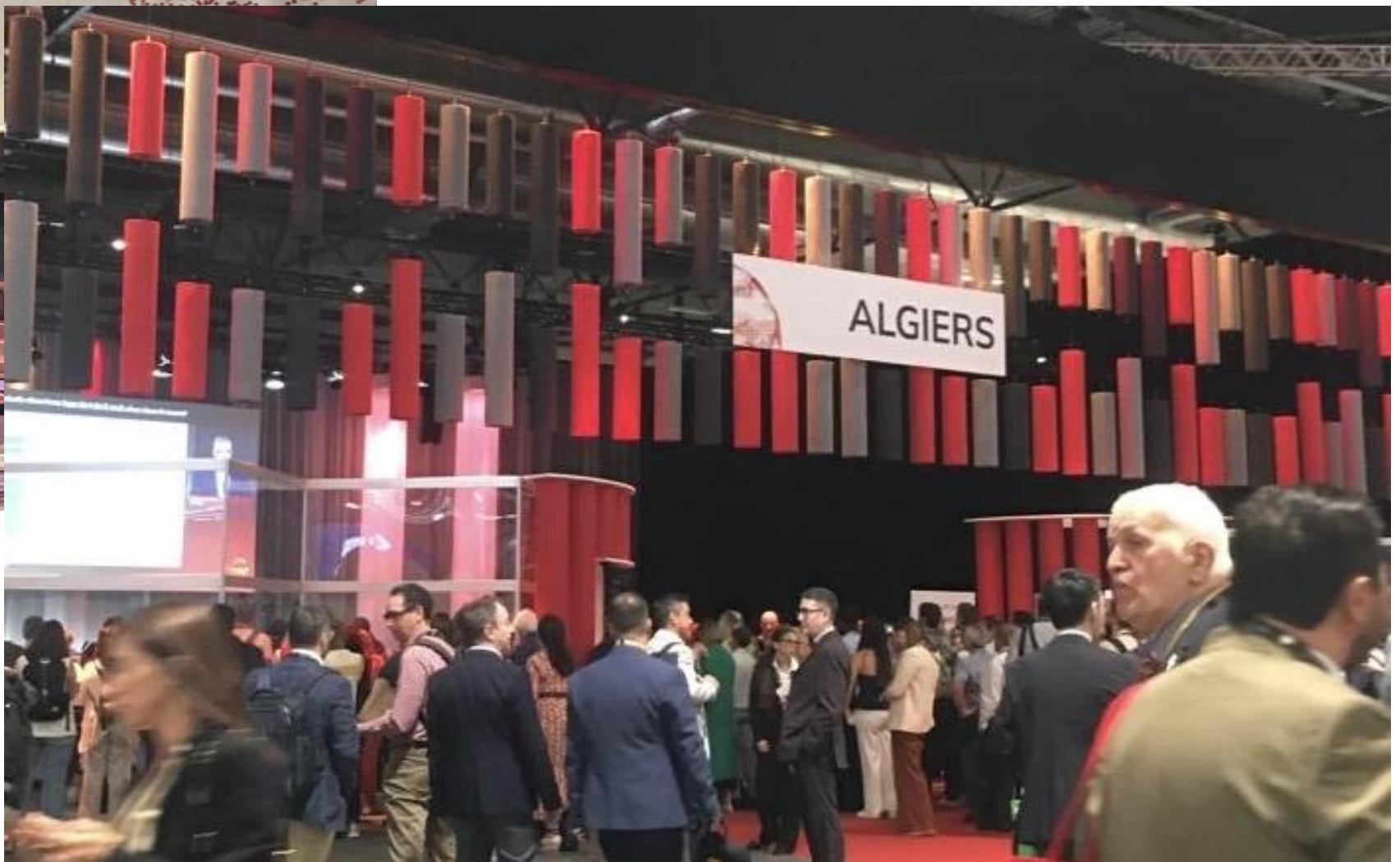














2025 Valvular Heart Disease

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

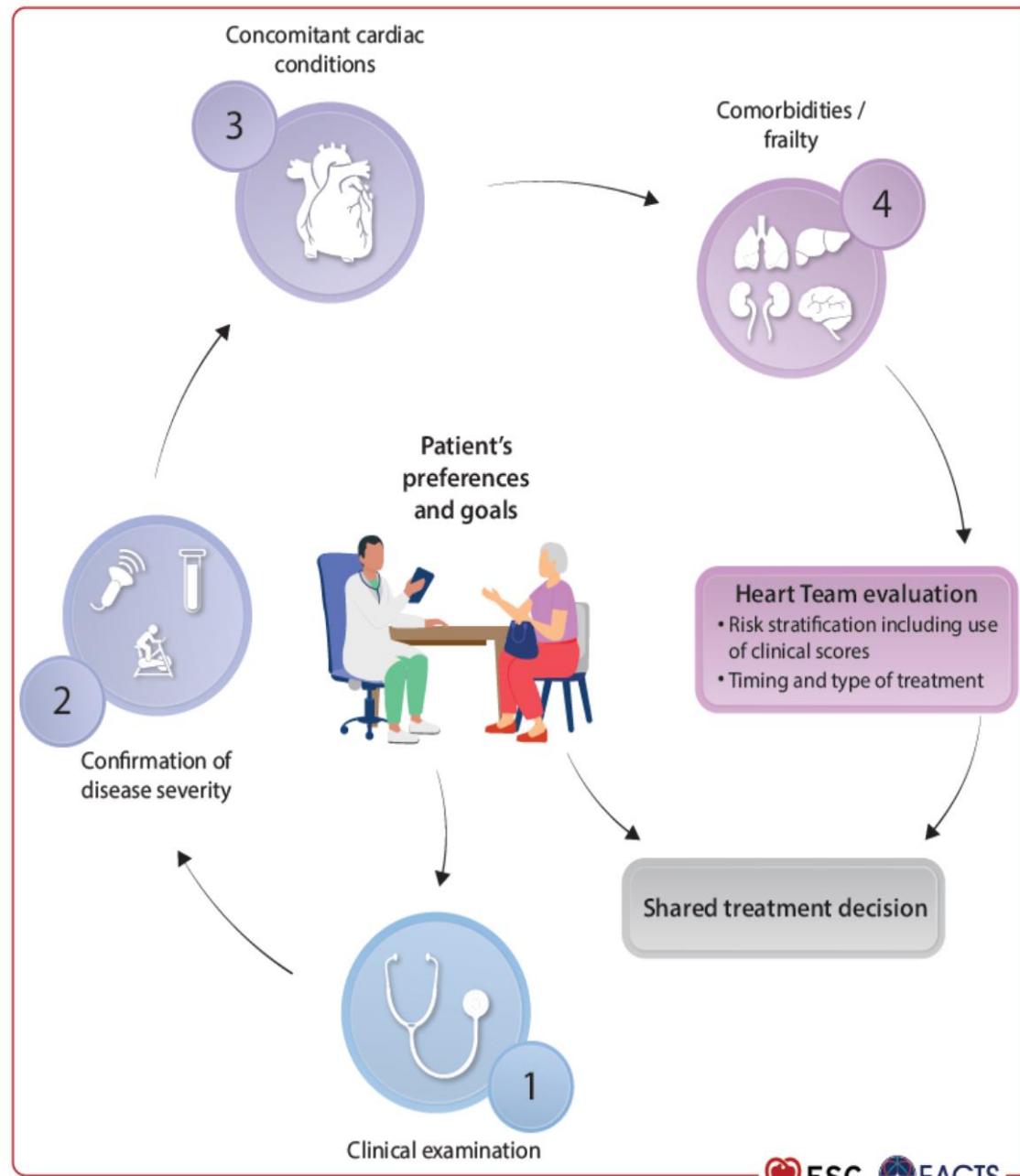


ESC/EACTS Guidelines for the management of valvular heart disease



Figure 3

Central illustration Patient-centred evaluation for treatment



Complex procedures ideally performed in the most experienced Heart Valve Centres

Transcatheter interventions

- Transfemoral TAVI in patients with high-risk features:
 - Low coronary ostia
 - Difficult femoral anatomy
 - Bicuspid valve
 - Severe calcification protruding into the LVOT
 - Severe LV and/or RV impairment
 - Pure AV regurgitation
 - Multiple valve disease
 - Complex coronary artery disease
 - Severe extracardiac disease (e.g. renal failure, PH)
- Non-transfemoral TAVI
- Valve-in-valve (including TAV-in-TAV)
- All leaflet modification procedures (BASILICA, LAMPOON etc.)
- PVL closure
- Complex M-TEER
- Redo M-TEER procedures
- Tricuspid or mitral valve-in-ring or valve-in-valve, valve-in-MAC
- TMVI
- All tricuspid procedures

Surgical interventions

- High-risk procedures (especially in patients with LV and/or RV impairment)
- Redo procedures
- Minimally invasive and robotic valve surgery
- Complex MV repair
 - Barlow disease
 - Anterior or bileaflet prolapse
 - High risk of SAM
 - Severe MAC
- AV repair
- Ross procedure
- Valve surgery combined with complex surgery of the aorta
- Endocarditis surgery

Requirements for a Heart Valve Centre

Requirements

Centre performing heart valve procedures with on-site interventional cardiology and cardiac surgery departments providing 24 h/7 day services.

Heart Team core members: Cardiologist with imaging expertise, interventional cardiologist, cardiac surgeon.

Additional specialists, if required (Extended Heart Team): Specialized nursing personnel, HF specialist, electrophysiologist, cardiovascular anaesthetist, geriatrician, and other specialists (e.g. intensive care, vascular surgery, infectious diseases, neurology, radiology).

The Heart Team must meet on a regular basis and work according to locally defined standard operating procedures and clinical governance arrangements.

A hybrid cardiac catheterization laboratory is desirable.

High volume for hospital and individual operators.

Multimodality imaging (including advanced echocardiography, CCT, CMR, and nuclear techniques) and expertise in peri-procedural imaging guidance of surgical and transcatheter procedures.

Heart Valve Clinic for outpatient assessment and follow-up.

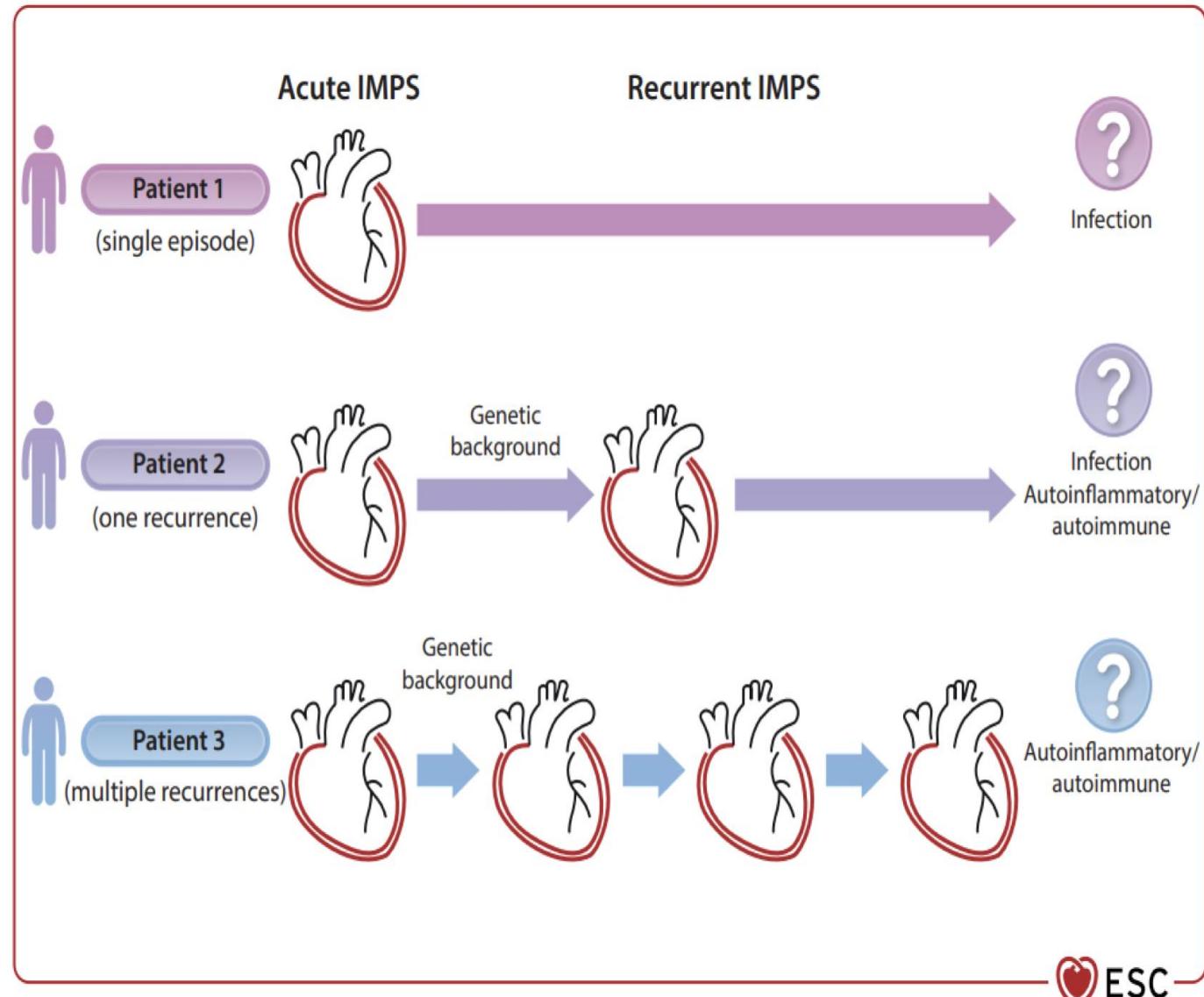
Data review: continuous monitoring, evaluation, and reporting of procedural volumes and quality indicators, including clinical outcomes, as well as PROMs complemented by local/external audits.

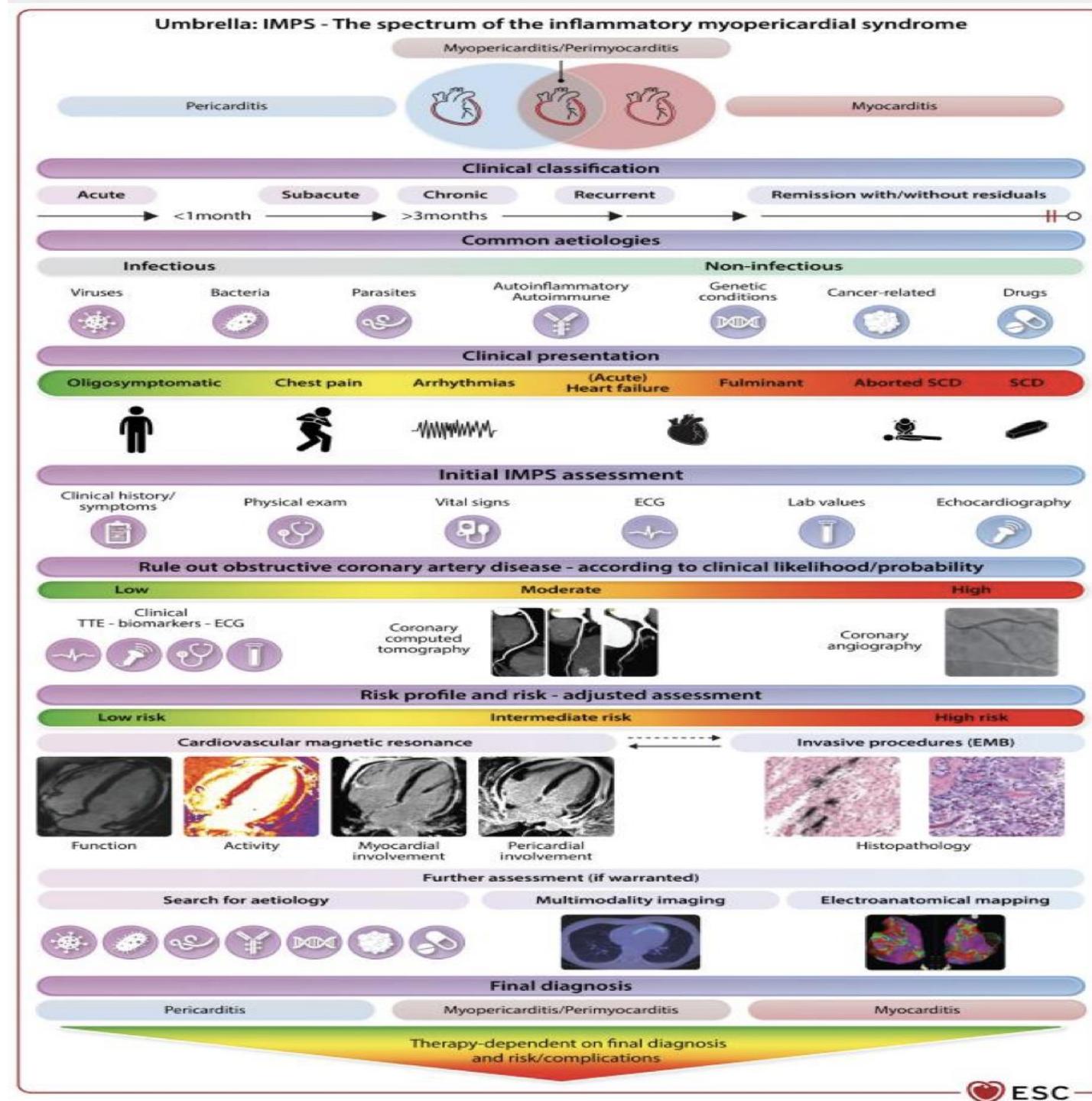
Education programmes targeting primary care and referring physicians, operators, and diagnostic and interventional imaging specialists.

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



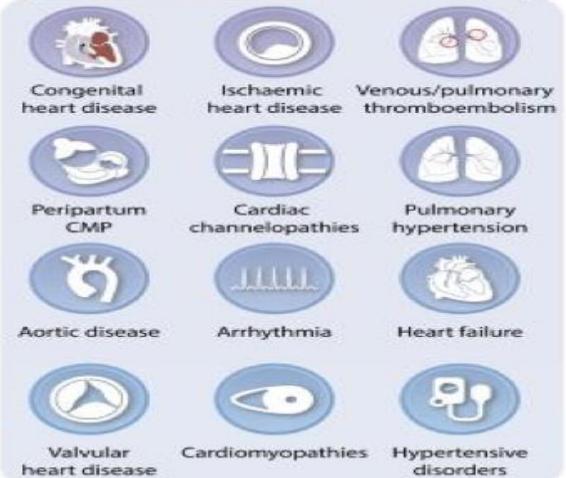
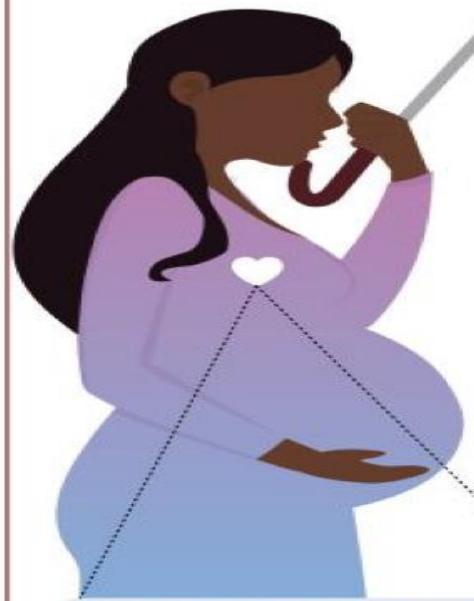


2025 ESC Guidelines for the management of cardiovascular disease and pregnancy



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

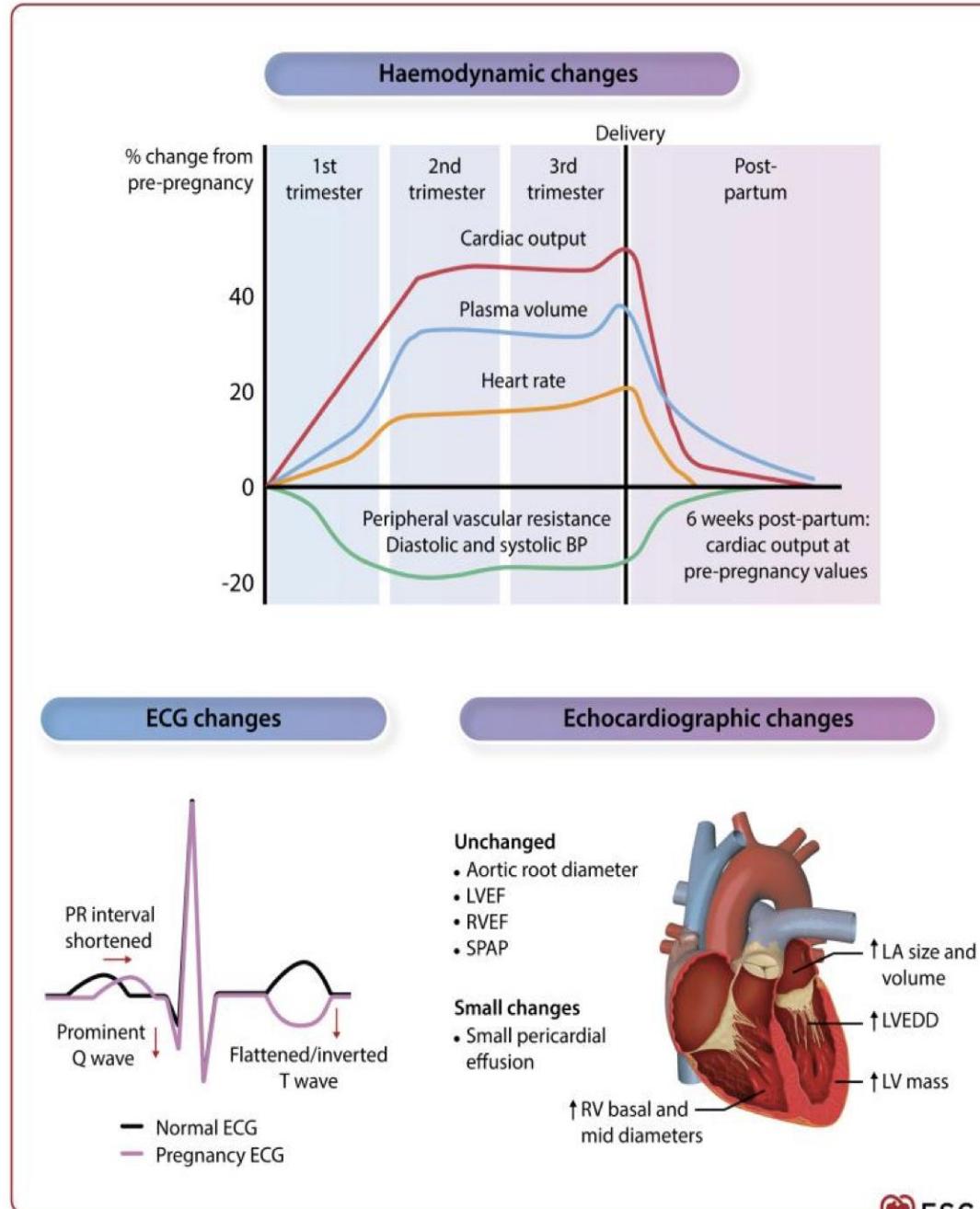
- Breastfeeding and lactation
- Contraception
- Maternal cardiac follow-up



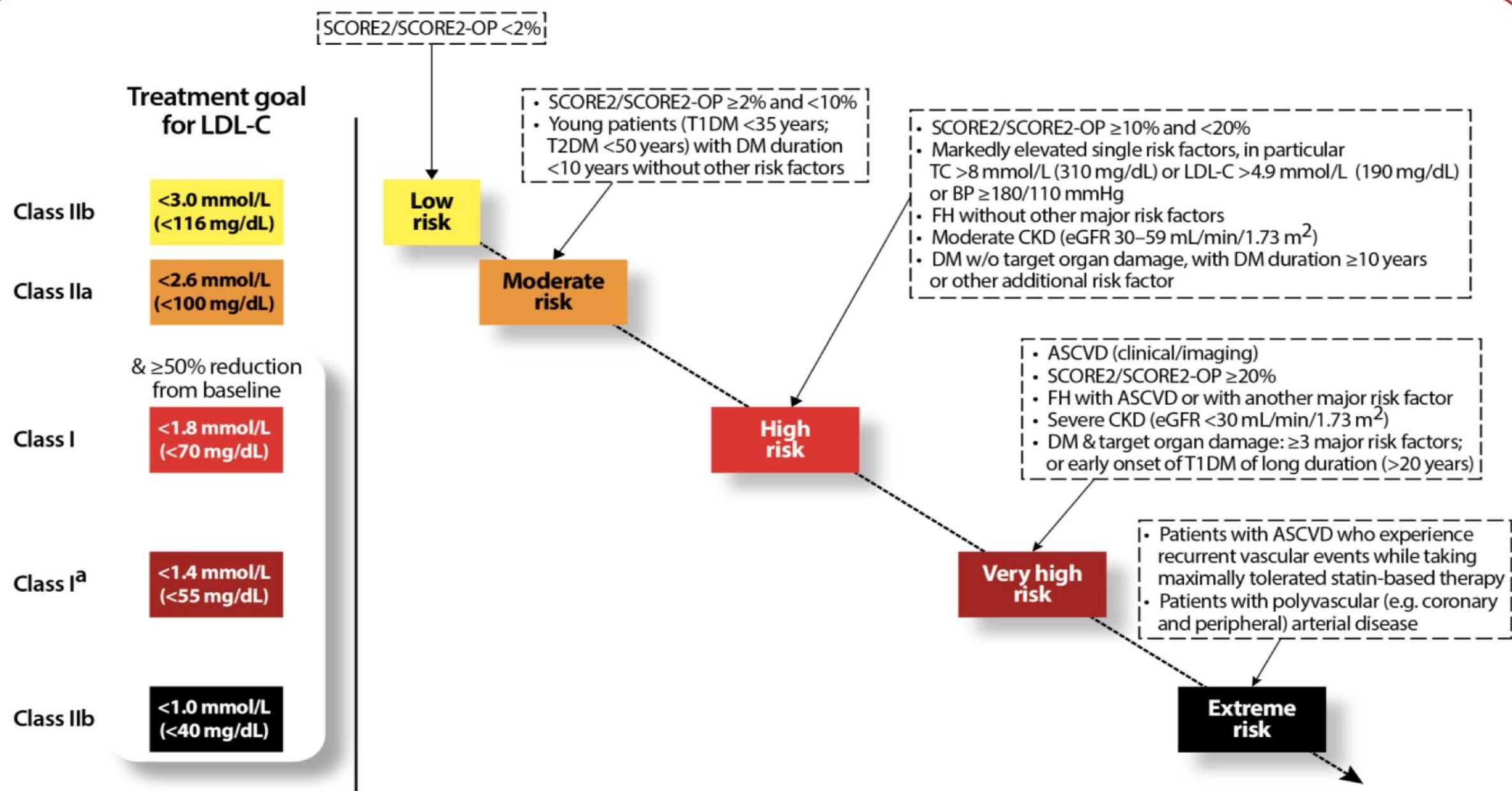
Long term

- 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



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



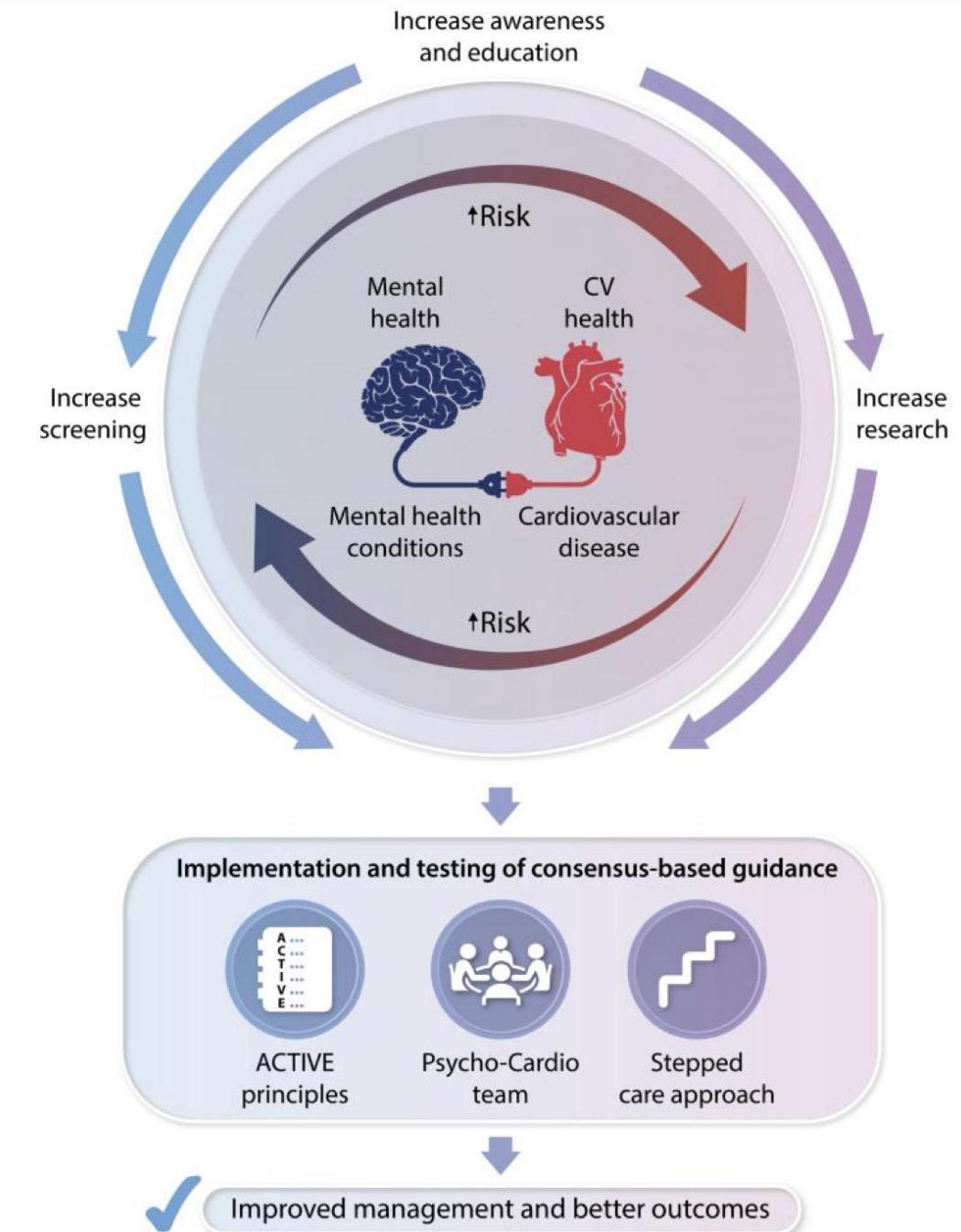
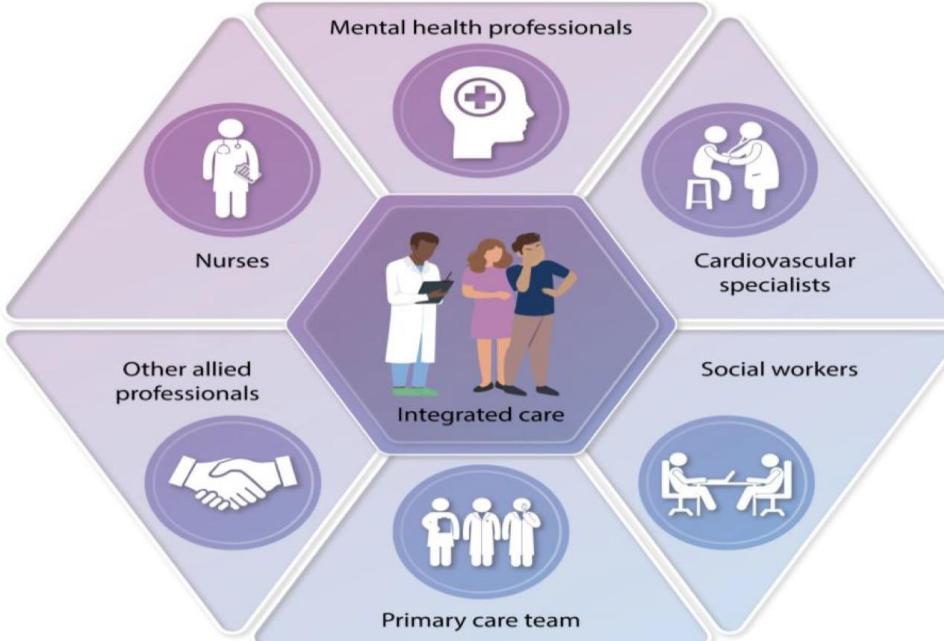
^aClass IIa for individuals in primary prevention with FH at very high risk

CV 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

AQUATIC TRIAL

AQUATIC

Asessment of **Q**uitting versus **U**sing **A**spirin **T**herapy **I**n patients with **s**tabilized **C**oronary **a**rtery **d**isease **a**fter **s**tenting who require **l**ong-term **o**ral **a**nticoagulation



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

Aspirin in Patients with Chronic Coronary Syndrome Receiving Oral Anticoagulation

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

The problem: you cannot simultaneously prevent all three!

Stent thrombosis/MI

Stroke

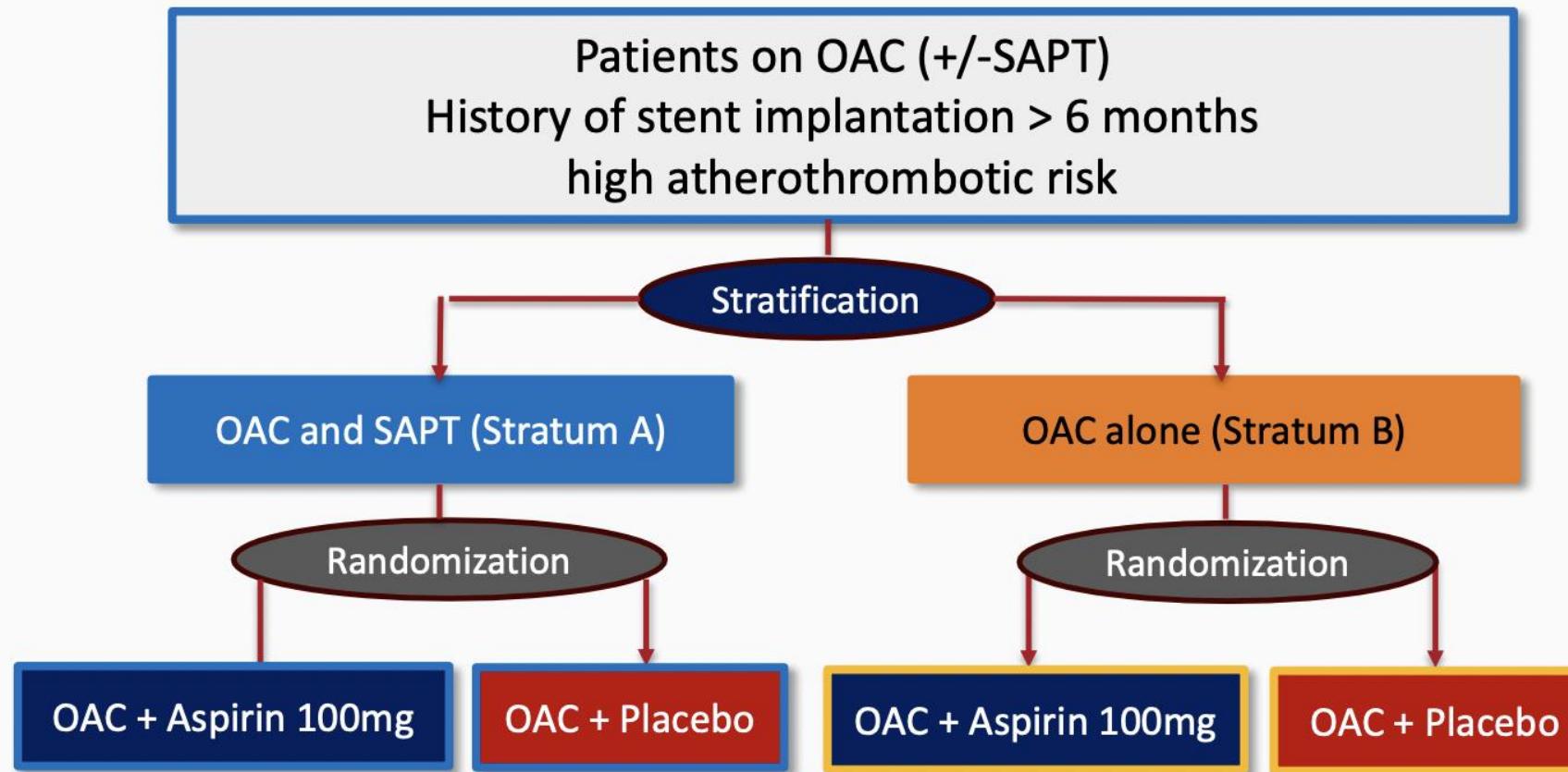
DAPT

+

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

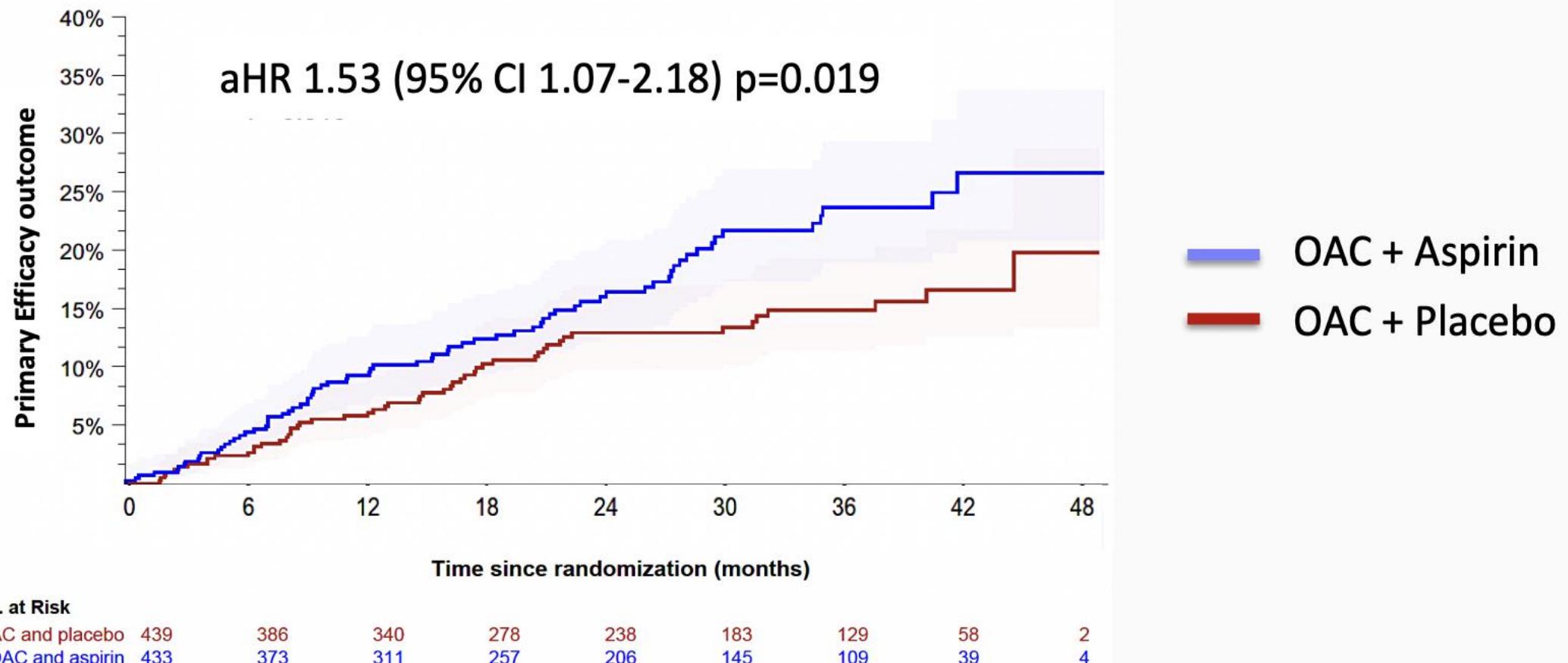
Contraindication to aspirin or OAC

Severe renal or hepatic insufficiency

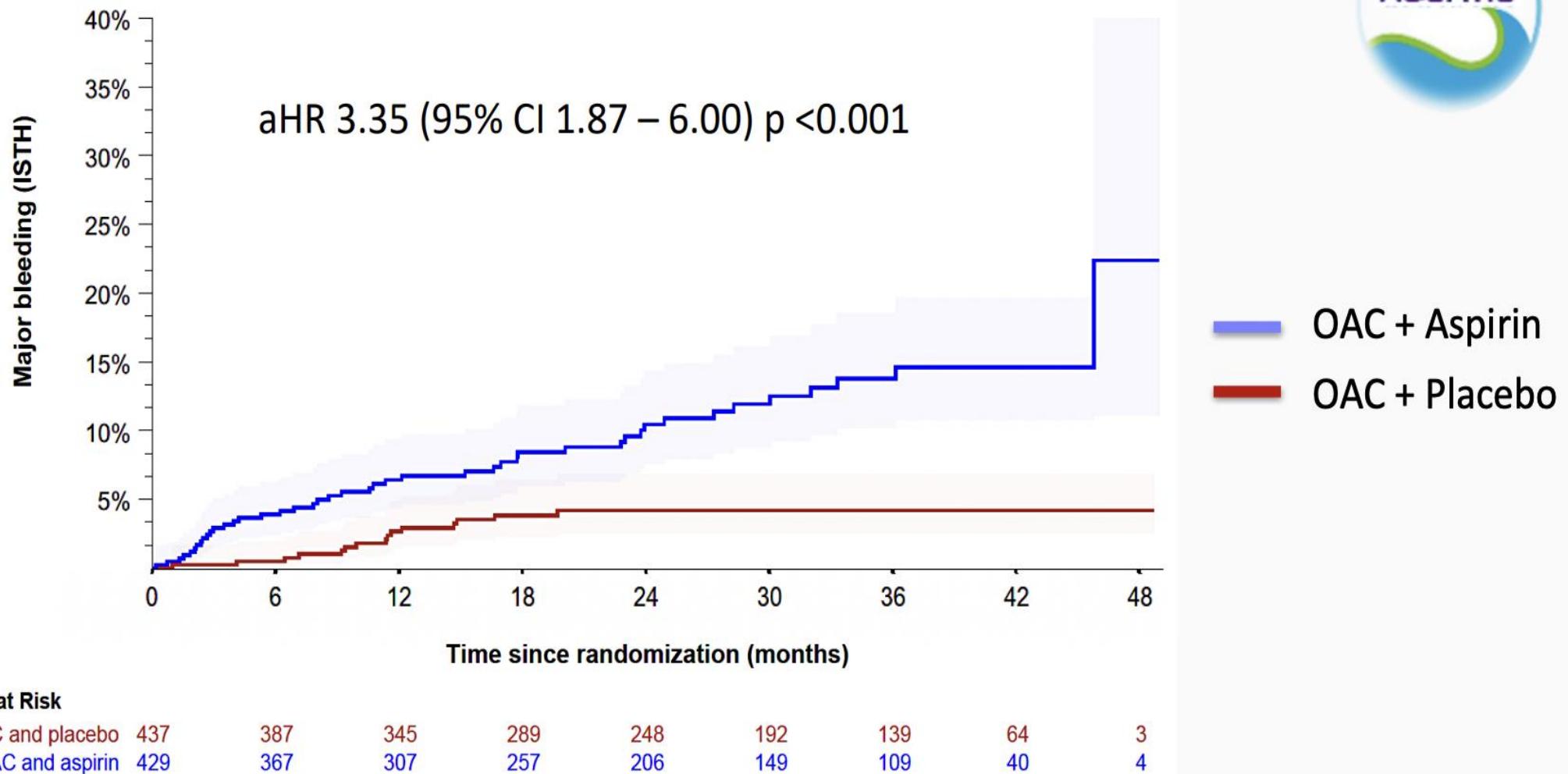
Severe uncontrolled heart failure

Primary efficacy outcome

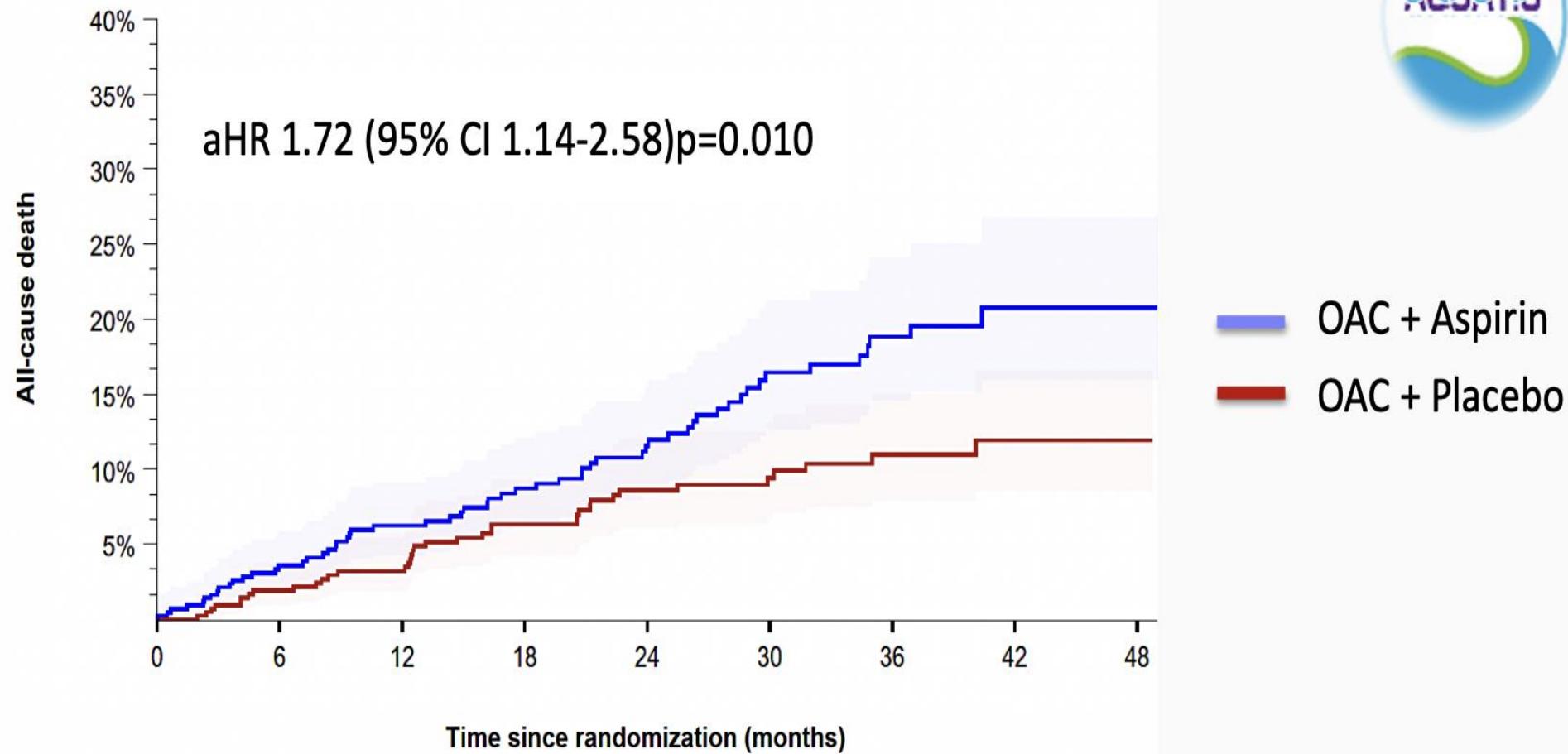
CV death, MI, stroke, systemic embolism,
any coronary revascularization and acute limb ischemia



Secondary safety outcome: ISTH major bleeding



All cause death





ORIGINAL ARTICLE

Aspirin in Patients with Chronic Coronary Syndrome Receiving Oral Anticoagulation

G. Lemesle,¹⁻⁴ R. Didier,⁵⁻⁷ P.G. Steg,^{4,8-10} T. Simon,^{4,9,11-13} G. Montalescot,^{11,14-16}
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D. Mottier,^{6,7,29,30} A. Diallo,^{12,16,31-33} E. Vicaut,^{12,16,31-33} M. Gilard,⁵⁻⁷
and G. Cayla,^{16,34,35} 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

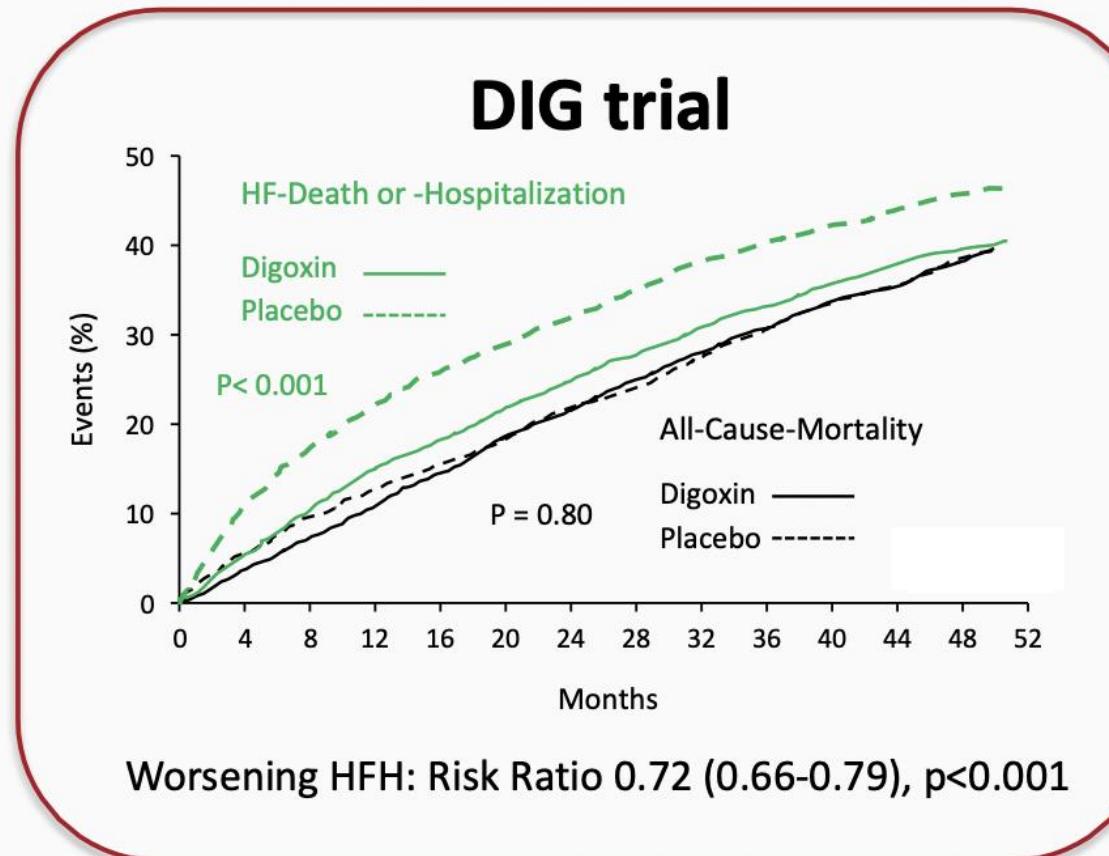


DIGIT-HF: Digitoxin in Patients with Heart Failure and Reduced Ejection Fraction

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.**



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

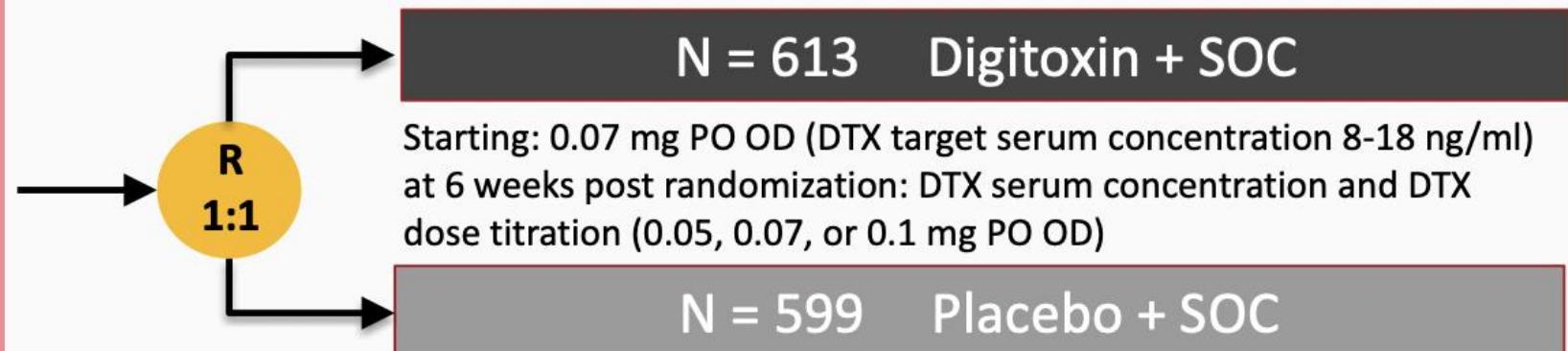
- Chronic HF
- NYHA II and LVEF \leq 30%
or
- NYHA III-IV and LVEF \leq 40%
- Evidence based HF therapy \geq 6 months

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)



Starting: 0.07 mg PO OD (DTX target serum concentration 8-18 ng/ml)
at 6 weeks post randomization: DTX serum concentration and DTX dose titration (0.05, 0.07, or 0.1 mg PO OD)

N = 599 Placebo + SOC

Follow-Up every 6 month after randomization

Sample size calculation based on estimation

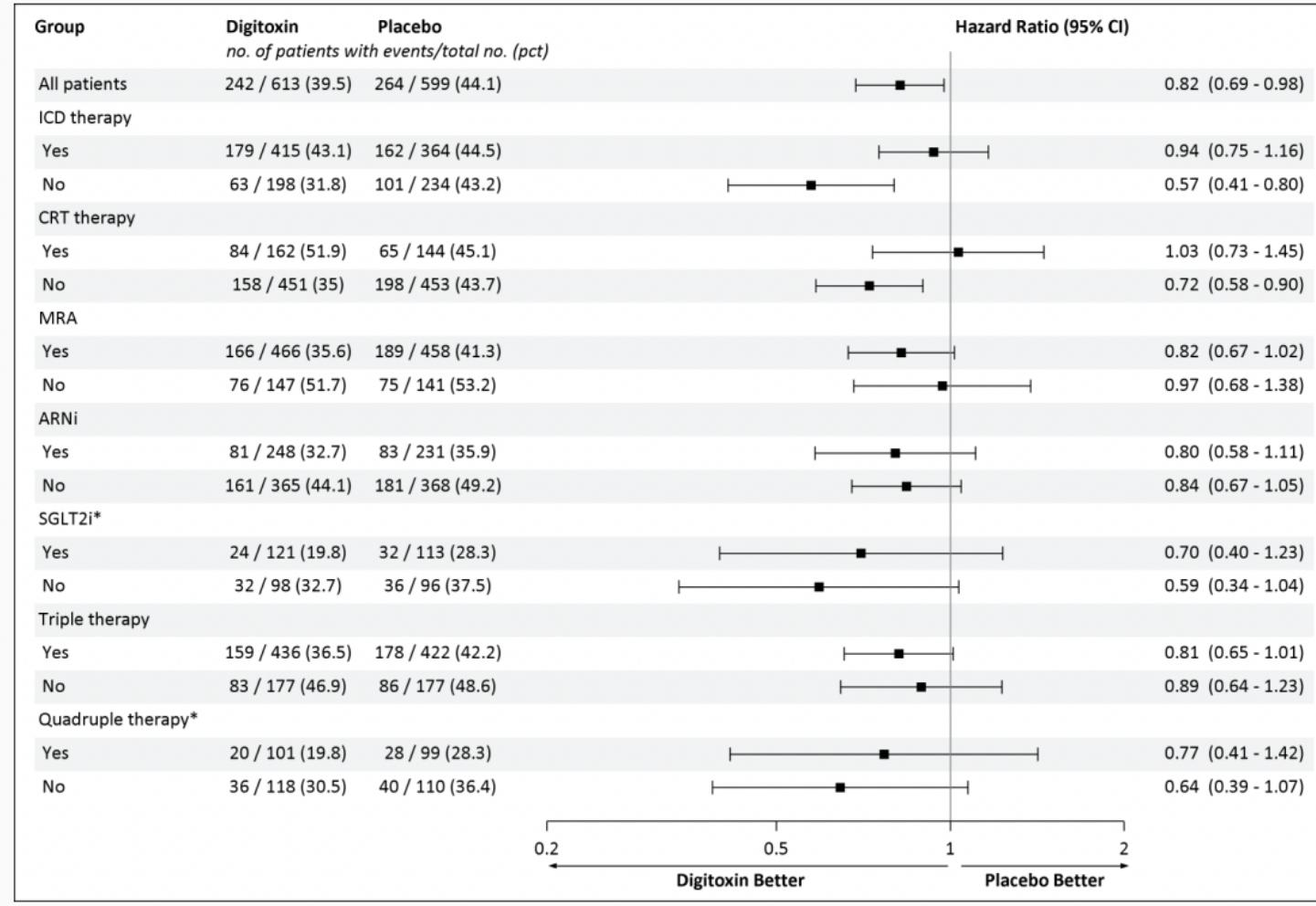
- at initial trial design: n=2190
- after trial extension 2019: n=1653

With funding from the:



Prespecified Subgroups for Primary Outcome II

Treatment effect of digitoxin appeared to be consistent



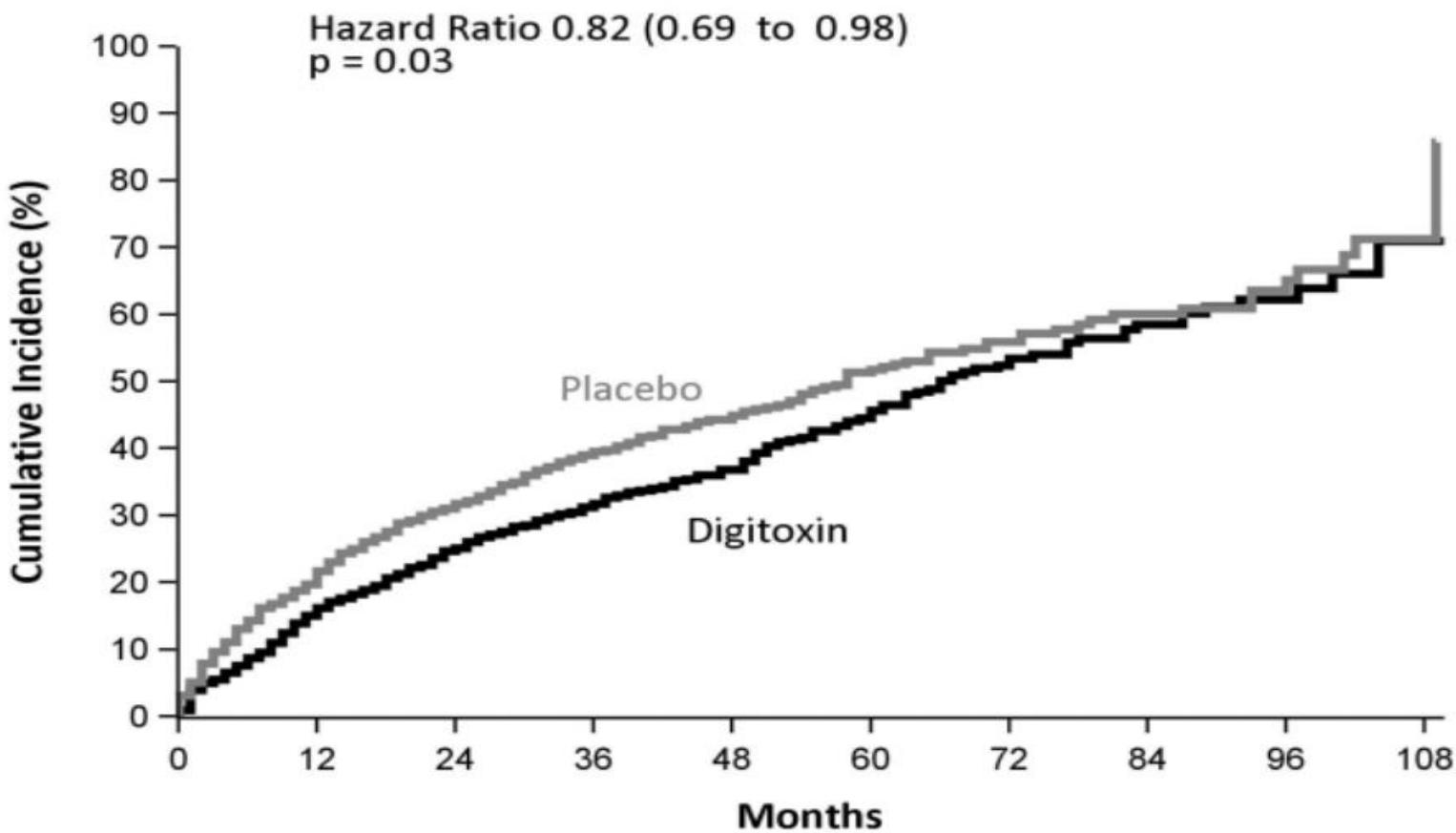
- ARNi
- SGLT2i
- Triple therapy
- Quadruple therapy

With funding from the:



Federal Ministry
of Research, Technology
and Space

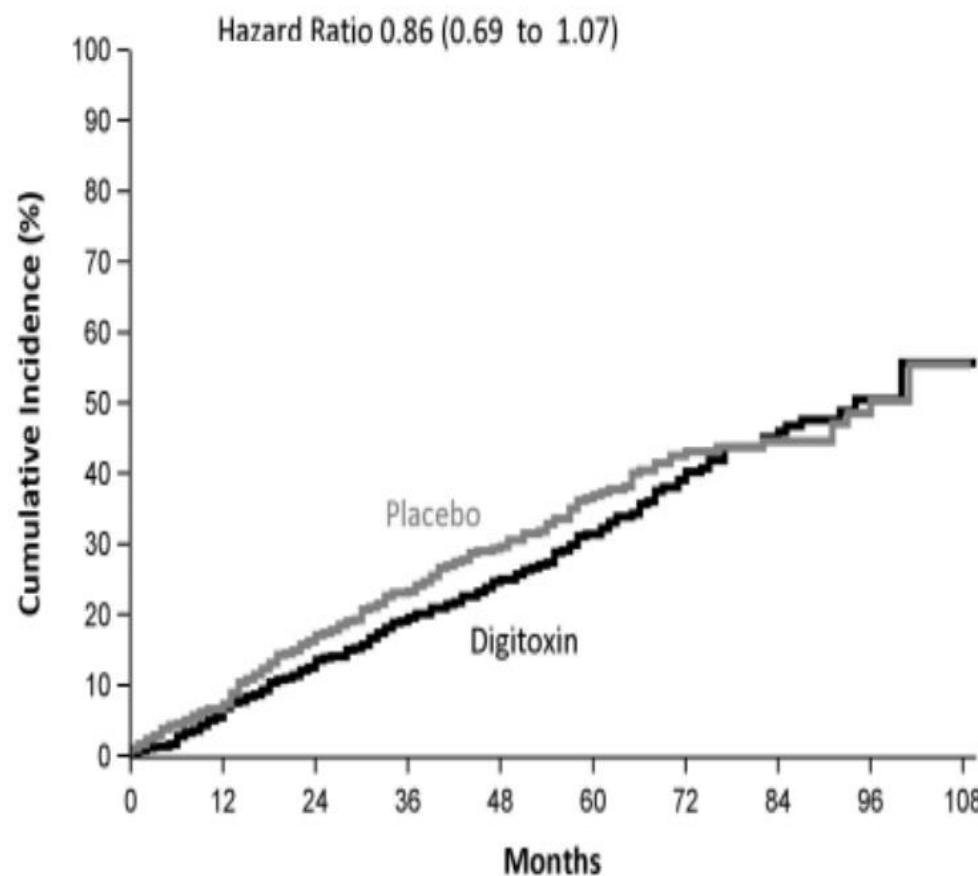
Death from any cause or first hospitalization for heart failure



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

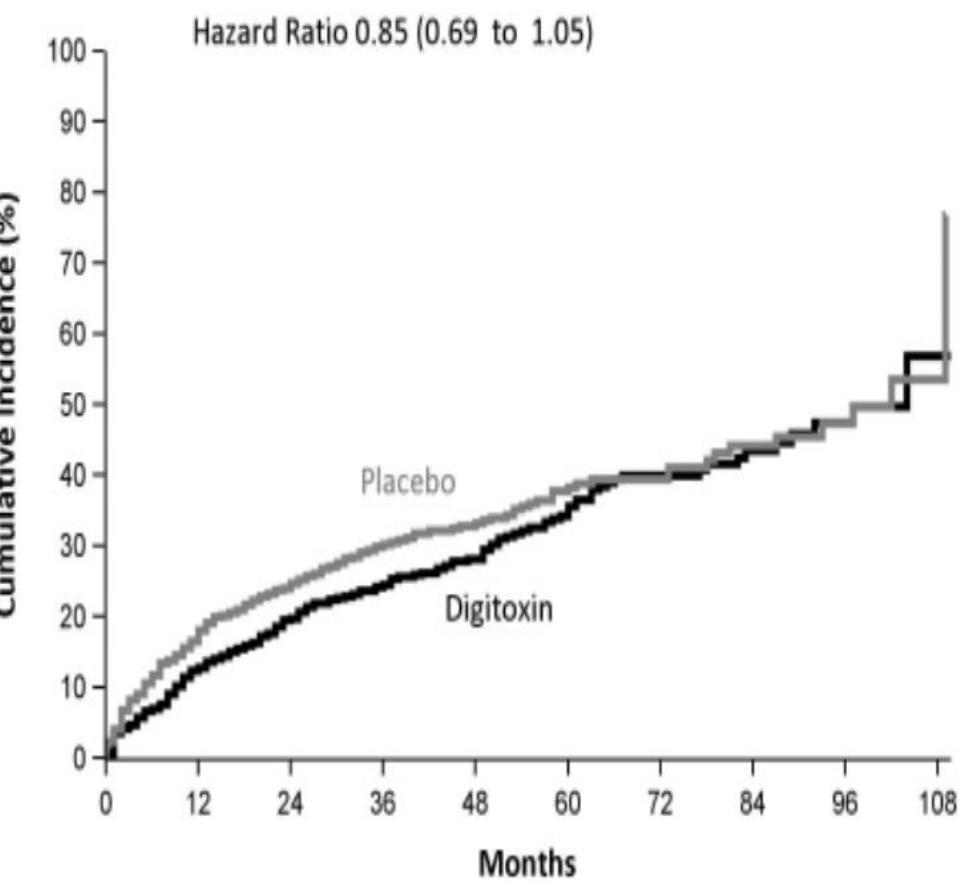
Death from any cause *



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



Scan to read the article

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

Recommendations	Class	Level	COR	LOE	Recommendation
Continuation of oral anticoagulation is recommended for at least 2 months after AF ablation in all patients, irrespective of rhythm outcome or CHA ₂ DS ₂ -VA score, to reduce the risk of peri-procedural ischaemic stroke and thromboembolism.	IC	C	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.
<u>Continuation of oral anticoagulation is recommended after AF ablation according to the patient's CHA₂DS₂-VA score, and not the perceived success of the ablation procedure, to prevent ischaemic stroke and thromboembolism.</u>	IC	C	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, CHA₂DS₂-VASc score ≥2)</u> .

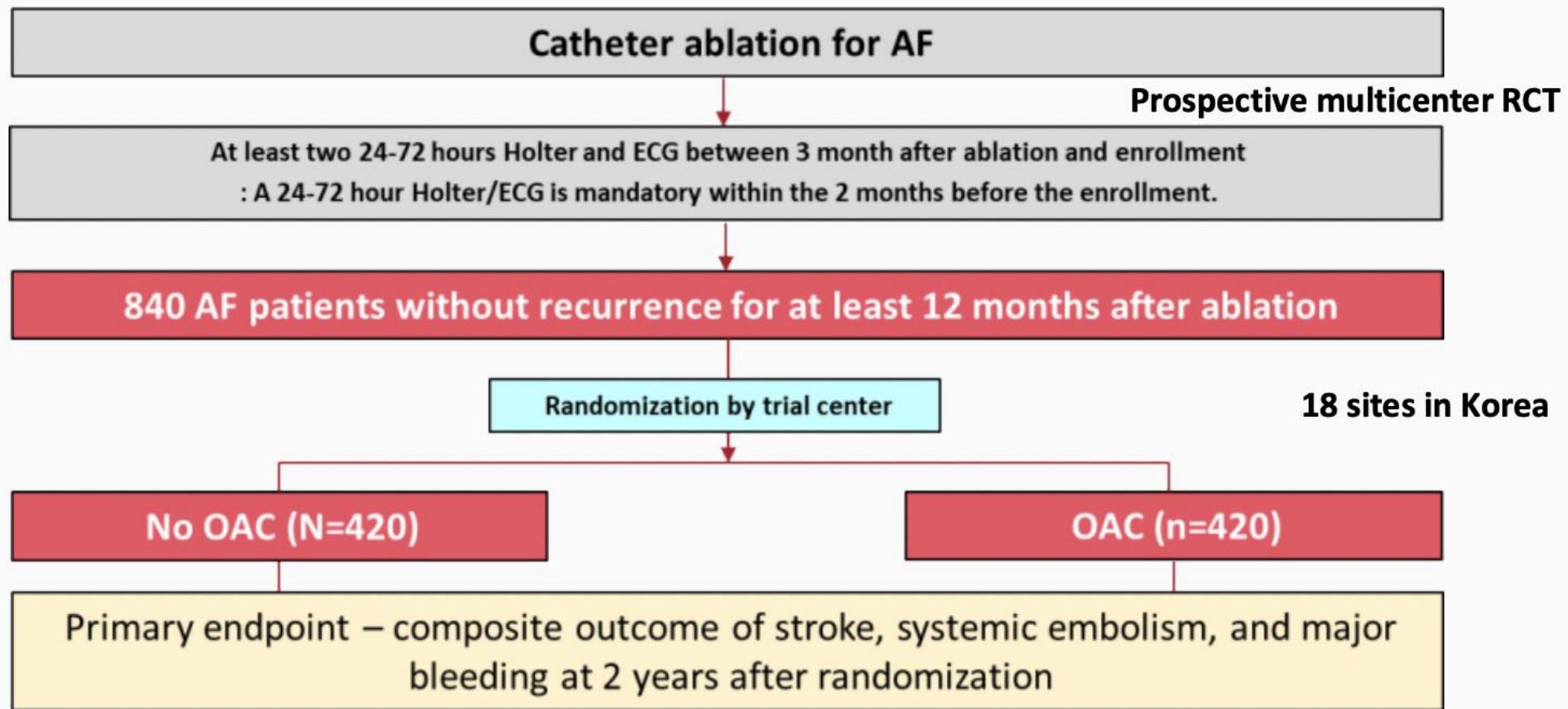
2023 AHA Guidelines. Circ 2023

Objective

- 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

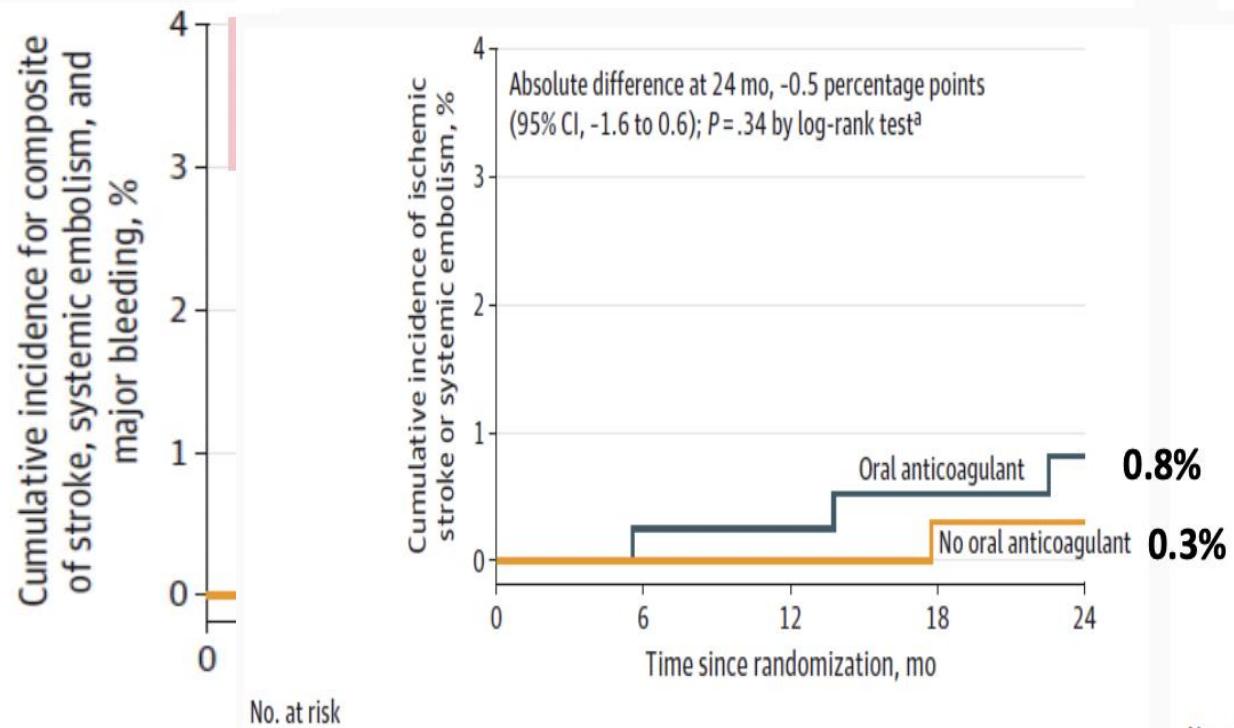
Inclusion criteria

1. Age between 19 and 80 years
2. CHA₂DS₂-VASc score ≥ 1 (male) or ≥ 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 ≥ 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

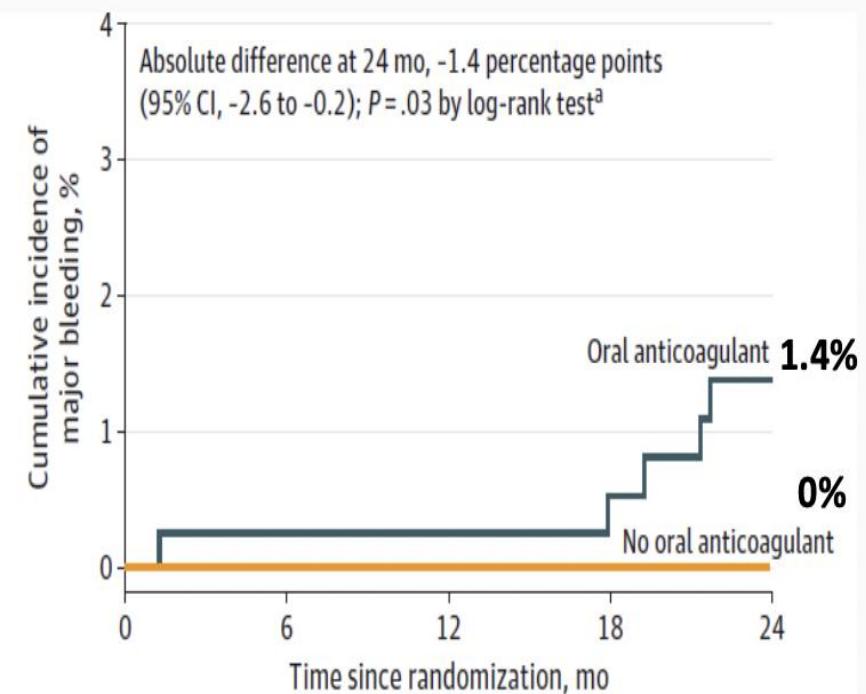
1. Significant liver or renal disease
2. Requiring anticoagulation due to surgery with a mechanical prosthetic valve, moderate-to-severe mitral stenosis, or deep vein thrombosis
3. Significant structural heart disease (moderate-to-severe mitral regurgitation, severe valvular regurgitation or stenosis, 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

Ischemic stroke or systemic embolism



No. at risk	
No oral anticoagulant	417
Oral anticoagulant	423

Major bleeding



No. at risk	
No oral anticoagulant	417
Oral anticoagulant	423

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

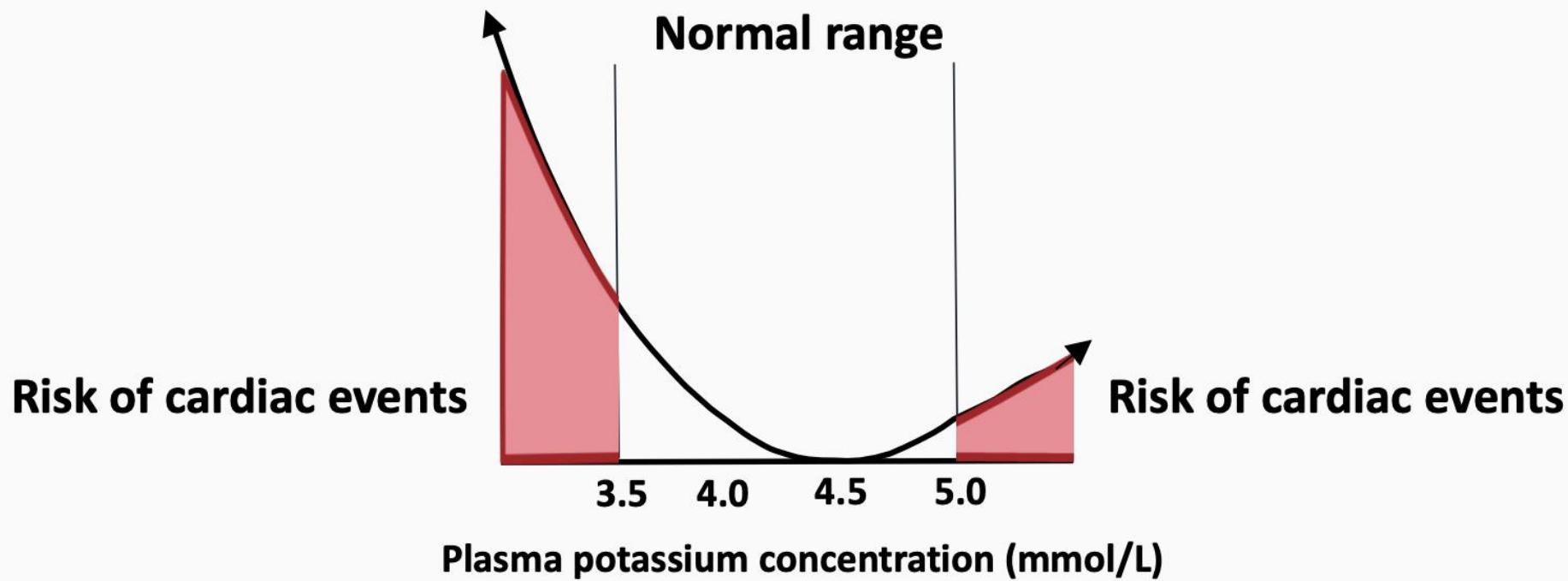


**A randomized controlled trial of arrhythmia prevention using
targeted plasma potassium levels in ICD Patients**

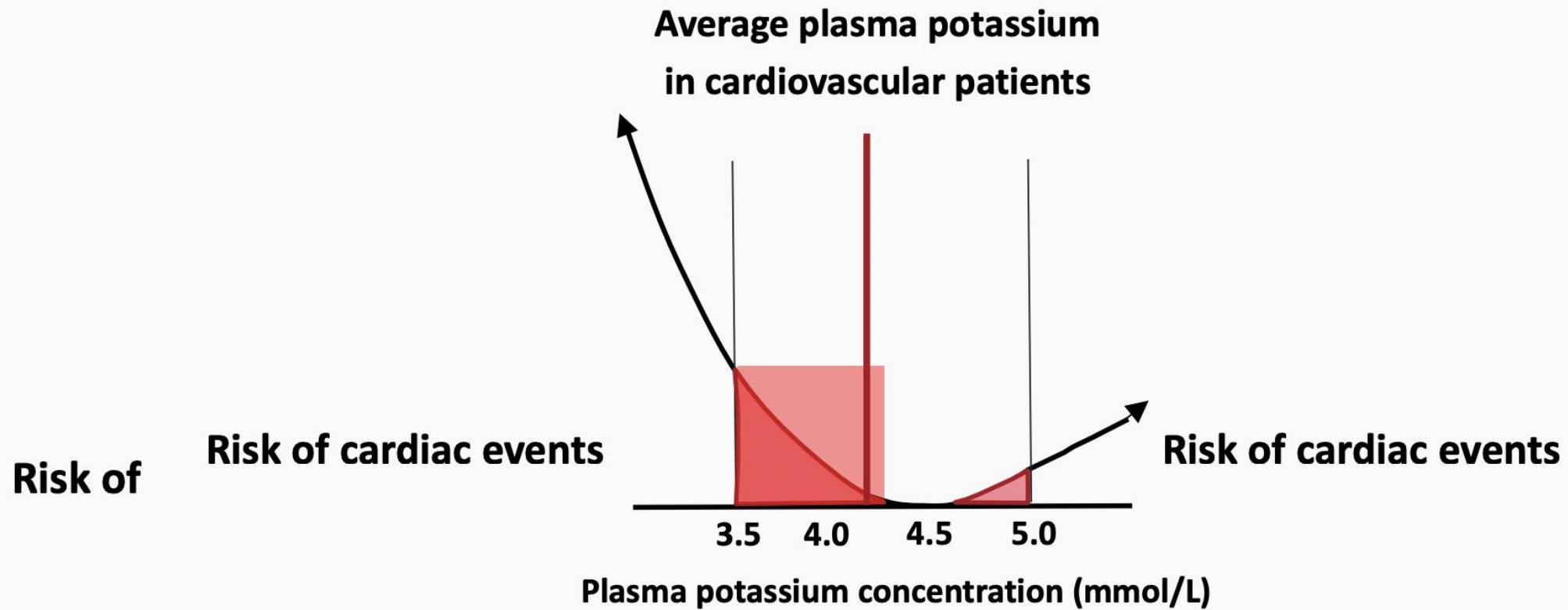
Christian Jons

The Heart Centre, Rigshospitalet, Copenhagen, Denmark

Background – The U-shaped risk

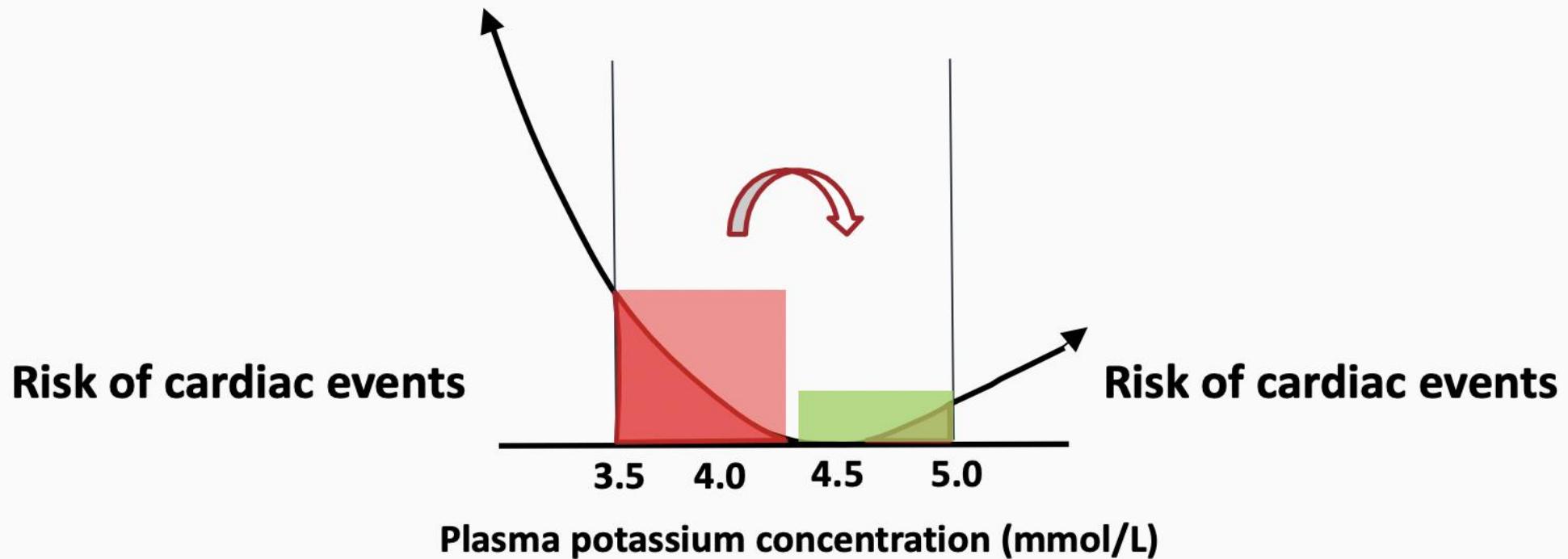


Background – The U-shaped risk



Background – The U-shaped risk

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



Study design



Inclusion criteria

- Plasma potassium ≤ 4.3 mmol/l
- Age ≥ 18 years
- ICD or CRT-D implanted

R

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Exclusion criteria

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



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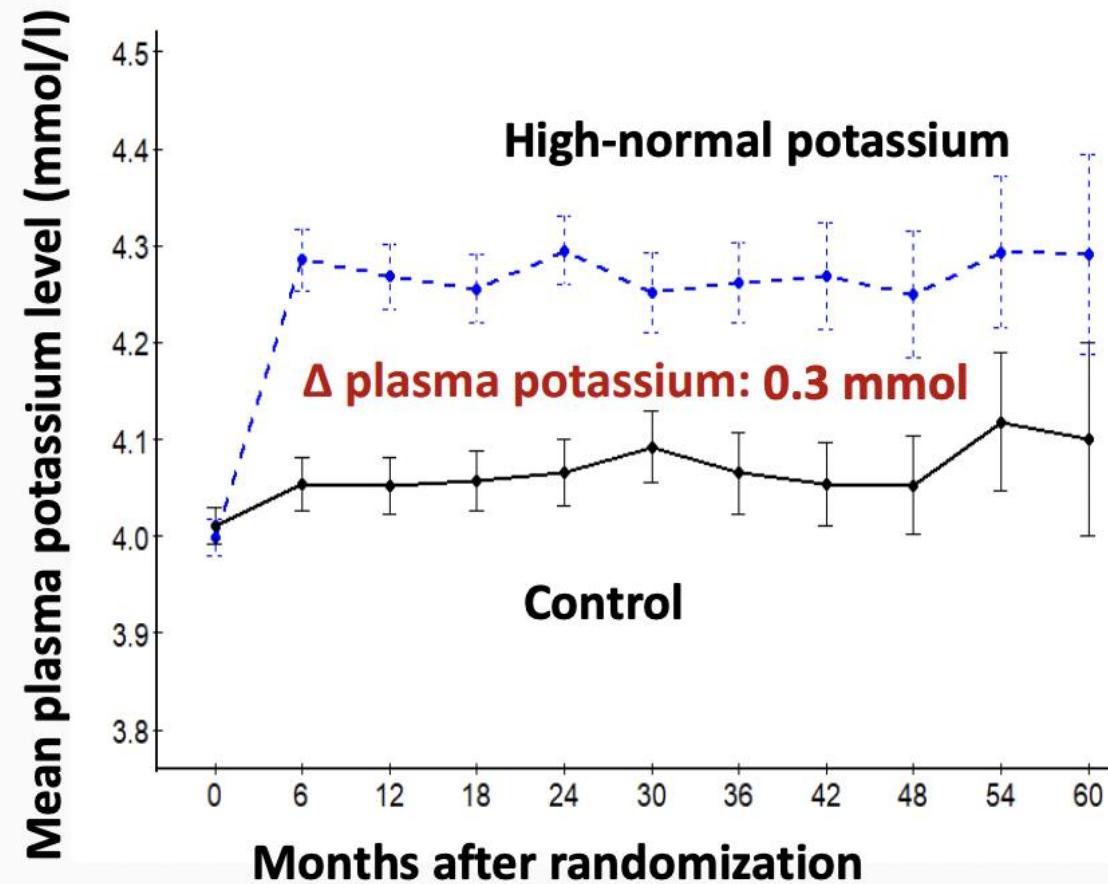


Plasma potassium uptitration

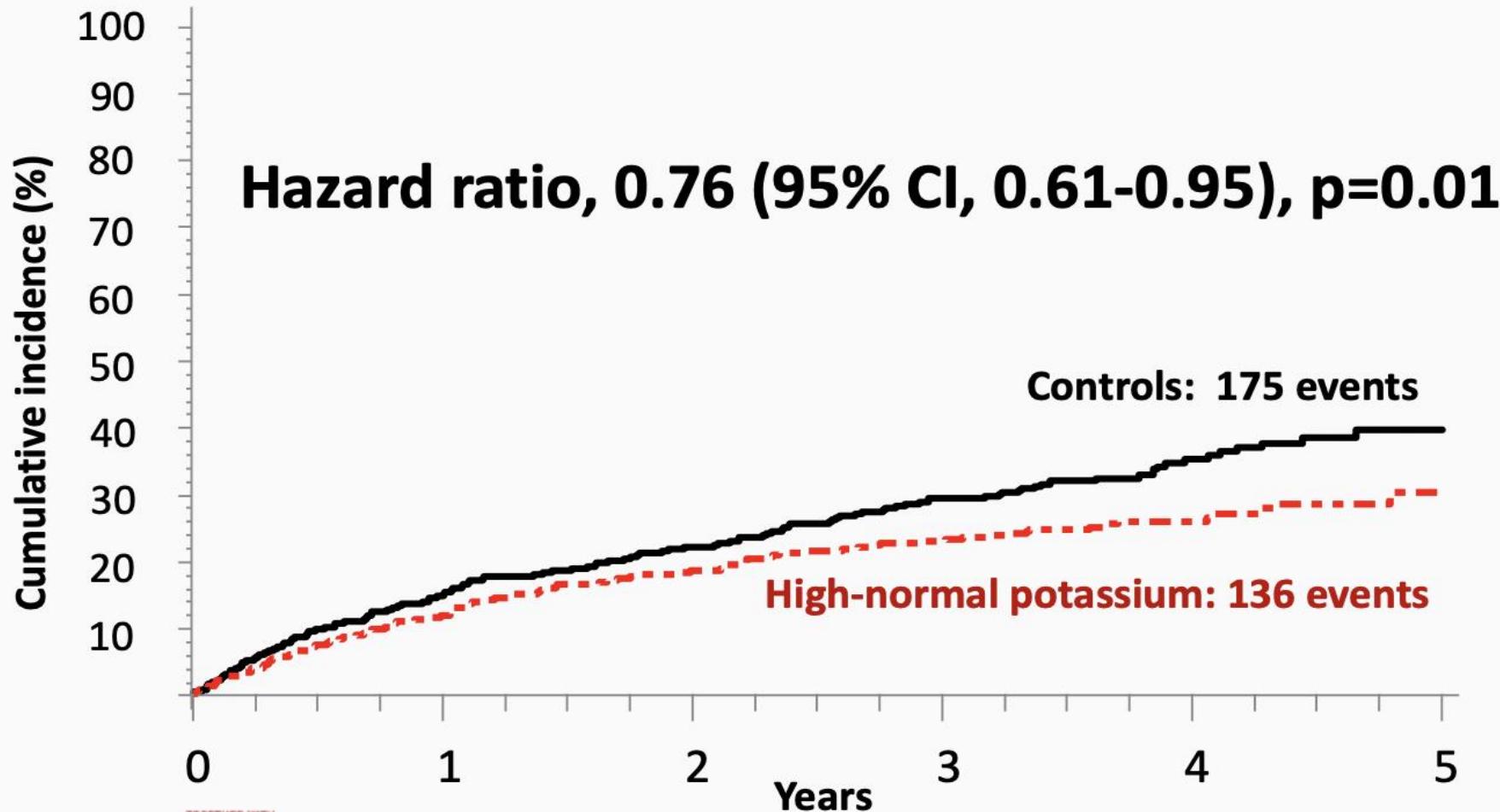
- Potassium-rich diet guidance
- Mineralocorticoid receptor antagonists
- Potassium supplements
- Potassium-losing diuretics reduced or stopped

Uptitration duration, mean 85 days

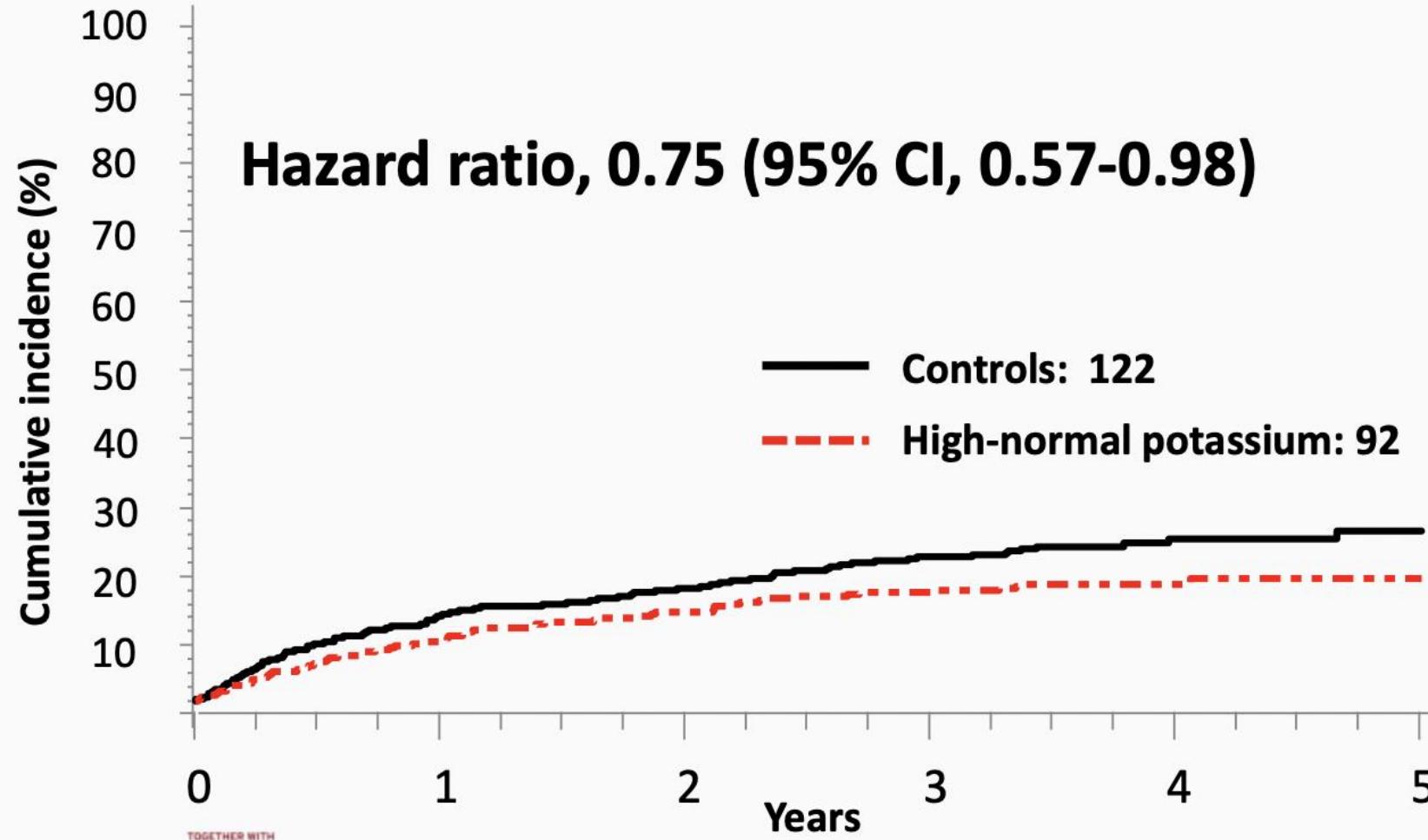
Plasma potassium increase ~ 0.3 mmol/L



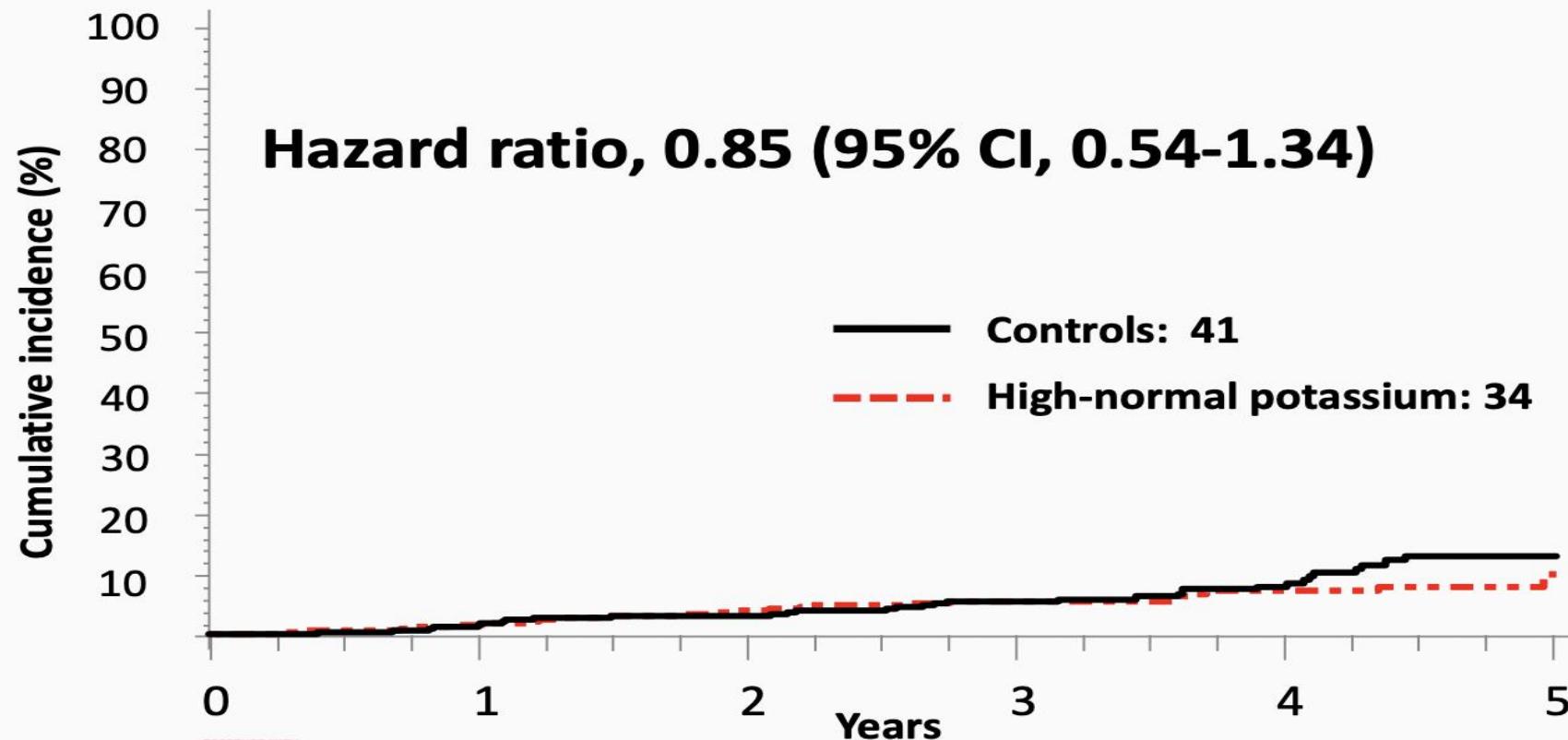
Composite end point



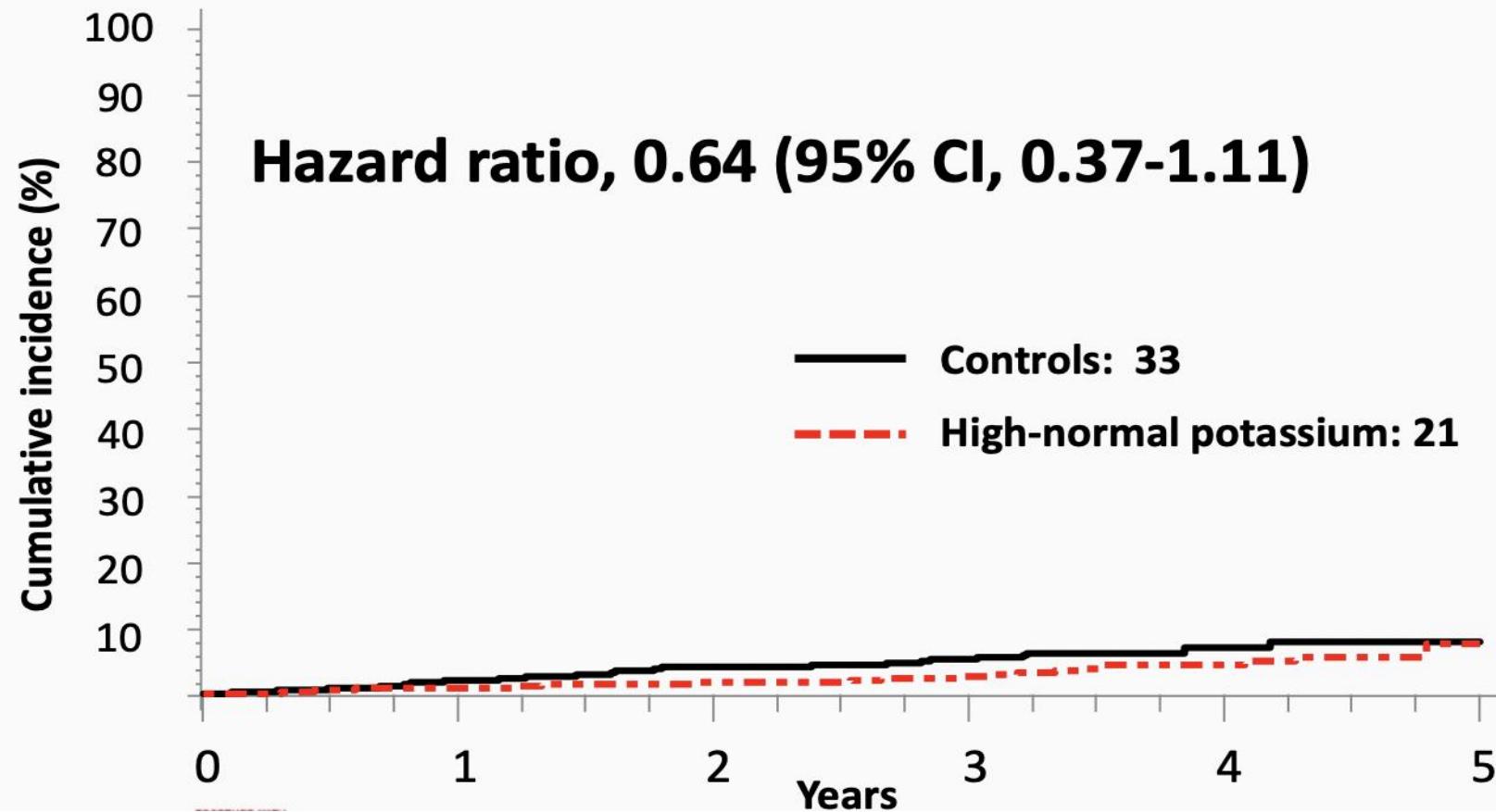
Appropriate ICD therapy or ECG-documented sustained VT



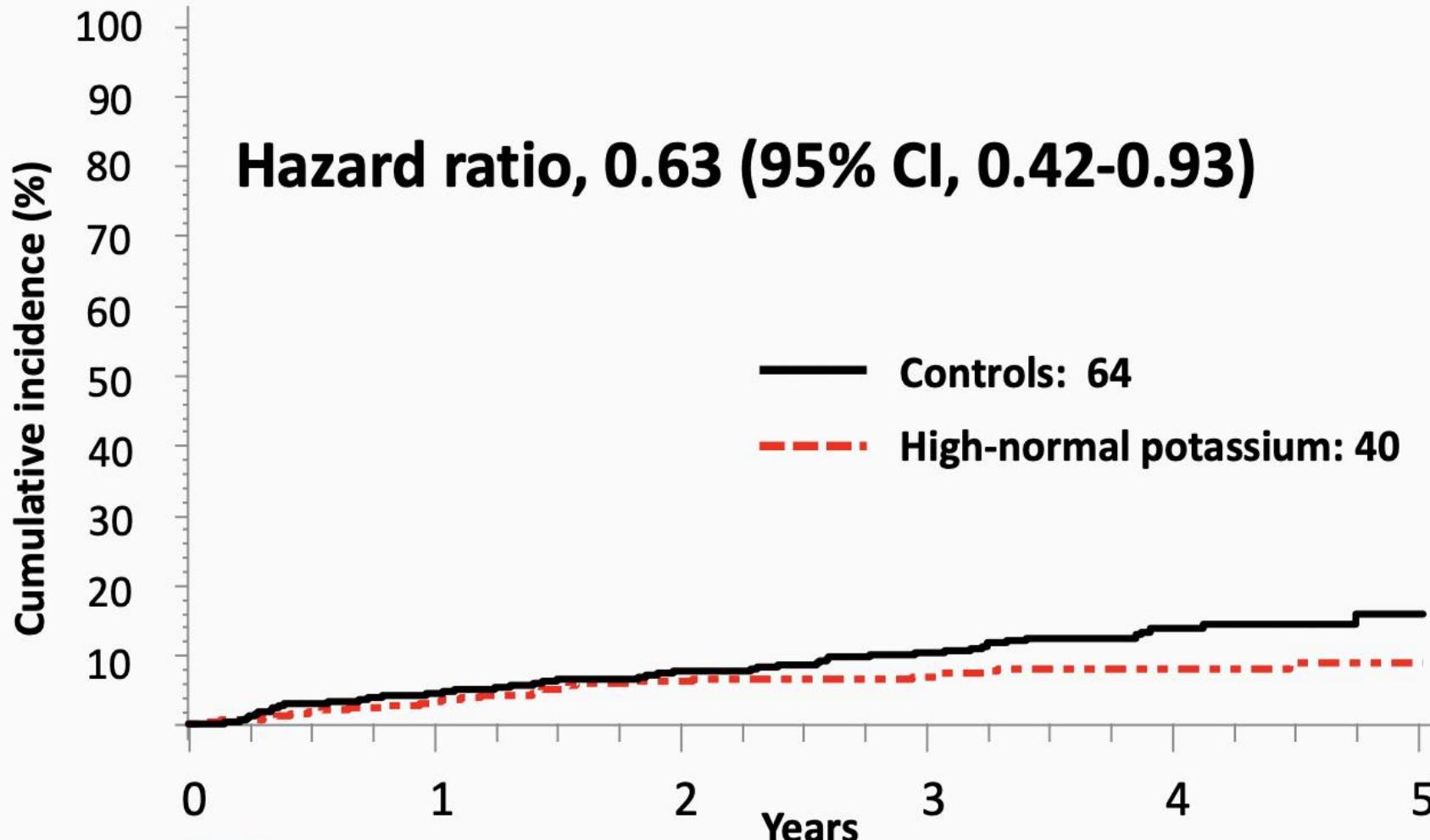
Death (All causes)



Heart failure hospitalization



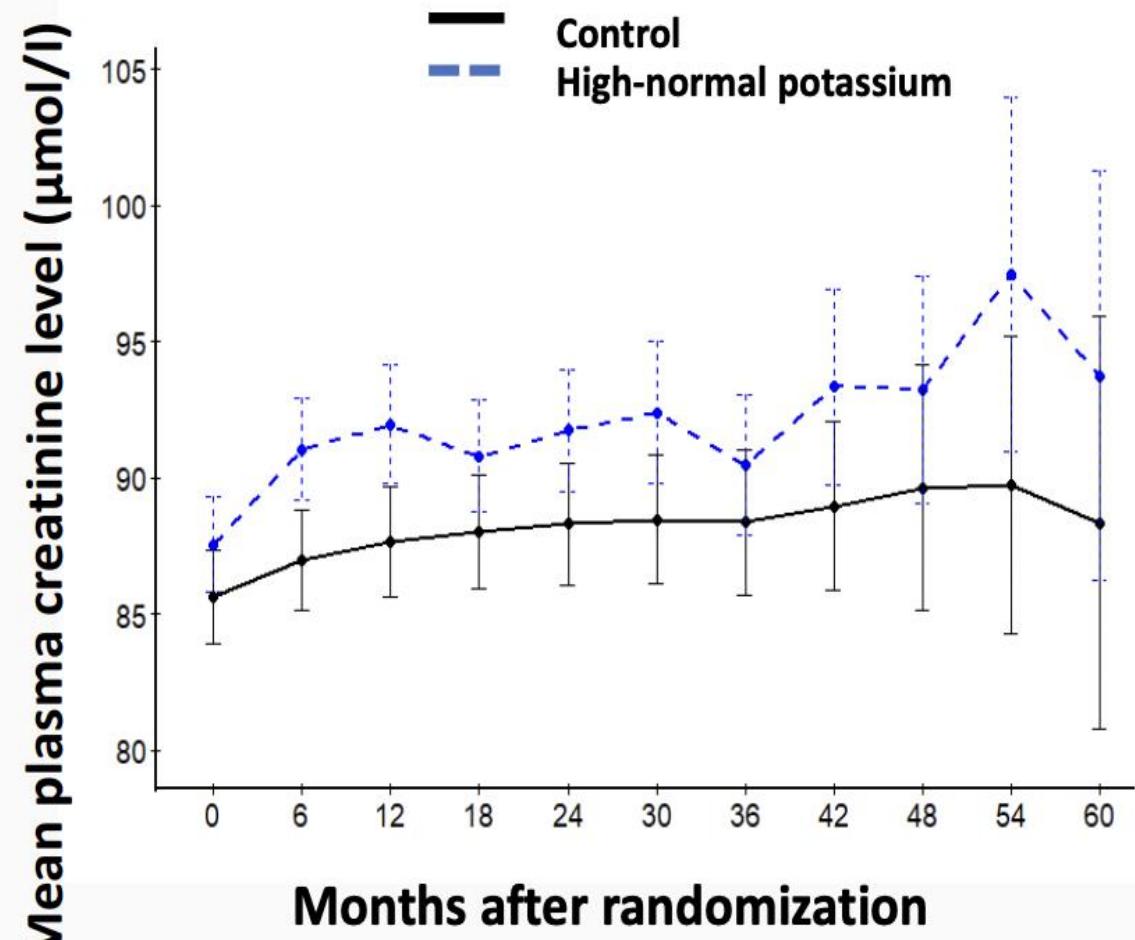
Arrhythmia hospitalization



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

- No deaths related to intervention
- Plasma creatinine increased ~ 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 ?





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