Krónikus koszorúér szindróma (CCS) diagnosztikája és kezelése'24

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Stabil angina/SCAD/CCS ajánlás ESC'2006-13-19-24

European Heart Journal
doi:10.1093/eurheartj/ehl002

ESC Guidelines

SCAD

CCS

Guidelines on the management of stable angina pectoris: full text‡

The Task Force on the Management of Stable Angina Pectoris of the European Society of Cardiology

Authors/Task Force Members, Kim Fox, Chairperson, London (UK)*, Maria Angeles Alonso Garcia, Madrid (Spain), Diego Ardissino, Parma (Italy), Pawel Buszman, Katowice (Poland), Paolo G. Camici, London (UK), Filippo Crea, Roma (Italy), Caroline Daly, London (UK), Guy De Backer, Ghent (Belgium), Paul Hjemdahl, Stockholm (Sweden), José Lopez-Sendon, Madrid (Spain), Jean Marco, Toulouse (France), João Morais, Leiria (Portugal), John Pepper, London (UK), Udo Sechtem, Stuttgart (Germany), Maarten Simoons, Rotterdam (The Netherlands), Kristian Thygesen, Aarhus (Denmark)

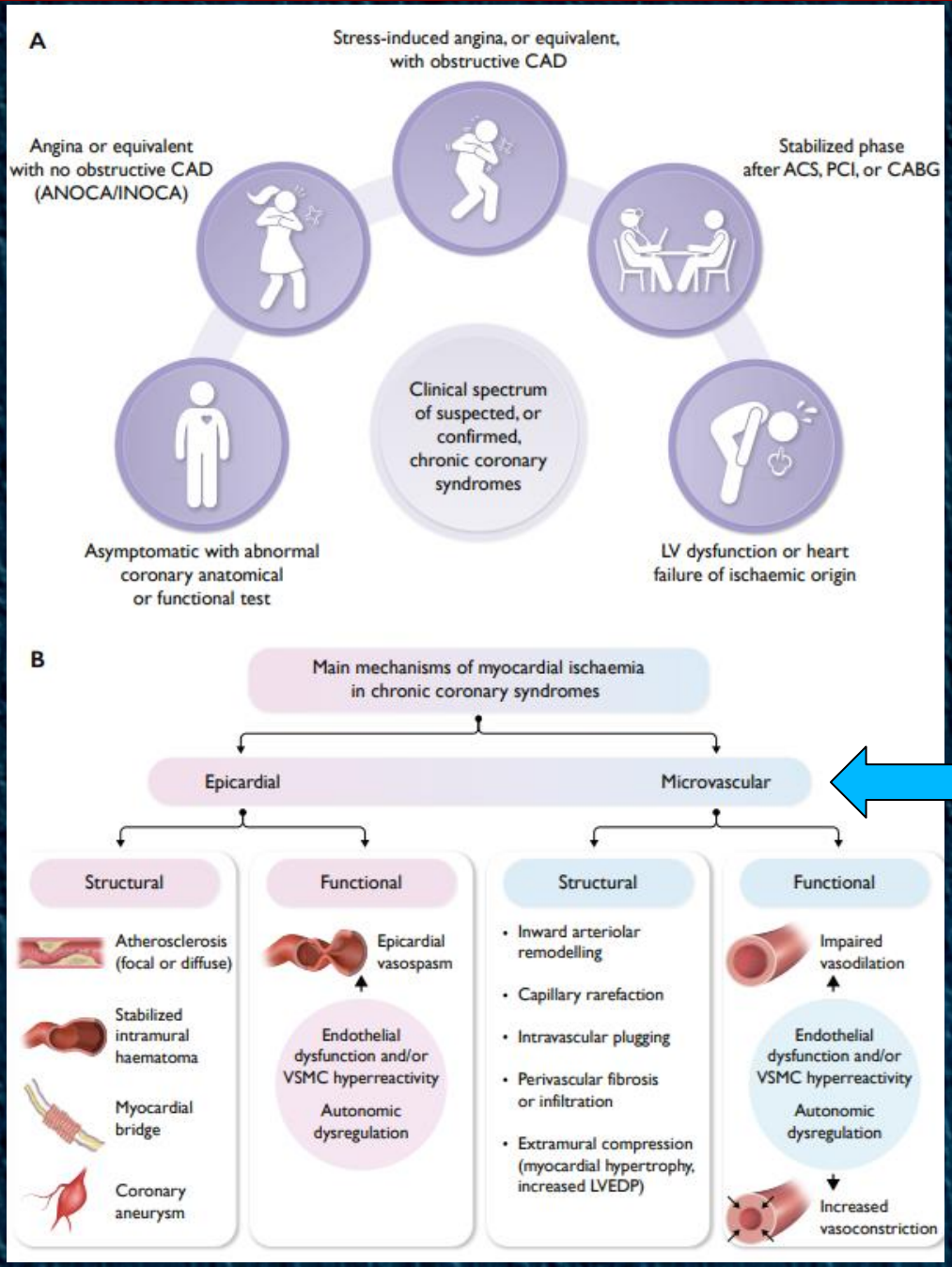
Stabil angina/SCAD/CCS fogalmak

Stabil angina – klinikai tünetegyüttes

Stabil koszorúér betegség – kibővített fogalom: stabil angina, stabil állapotú post-MI, post-PCI, post-CABG betegek

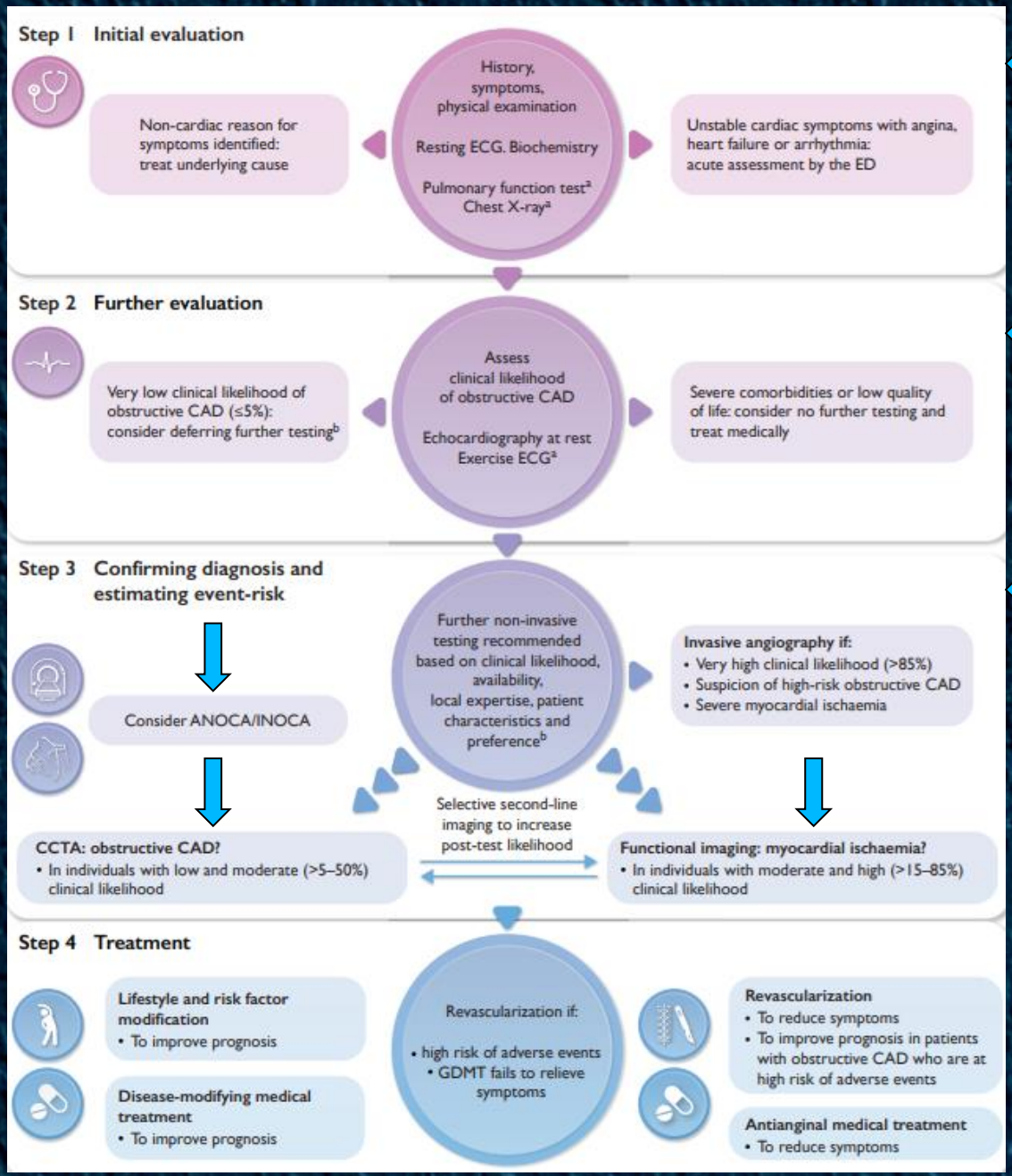
CCS – minden, ami nem ACS

Krónikus koronária szindróma típusai - ESC'24



Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

Krónikus koronária szindróma ellátása - ESC'24



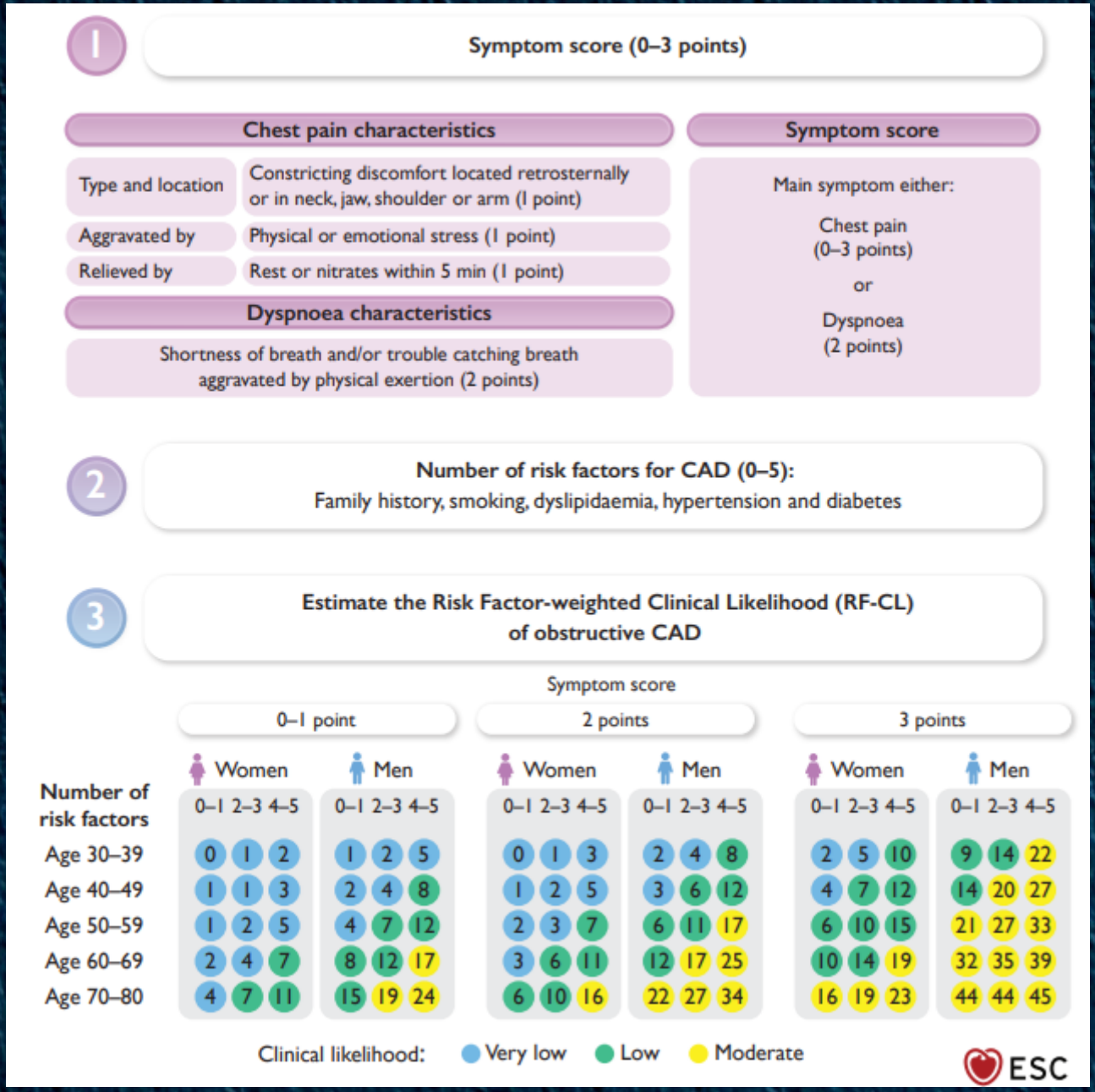
Családorvosi szint

Szakorvosi szint

Centrum szint

Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

Rizikó felmérés



Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

CCS klinikai valószínűsége

1 **Risk Factor-weighted Clinical Likelihood (RF-CL)** **(Class I)**

Symptom score

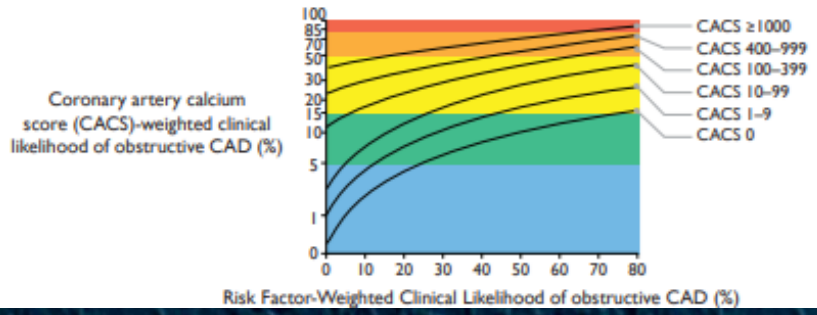
Number of risk factors	0–1 point				2 points				3 points			
	Women		Men		Women		Men		Women		Men	
	0–1	2–3	4–5	0–1	2–3	4–5	0–1	2–3	4–5	0–1	2–3	4–5	0–1	2–3	4–5	0–1	2–3	4–5
Age 30–39	0	1	2	1	2	5	0	1	3	2	4	8	2	5	10	9	14	22
Age 40–49	1	1	3	2	4	8	1	2	5	3	6	12	4	7	12	14	20	27
Age 50–59	1	2	5	4	7	12	2	3	7	6	11	17	6	10	15	21	27	33
Age 60–69	2	4	7	8	12	17	3	6	11	12	17	25	10	14	19	32	35	39
Age 70–80	4	7	11	15	19	24	6	10	16	22	27	34	16	19	23	44	44	45

Clinical likelihood: Very low Low Moderate

2 **Adjust clinical likelihood based on abnormal clinical findings** **(Class I)**

- Resting ECG changes (Q-wave or ST-segment/T-wave changes)
- Exercise ECG with abnormal findings
- LV dysfunction (severe or segmental)
- Ventricular arrhythmia
- Peripheral artery disease
- Coronary calcification on pre-existing chest CT

3 **Consider reclassification of low RF-CL (>5–15%) using CACS to identify very low (≤5%) CACS-CL** **(Class IIa)**



Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

Terheléses EKG

Recommendations	Class[a]	Level[b]
Exercise ECG is recommended in selected patients[c] for the assessment of exercise tolerance, symptoms, arrhythmias, BP response, and event risk.	I	C
Exercise ECG may be considered as an alternative test to rule in and rule out CAD when non-invasive imaging tests are unavailable.[148,166,188,190,191]	IIb	B
An exercise ECG may be considered to refine risk stratification and treatment.[188]	IIb	B
In individuals with a low (>5%–15%) pre-test likelihood of obstructive CAD, an exercise ECG may be considered to identify patients in whom further testing can be deferred.[144]	IIb	C
Exercise ECG is not recommended for diagnostic purposes in patients with ≥0.1 mV ST-segment depression on resting ECG, left bundle branch block or who are being treated with digitalis.	III	C
In individuals with a low or moderate (>5%–50%) pre-test likelihood of obstructive CAD, an exercise ECG is not recommended to rule out CAD if CCTA or functional imaging tests are available.[148]	III	C

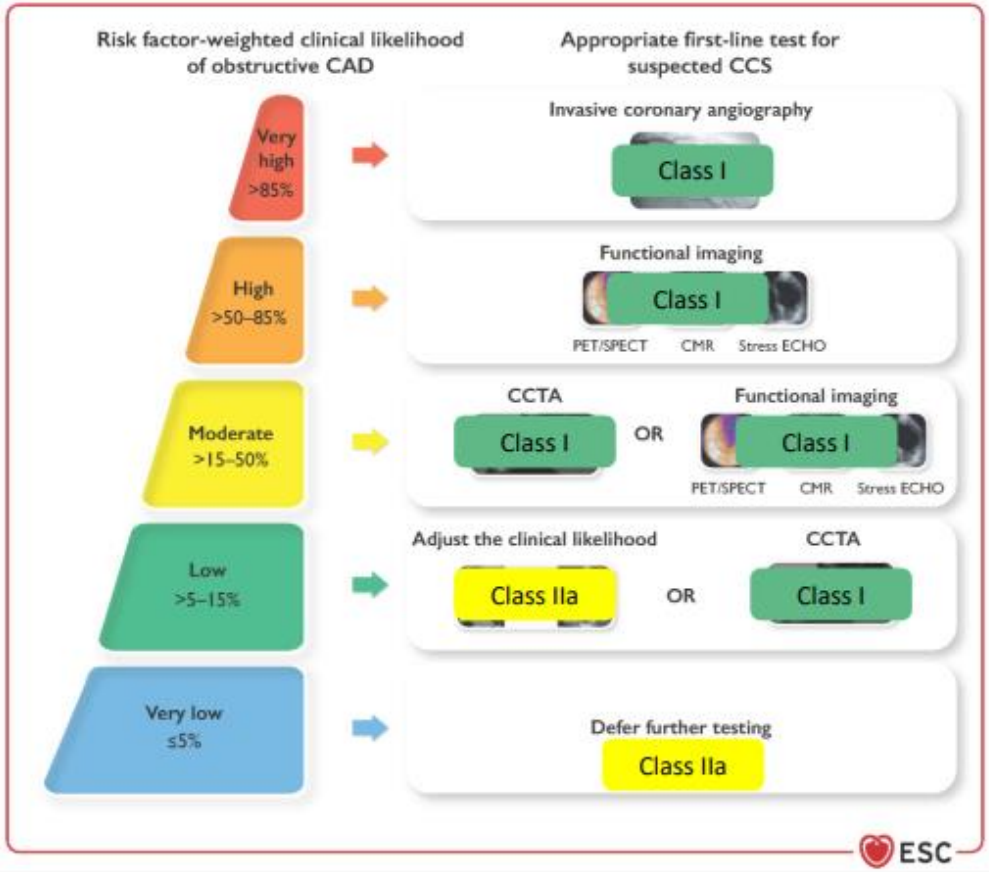
BP, blood pressure; CAD, coronary artery disease; CCTA, coronary computed tomography angiography; ECG, electrocardiogram.
[a]Class of recommendation.
[b]Level of evidence.
[c]When this information will have an impact on diagnostic strategy or management.

Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

CCS diagnosztika I.

Summary

Appropriate first-line testing in symptomatic patients with suspected CCS



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(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae177)

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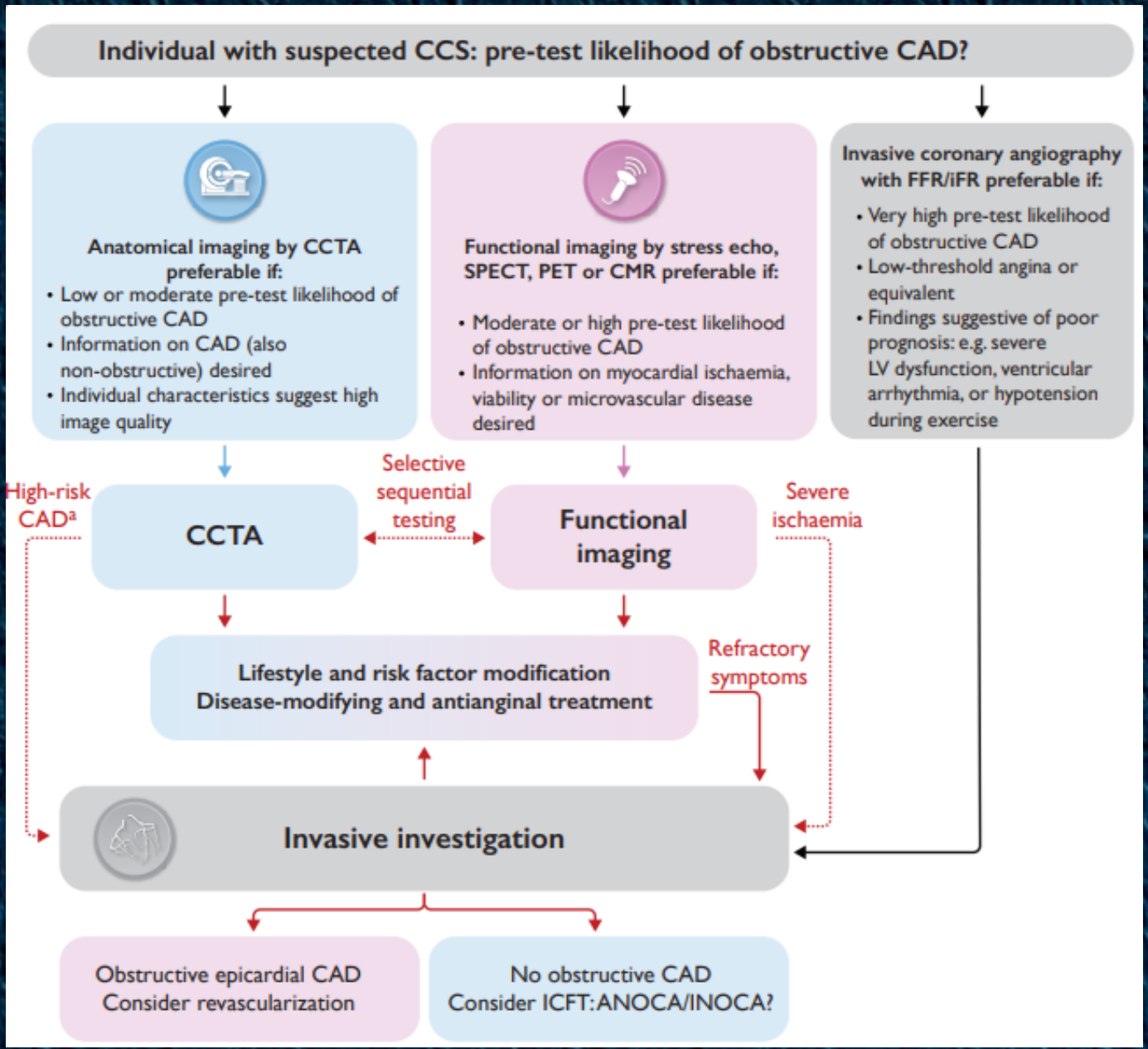
CCS diagnosztika II.



Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

Kezelési stratégiák (13)

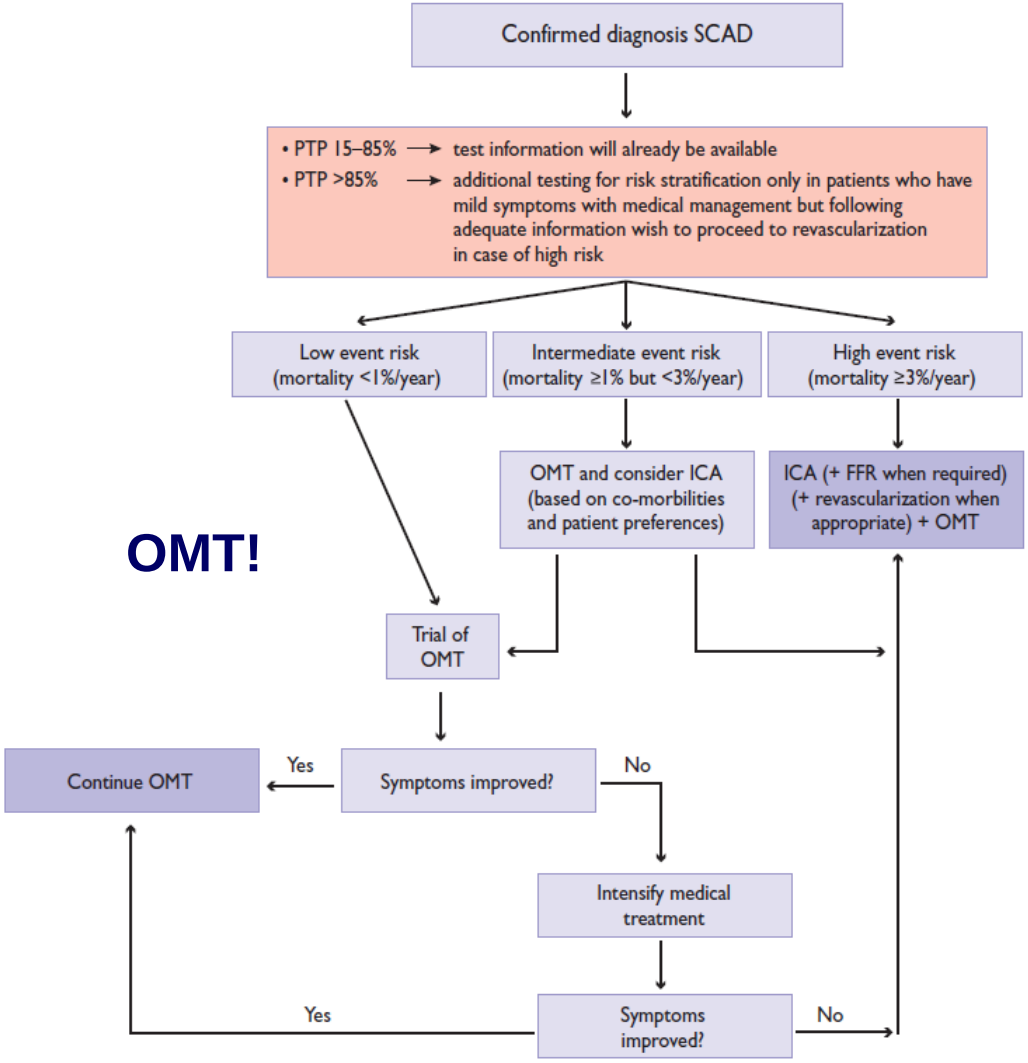


Figure 3 Management based on risk determination for prognosis in patients with chest pain and suspected SCAD (for choice of test see Fig. 2, for definitions of event risk see Table 17). ICA = invasive coronary angiography; OMT = optimal medical therapy; PTP = pre-test probability; SCAD = stable coronary artery disease.

G. Montalescot et al. Eur Heart J, doi:10.1093/eurheartj/eht296

Prognózis javítás: a „mágikus” négyes újra?
(hármas/kettes)

TCT aggr. gátló
(rezisztencia, dózis, kombináció, GI vérzés, új szerek?)

ACE-inhibitor
(ARB?)

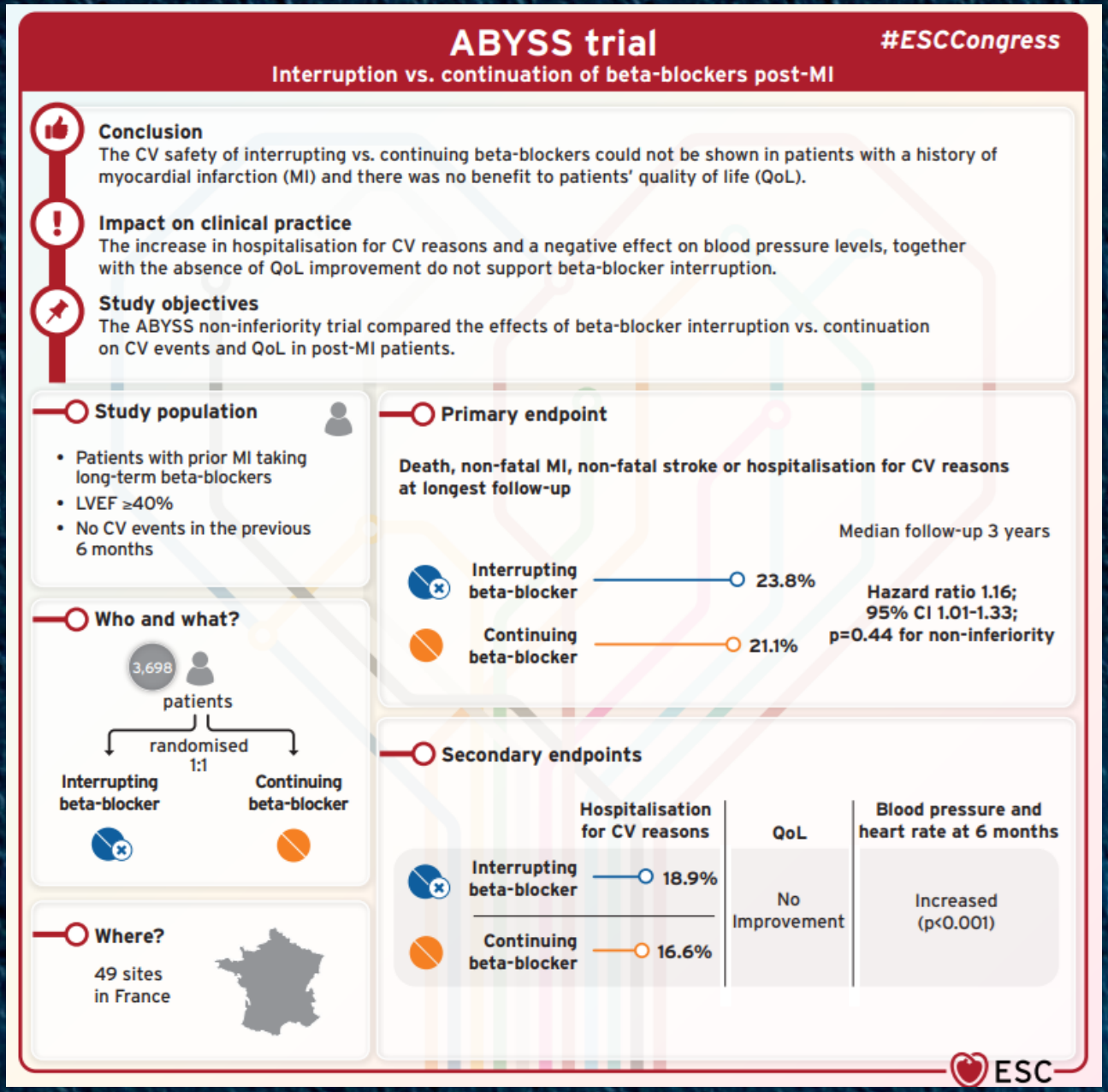
GLP1-agonista

Béta-blockoló

Kolhicin

Statin
(új szerek!)

ABYSS



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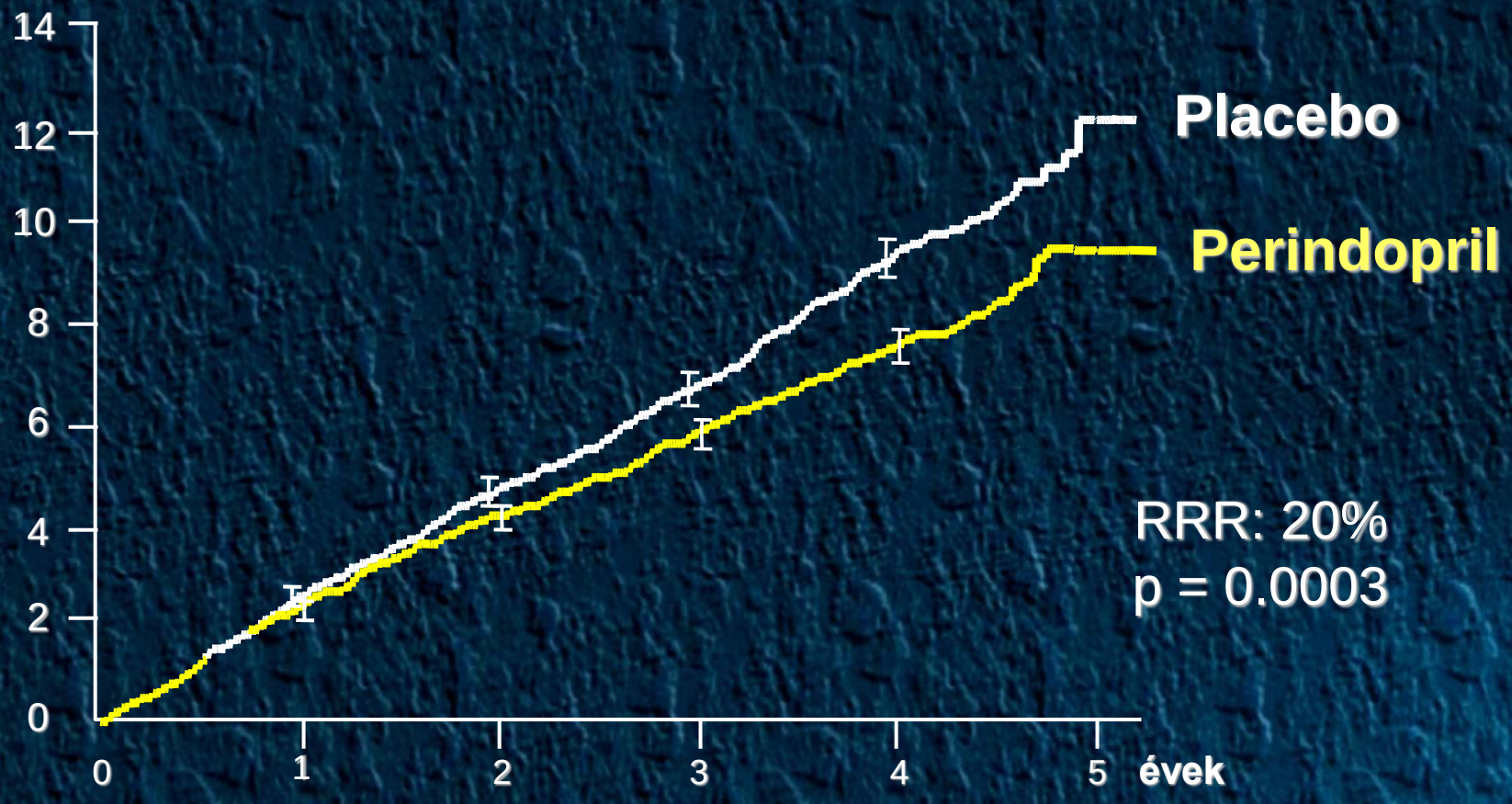
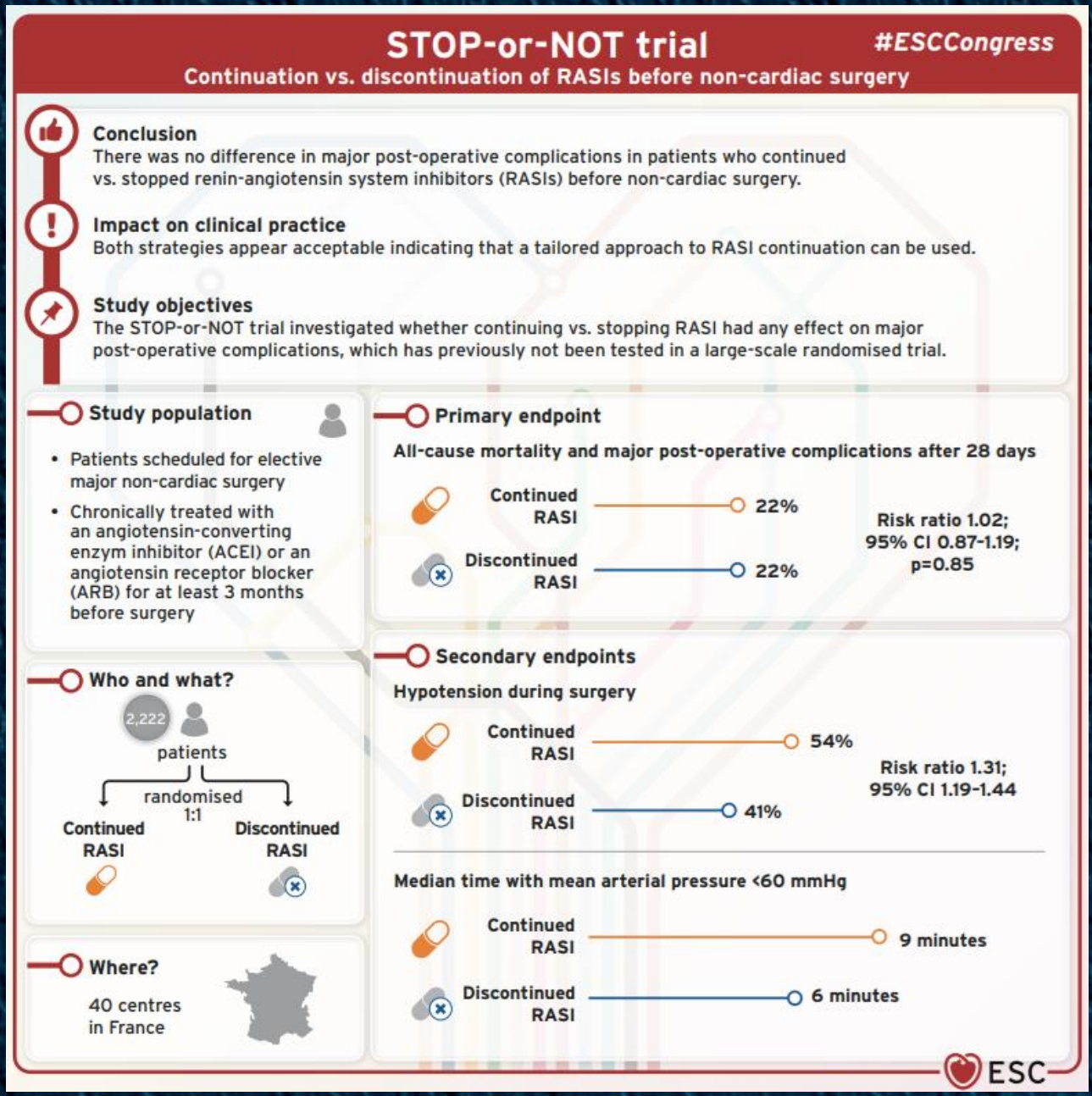
Elsődleges végpont



Placebo csoport, éves eseményráta: 2.4%

STOP-or-NOT



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Terápia: Prognózist javító szerek - TAG

Recommendations for antithrombotic therapy in patients with chronic coronary syndrome (1)

Long-term antithrombotic therapy in patients with chronic coronary syndrome and no clear indication for OAC

2019 Guidelines	Class	Level	2024 Guidelines	Class	Level
Antithrombotic therapy in patients with chronic coronary syndrome					
Aspirin 75–100 mg daily is recommended in patients with a previous MI or revascularization.	I	A	In CCS patients with a prior MI or remote PCI, aspirin 75–100 mg daily is recommended lifelong after an initial period of DAPT.	I	A
Clopidogrel 75 mg daily is recommended as an alternative to aspirin in patients with aspirin intolerance.	I	B			
Clopidogrel 75 mg daily may be considered in preference to aspirin in symptomatic and asymptomatic patients with either PAD or a history of ischaemic stroke or transient ischaemic attack.	IIb	B	In CCS patients with a prior MI or remote PCI, clopidogrel 75 mg daily is recommended as a safe and effective alternative to aspirin monotherapy.	I	A

2024 ESC Guidelines for the management of chronic coronary syndromes
(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae177)

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Prognózist javító szerek - TAG

Recommendations for antithrombotic therapy in patients with chronic coronary syndrome (2)

Long-term antithrombotic therapy in patients with chronic coronary syndrome and no clear indication for OAC

2019 Guidelines	Class	Level	2024 Guidelines	Class	Level
Antithrombotic therapy in patients with chronic coronary syndrome cont.					
Aspirin 75–100 mg daily may be considered in patients without a history of MI or revascularization, but with definitive evidence of CAD on imaging.	IIb	C	In patients *without* prior MI or revascularization but with evidence of significant obstructive CAD aspirin 75–100 mg daily is recommended lifelong.	I	B

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TAG PCI után

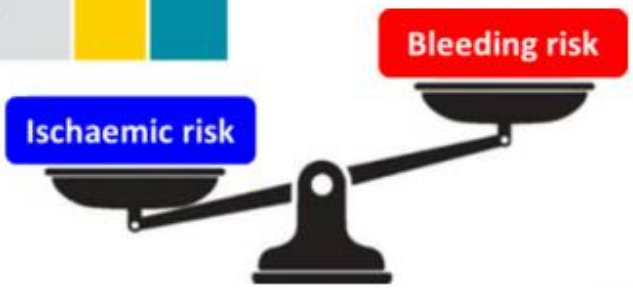
Recommendations for antithrombotic therapy in patients with chronic coronary syndrome (6)

ESC

Antithrombotic therapy post-percutaneous coronary intervention in patients with CCS and no indication for oral anticoagulation

2019 Guidelines	Class	Level	2024 Guidelines	Class	Level
Clopidogrel 75 mg daily following appropriate loading (e.g. 600 mg or >5 days of maintenance therapy) may be considered for 1 month in patients with very high risk of life-threatening bleeding.	IIb	C	In patients at high bleeding risk but not at high ischaemic risk, it is recommended to discontinue DAPT 1–3 months after PCI and continue single antiplatelet therapy.	I	A
Clopidogrel 75 mg daily following appropriate loading (e.g. 600 mg or >5 days of maintenance therapy) should be considered for 3 months in patients with a higher risk of life-threatening bleeding.	IIa	A			

Revised



2024 ESC Guidelines for the management of chronic coronary syndromes
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TAG + OAC PCI után

Recommendations for antithrombotic therapy in patients with chronic coronary syndrome (7)

2019 Guidelines	Class	Level	2024 Guidelines	Class	Level
Antithrombotic therapy post-percutaneous coronary intervention in chronic coronary syndrome patients and an indication for oral anticoagulation					
After uncomplicated PCI, early cessation (≤1 week) of aspirin and continuation of dual therapy with an OAC and clopidogrel should be considered if the risk of stent thrombosis is low, or if concerns about bleeding risk prevail over concerns about the risk of stent thrombosis, irrespective of the type of stent used.	IIa	B	After uncomplicated PCI in CCS patients with concomitant indication for OAC: • early cessation of aspirin (≤1 week); • followed by continuation of OAC and clopidogrel: ○ up to 6 months in patients not at high ischaemic risk or ○ up to 12 months in patients at high ischaemic risk; • followed by OAC alone; is recommended.	I	A

Revised

2024 ESC Guidelines for the management of chronic coronary syndromes
(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae177)

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Rizikó besorolás

Magas ischaemiás kockázat meghatározása:

- Diffúz, több eret érintő CAD és az alábbiak közül **legalább 1**:
  - Diabetes mellitus, amely gyógyszeres kezelést igényel
  - Ismétlődő MI
  - PAD
  - CKD, ha az eGFR 15–59 ml/min/1.73 m^2

Mérsékelten magas ischaemiás kockázat meghatározása:

- **Legalább 1** az alábbiak közül:
  - Több eret érintő/diffúz CAD
  - Diabetes mellitus, amely gyógyszeres kezelést igényel
  - Ismétlődő MI
  - PAD
  - HF
  - CKD, ha az eGFR 15–59 ml/min/1.73 m^2

2019 ESC CCS Guidelines

TAG + magas ischaemiás rizikóban

Recommendations for antithrombotic therapy in patients with chronic coronary syndrome (4)

Recommendations	Class	Level
Long-term antithrombotic therapy in patients with CCS and no clear indication for oral anticoagulation		
Adding a second antithrombotic agent to aspirin for extended long-term secondary prevention should be considered in patients at enhanced ischaemic risk and without high bleeding risk (options and definitions in Table 6 and in the Supplementary data online, *Tables S2* and *S3*).	IIa	A

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TAG + szerek

Options for extended intensified antithrombotic therapy

ESC

Drug	Dose	Clinical setting	NNT (ischaemic outcomes)	NNH (bleeding outcomes)
Co-administered with aspirin 100 mg o.d.				
Rivaroxaban (COMPASS trial; vs. placebo)	2.5 mg b.i.d.	Patients with CAD or symptomatic PAD at high risk of ischaemic events	77	84 (modified-ISTH major bleeding)
Co-administered with low-dose aspirin 75–162 mg o.d.				
Clopidogrel, (6505/9961 of DAPT trial; vs. placebo)	75 mg/day	Post MI in patients who have tolerated DAPT for 1 year (25% ACS, 22% previous MI)	63	105 (moderate and severe GUSTO bleeds, or BARC 2, 3, and 5 bleeds)
Prasugrel, (3456/9961 of DAPT trial; vs. placebo)	10 mg/day (5 mg/day if body weight <60 kg or age ≥75 years)	Post PCI for MI in patients who have tolerated DAPT for 1 year	63	105 (as above)
Ticagrelor (PEGASUS-TIMI 54; vs. placebo)	60/90 mg b.i.d.	Post-MI in patients who have tolerated DAPT for 1 year	84	81 (TIMI major bleeds)

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(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae177)

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PPI használat

Recommendations	Class[a]	Level[b]
Use of proton pump inhibitors		
Concomitant use of a proton pump inhibitor is recommended in patients receiving aspirin monotherapy, DAPT, or OAC monotherapy who are at high risk of gastrointestinal bleeding.	I	A

AF = atrial fibrillation; b.i.d. = bis in die (twice a day); CAD = coronary artery disease; CCS = chronic coronary syndromes; CHA2DS2-VASc = Cardiac failure, Hypertension, Age >_75 [Doubled], Diabetes, Stroke [Doubled] Vascular disease, Age 6574 and Sex category [Female]; CKD = chronic kidney disease; DAPT = dual antiplatelet therapy; eGFR = estimated glomerular filtration rate; HF = heart failure; MI = myocardial infarction; NOAC = non-vitamin K antagonist oral anticoagulant; OAC = oral anticoagulant; o.d. = omni die (once a day); PAD = peripheral artery disease; PCI = percutaneous coronary intervention; VKA = vitamin K antagonist.

[a]Class of recommendation.

[b]Level of evidence.

[c]Diffuse multivessel CAD with at least one of the following: diabetes mellitus requiring medication, recurrent MI, PAD, or CKD with eGFR 1559 mL/min/1.73 m2.

[d]Prior history of intracerebral haemorrhage or ischaemic stroke, history of other intracranial pathology, recent gastrointestinal bleeding or anaemia due to possible gastrointestinal blood loss, other gastrointestinal pathology associated with increased bleeding risk, liver failure, bleeding diathesis or coagulopathy, extreme old age or frailty, or renal failure requiring dialysis or with eGFR <15 mL/min/1.73 m2.

[e]At least one of the following: multivessel/diffuse CAD, diabetes mellitus requiring medication, recurrent MI, PAD, HF, or CKD with eGFR 1559 mL/min/1.73 m2.

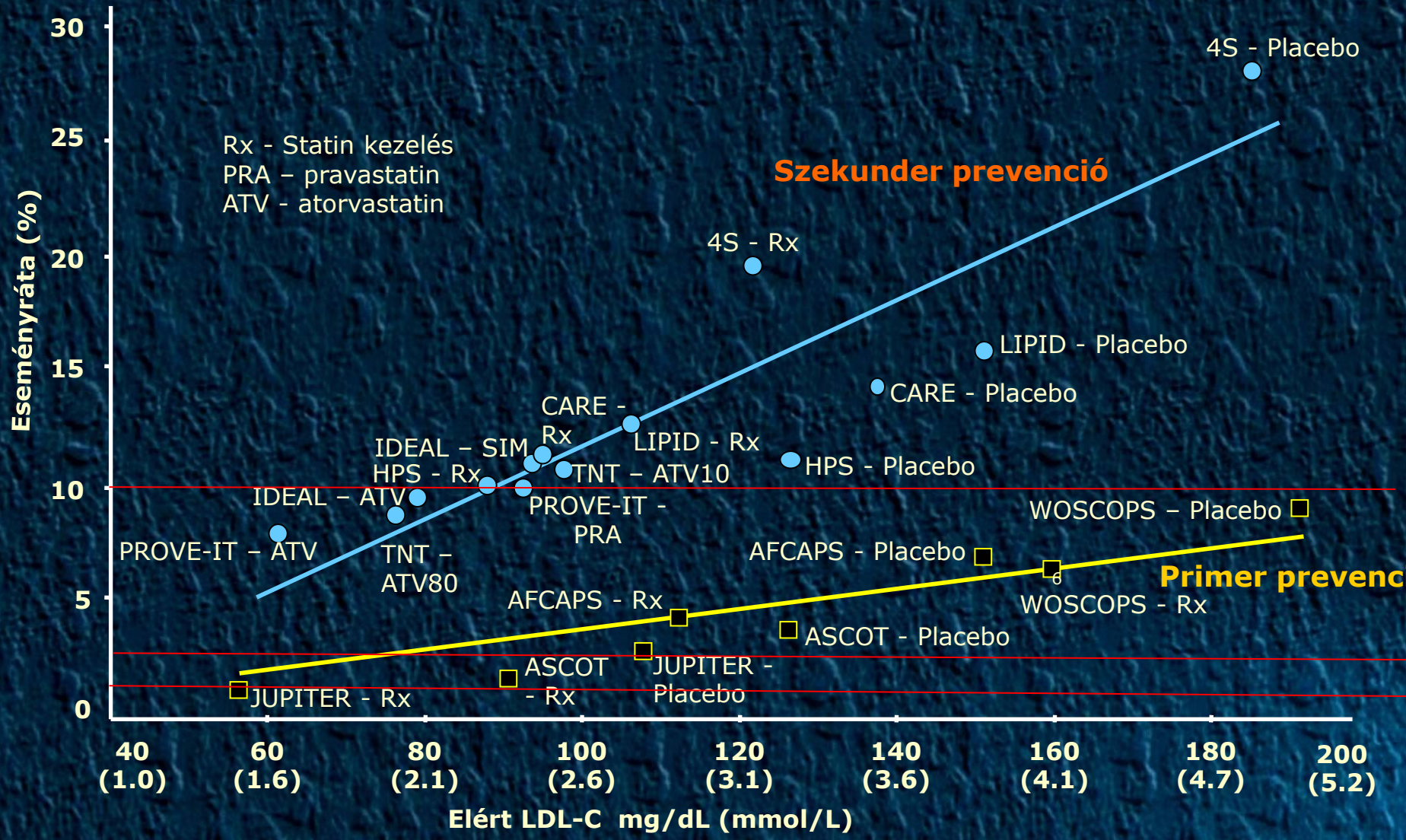
[f]See summary of product characteristics for reduced doses or contraindications for each NOAC in patients with CKD, body weight <60 kg, age >7580 years, and/or drug interactions.

[g]Congestive HF, hypertension, age >_75 years (2 points), diabetes, prior stroke/transient ischaemic attack/embolus (2 points), vascular disease (CAD on imaging or angiography, 312 prior MI, PAD, or aortic plaque), age 6574 years, and female sex.

[h]Risk of stent thrombosis encompasses (i) the risk of thrombosis occurring and (ii) the risk of death should stent thrombosis occur, both of which relate to anatomical, procedural, and clinical characteristics. Risk factors for CCS patients include stenting of left main stem, proximal LAD, or last remaining patent artery; suboptimal stent deployment; stent length >60 mm; diabetes mellitus; CKD; bifurcation with two stents implanted; treatment of chronic total occlusion; and previous stent thrombosis on adequate antithrombotic therapy.

2019 ESC CCS Guidelines

Az LDL-koleszterin és az 5 éves major koszorúér események kockázatának kapcsolata



Rosensen RS. *Exp Opin Emerg Drugs* 2004;**9**(2):269-, LaRosa JC *et al. N Engl J Med* 2005;**352**:e-version,

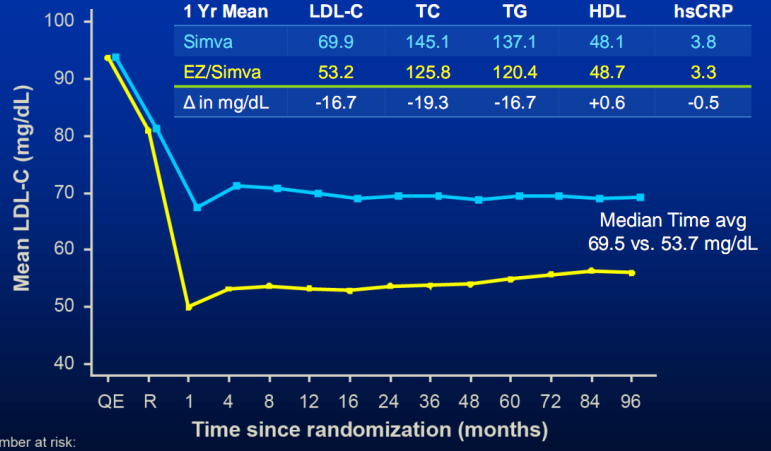
Ridker PM, N Engl J Med 2008;359:2195- alapján

IMPROVE-IT - HIJ-PROPER

LDL-C and Lipid Changes

IMPROVE-IT

1 Yr Mean	LDL-C	TC	TG	HDL	hsCRP
Simva	69.9	145.1	137.1	48.1	3.8
EZ/Simva	53.2	125.8	120.4	48.7	3.3
Δ in mg/dL	-16.7	-19.3	-16.7	+0.6	-0.5

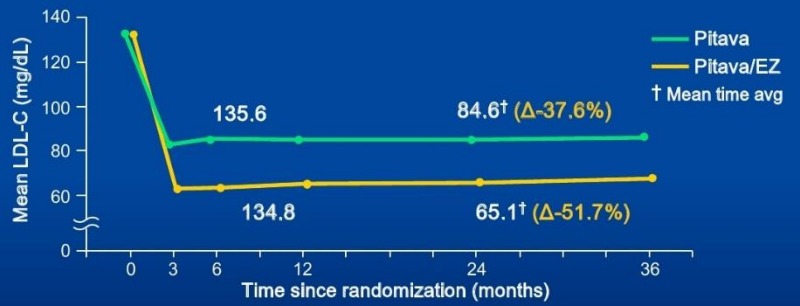


Number at risk:

EZ/Simva	8990	8889	8230	7701	7264	6864	6583	6256	5734	5354	4508	3484	2608	1078
Simva	9009	8921	8306	7843	7289	6939	6607	6192	5684	5267	4395	3387	2569	1068

LDL-C and Lipid Changes

HIJ-PROPER



1yr mean	LDL-C	TC	TG	HDL-C
Pitava, mg/dL	87.2	165.3	144.2	50.3
Pitava/EZ, mg/dL	67.5	142.7	125.2	50.9
Δ in mg/dL	-19.7*	-22.6*	-19.0*	+0.6

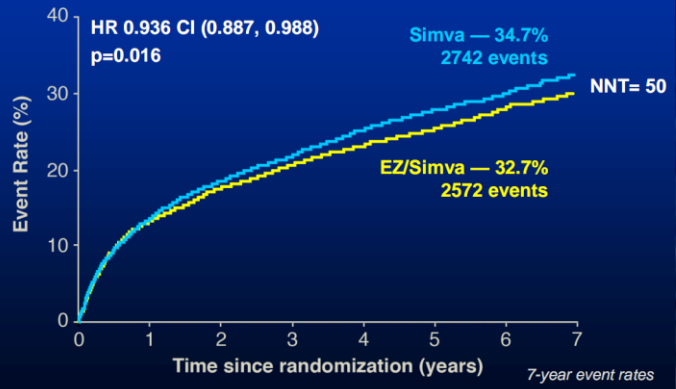
*P<0.001

Pitava mean dose (mg/day)
2.02
2.36

Primary Endpoint — ITT

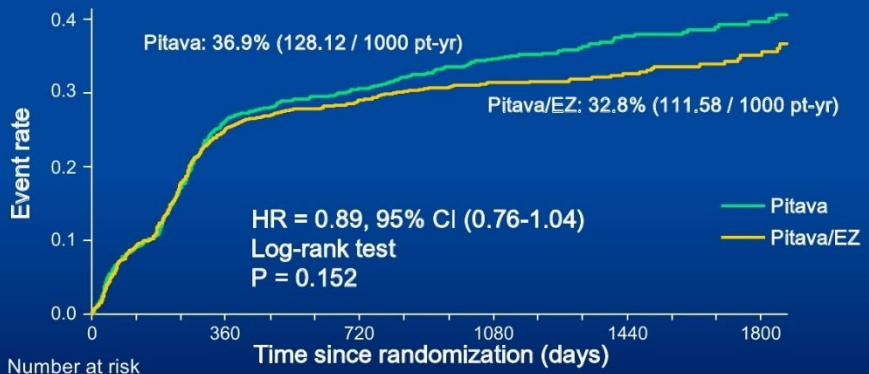
IMPROVE-IT

Cardiovascular death, MI, documented unstable angina requiring rehospitalization, coronary revascularization (≥30 days), or stroke



Primary Endpoint (composite)

HIJ-PROPER



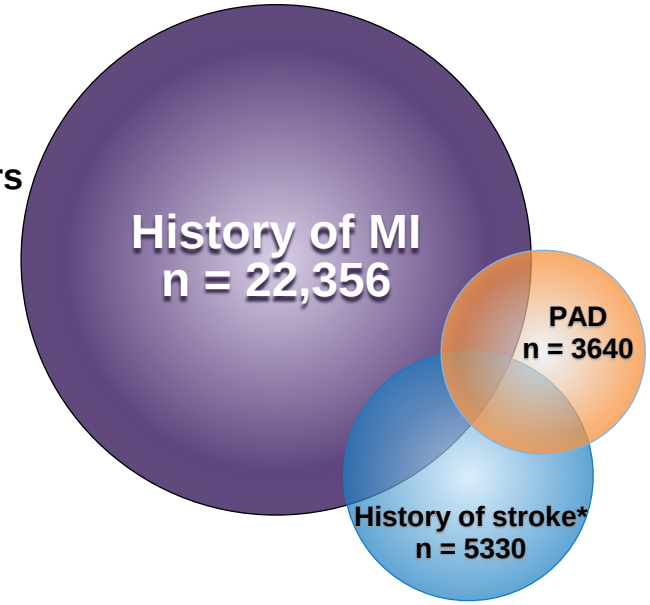
Number at risk

Pitava	857	618	566	507	280	134
Pitava/EZ	864	622	584	536	302	140

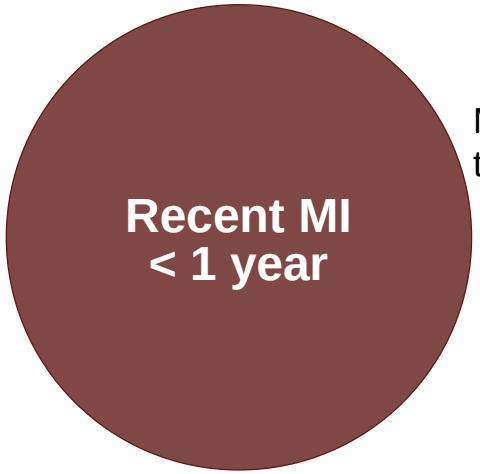
PCSK9 - FOURIER és ODYSSEY tanulmányok

FOURIER[1]
N = 27,564

Median time from the event **~ 3 years**



ODYSSEY OUTCOMES[2]
N ~ 18,530

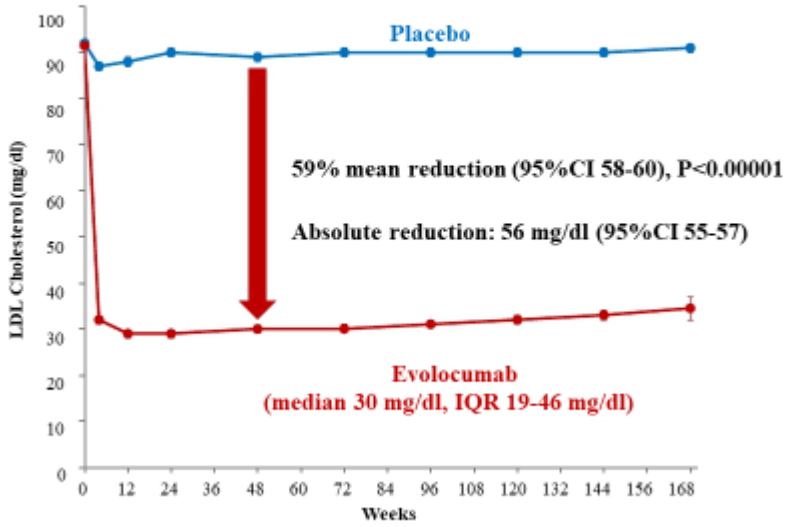


Median time from the event **~ 3 months**

- *Non-haemorrhagic stroke.

1. Sabatine MS, et al. Am Heart J 2016;173:94–101. 2. Schwartz GG, et al. Am Heart J 2014;168:682–9.

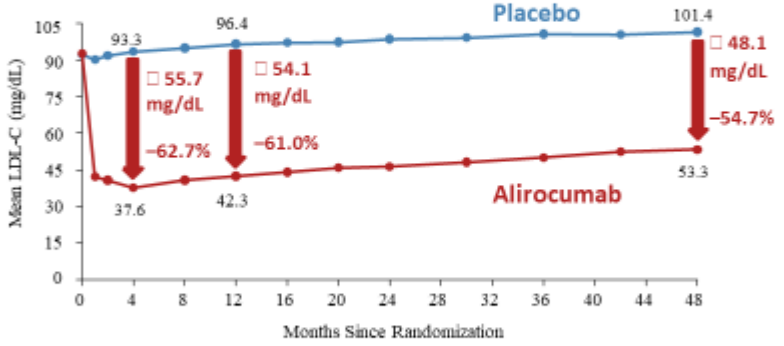
LDL Cholesterol



An Academic Research Organization of Brigham and Women's Hospital and Harvard Medical School

ACC.18

LDL-C: On-Treatment Analysis



Excludes LDL-C values after premature treatment discontinuation or blinded switch to placebo
Approximately 75% of months of active treatment were at the 75 mg dose

ODYSSEY OUTCOMES

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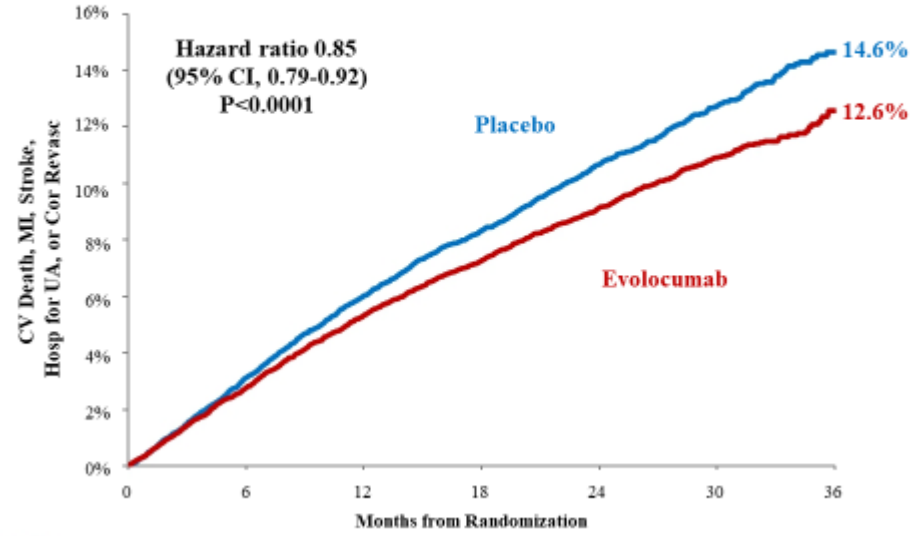
Primary Endpoint



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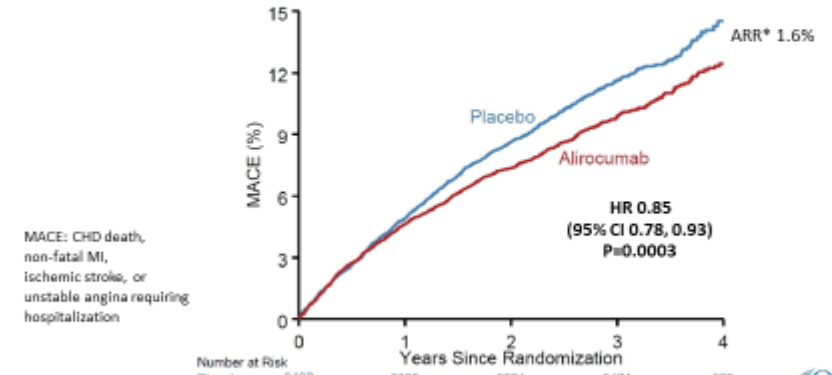
ACC.18

Primary Efficacy Endpoint: MACE



MACE: CHD death, non-fatal MI, ischemic stroke, or unstable angina requiring hospitalization

*Based on cumulative incidence

ODYSSEY OUTCOMES

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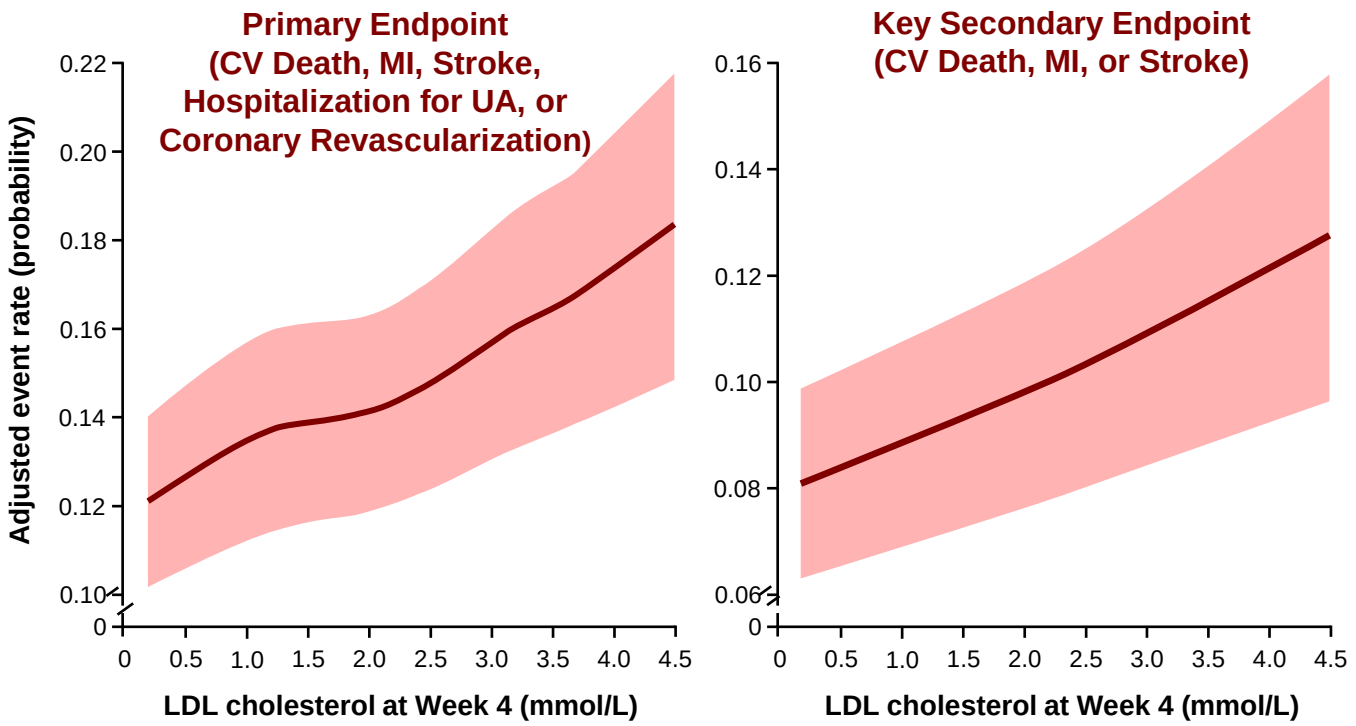
Relationship Between Achieved LDL-C Level at Week 4 and Risk for the Primary and Key Secondary Efficacy Composite Endpoints

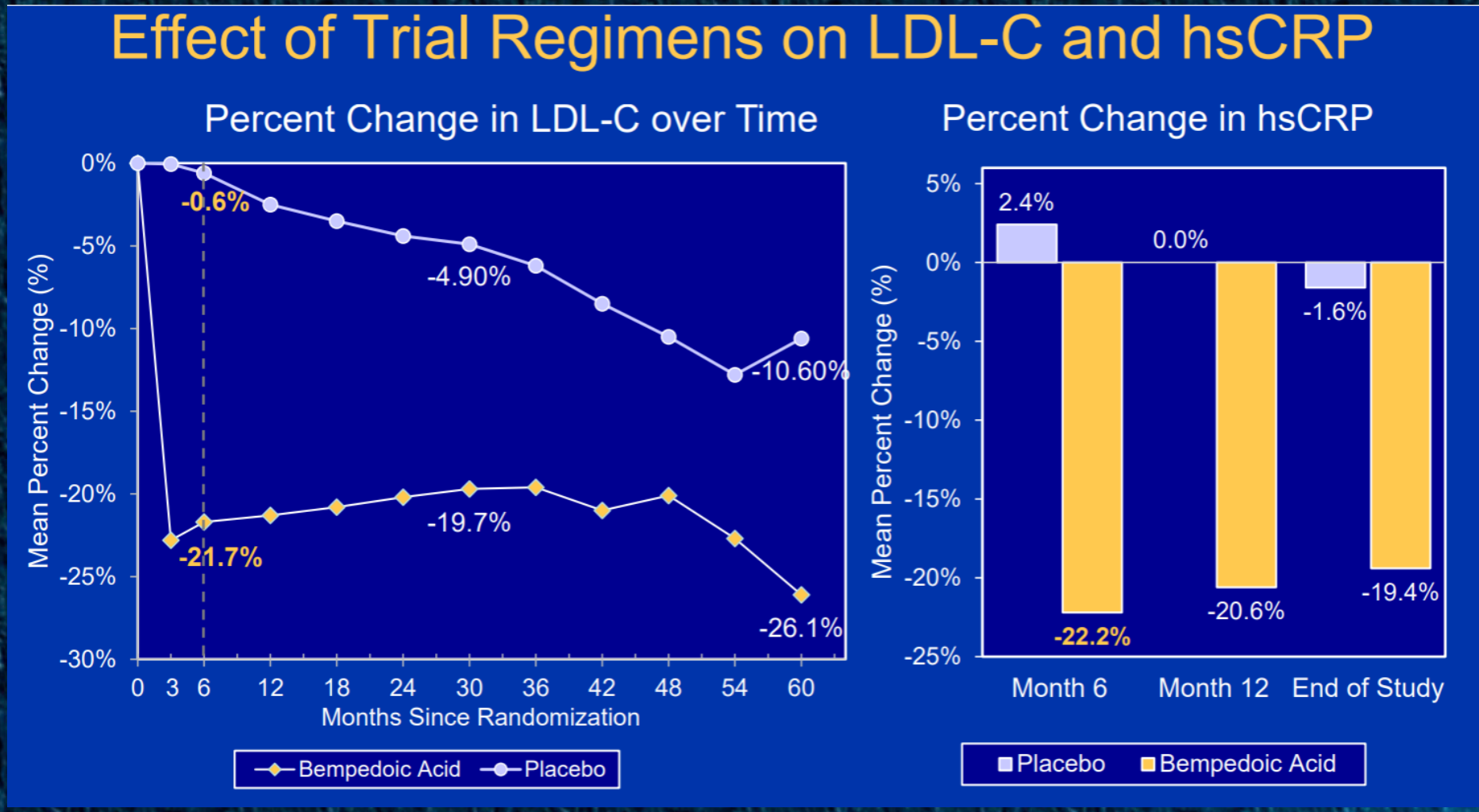


Risk of the primary and secondary composite endpoints was progressively lower as the achieved LDL-C at week 4 was reduced

For the primary endpoint p = 0.0012 for the β coefficient. For the secondary endpoint p = 0.0001 for the β coefficient.
CV = cardiovascular, MI = myocardial infarction, UA = unstable angina. The blue line represents the hazard ratio and shaded areas are the 95% CIs of the regression model estimate. Giugliano RP, et al. *Lancet*. [published online ahead of print August 28, 2017]. doi: 10.1016/ S0140-6736(17)32290-0

GIUGLIANO, R., PEDERSEN, T., PARK, J., DE FERRARI, G., M., GACIONG, Z., CESKA, R., **TOTH, K.,** GOUNI-BERTHOLD, I., LOPEZ-MIRANDA, J., SCHIELE, F., MACH, F., OTT, R., KANEVSKY, E., LIRA-PINEDA, A., SOMARATNE, R., WASSERMAN, S., KEECH, A., SEVER, P., SABATINE, M. Clinical efficacy and safety of achieving very low LDL-CLDL-cholesterol concentrations with the PCSK9 inhibitor evolocumab: a prespecified secondary analysis of the FOURIER trial. **Lancet**, doi: 10.1016/S0140-6736(17)32290-0, 2017.

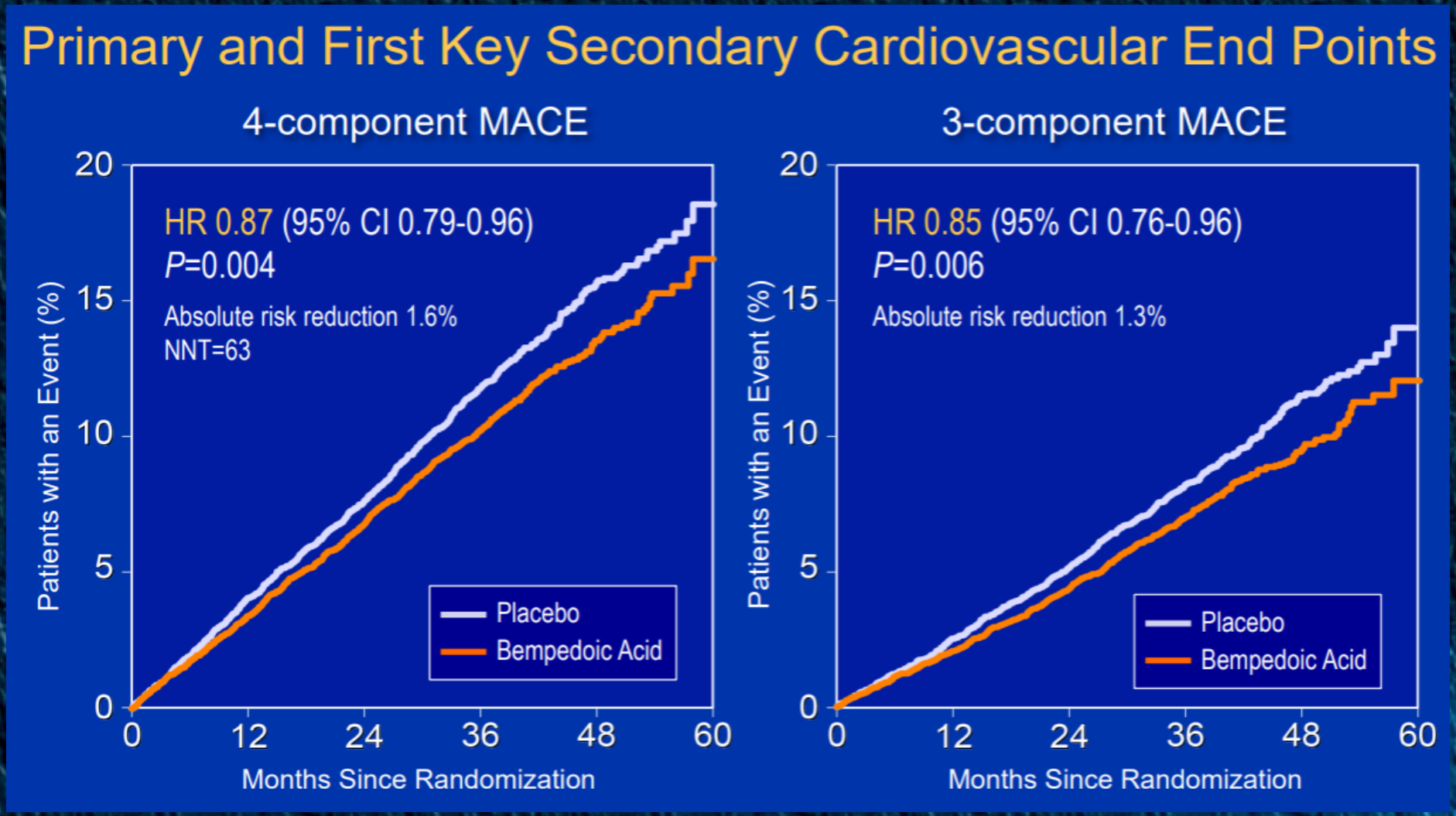
A CLEAR vizsgálat - Bempedonsav



13.970 statin intoleráns beteg

ACC2023 Congress Resources

A CLEAR vizsgálat



ACC2023 Congress Resources

Prognózist javító szerek - lipidcsökkentés

Recommendations for lipid-lowering drugs in patients with chronic coronary syndrome

ESC

	Recommendations	Class	Level	
	Lipid-lowering treatment with an LDL-C goal of <1.4 mmol/L (55 mg/dL) and a ≥50% reduction in LDL-C vs. baseline is recommended.	I	A	
	A high-intensity statin up to the highest tolerated dose to reach the LDL-C goals is recommended for all patients with CCS.	I	A	
	If a patient's goal is not achieved with the maximum tolerated dose of statin, combination with ezetimibe is recommended.	I	B	
*	For patients who are statin intolerant and do not achieve their goal on ezetimibe, combination with bempedoic acid is recommended.	I	B	New
	For patients who do not achieve their goal on a maximum tolerated dose of statin and ezetimibe, combination with a PCSK9 inhibitor is recommended.	I	A	
	For patients who do not achieve their goal on a maximum tolerated dose of statin and ezetimibe, combination with bempedoic acid should be considered.	IIa	C	New
	For patients with a recurrent atherothrombotic event (not necessarily of the same type as the first event) while taking maximally tolerated statin therapy, an LDL-C goal of <1.0 mmol/L (<40 mg/dL) may be considered.	IIb	B	

* Nissen SE, at al. *N Engl J Med* 2023;388:1353-1364

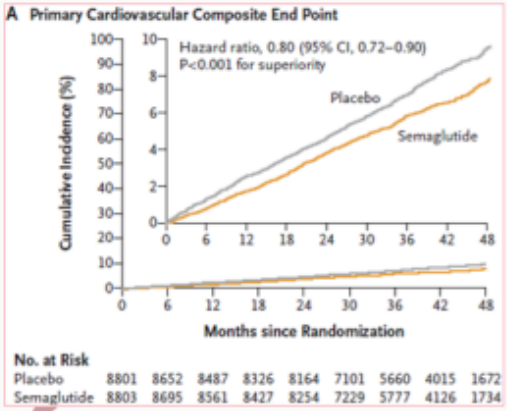
2024 ESC Guidelines for the management of chronic coronary syndromes
(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae177)

https://www.escardio.org/Congresses-Events/ESC-Congress/Congress-resources

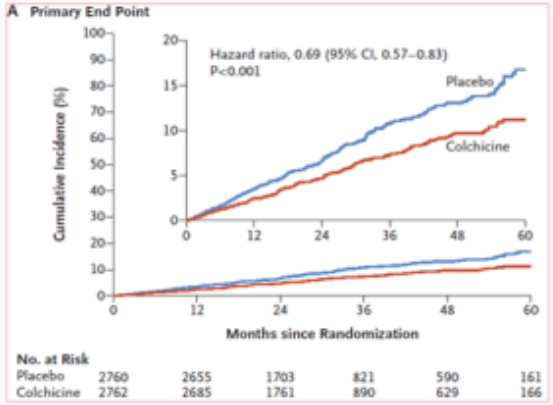
Prognózist javító új szerek

Event-Preventing Metabolic & Anti-inflammatory Drugs

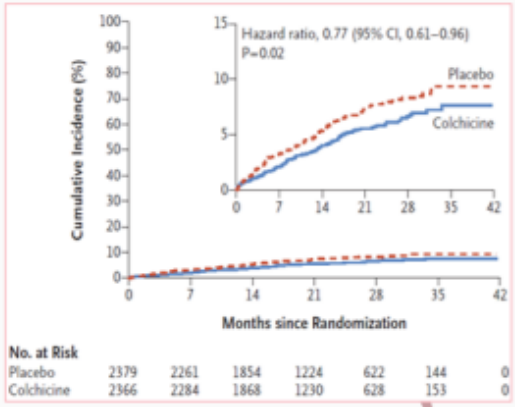
SELECT



LoDoCo2



COLCOT



New	The GLP-1 receptor agonist semaglutide should be considered in overweight (BMI >27 kg/m2) or obese CCS patients without diabetes to reduce CV mortality, MI, or stroke.	IIa	B
	In CCS patients with atherosclerotic CAD, low-dose colchicine (0.5 mg daily) should be considered to reduce myocardial infarction, stroke, and need for revascularization.	IIa	A

Revised

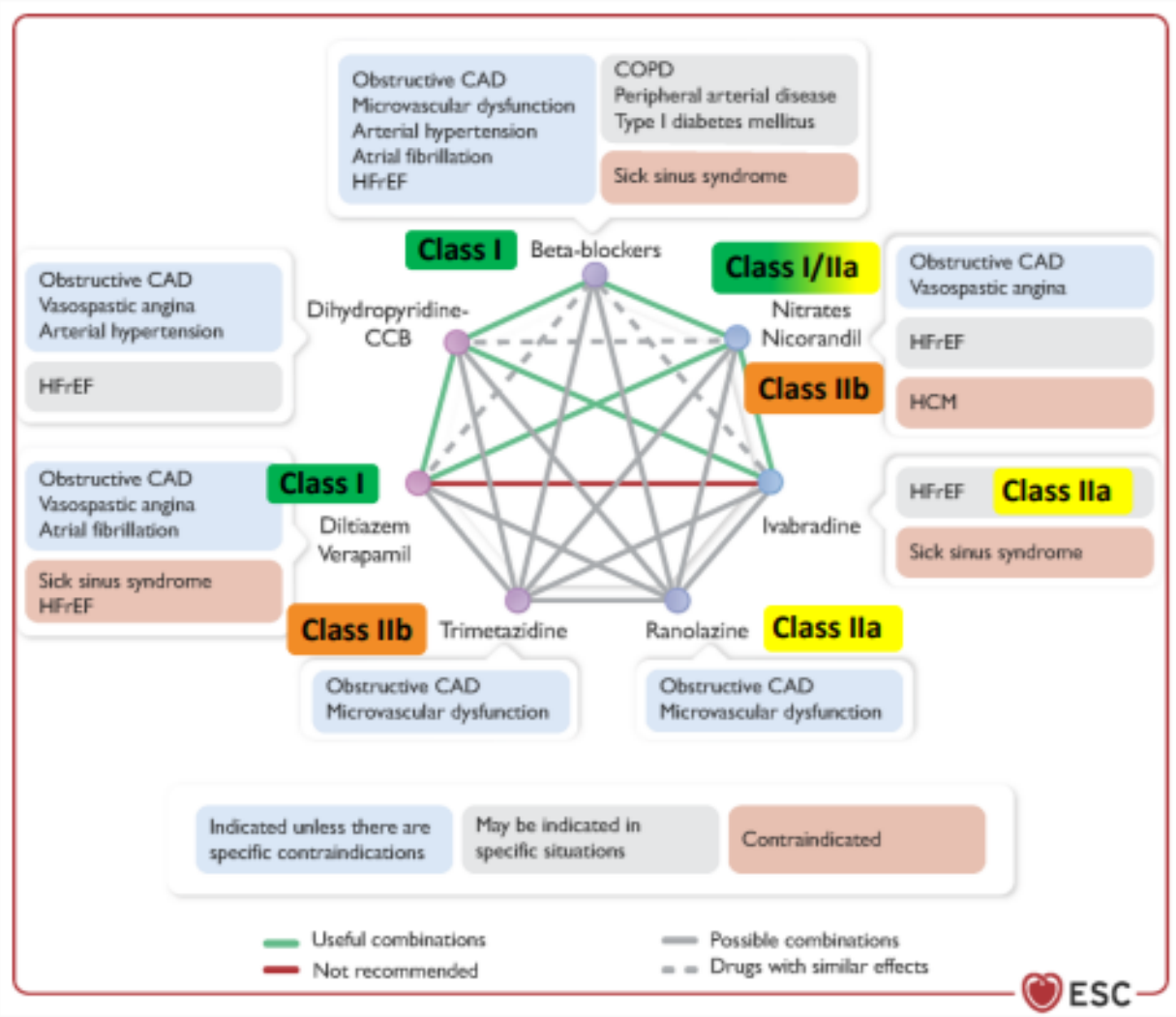
For lipid-lowering, antidiabetic, antihypertensive, HF and AF therapies please refer to guidelines and other congress 2024 sessions

London & Online

2024 ESC Guidelines for the management of chronic coronary syndromes
(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae177)

https://www.escardio.org/Congresses-Events/ESC-Congress/Congress-resources

CCS gyógyszeres kezelése



https://www.escardio.org/Congresses-Events/ESC-Congress/Congress-resources

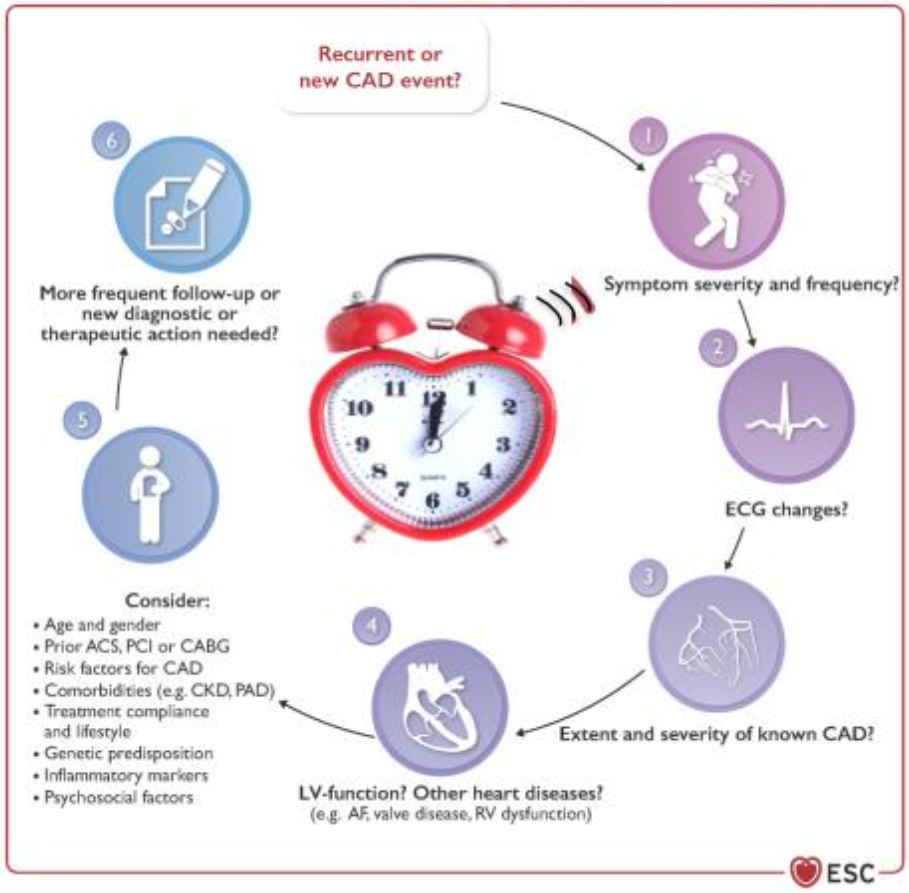
Antianginás gyógyszerek

Recommendations	Class[a]	Level[b]
General strategy		
It is recommended to tailor the selection of antianginal drugs to the patient's characteristics, comorbidities, concomitant medications, treatment tolerability, and underlying pathophysiology of angina, also considering local drug availability and cost.	I	C
Selection of antianginal medication		
Short-acting nitrates are recommended for immediate relief of angina.[536,537]	I	B
Initial treatment with beta-blockers and/or CCBs to control heart rate and symptoms is recommended for most patients with CCS.[c] [518,538]	I	B
If anginal symptoms are not successfully controlled by initial treatment with a beta-blocker or a CCB alone, the combination of a beta-blocker and a DHP-CCB should be considered, unless contraindicated.[505,538,539]	IIa	B
Long-acting nitrates or ranolazine should be considered as add-on therapy in patients with inadequate control of symptoms while on treatment with beta-blockers and/or CCBs, or as part of initial treatment in properly selected patients.[d] [513,540]	IIa	B
When long-acting nitrates are prescribed, a nitrate-free or low-nitrate interval should be considered to reduce tolerance.[540]	IIa	B
Ivabradine should be considered as add-on antianginal therapy in patients with left ventricular systolic dysfunction (LVEF <40%) and inadequate control of symptoms, or as part of initial treatment in properly selected patients.[541,542]	IIa	B
Nicorandil or trimetazidine may be considered as add-on therapy in patients with inadequate control of symptoms while on treatment with beta-blockers and/or CCBs, or as part of initial treatment in properly selected patients.[543–550]	IIb	B
Ivabradine is not recommended as add-on therapy in patients with CCS, LVEF >40%, and no clinical heart failure.[509]	III	B
Combination of ivabradine with non-DHP-CCB or other strong CYP3A4 inhibitors is not recommended.[551]	III	B
Nitrates are not recommended in patients with hypertrophic cardiomyopathy or in co-administration with phosphodiesterase inhibitors.[552,553]	III	B

Europen Heart Journal, ehae177, https://doi.org/10.1093/eurheartj/ehae177

CCS gondozása

Long-term Follow-up of CCS Patients



The use of one or more of the following test results is recommended to identify individuals at high risk of adverse events: • exercise ECG: Duke Treadmill Score ≤ -10; • stress SPECT or PET perfusion imaging: area of ischaemia ≥10% of the LV myocardium; • stress echocardiography: ≥3 of 16 segments with stress-induced hypokinesia or akinesia; • stress CMR: ≥2 of 16 segments with stress perfusion defects or ≥3 dobutamine-induced dysfunctional segments; • CCTA: left main disease with ≥50% stenosis, three-vessel disease with ≥70 stenosis or two-vessel disease with ≥70% stenosis, including the proximal LAD or one-vessel disease of the proximal LAD with ≥70% stenosis and FFR-CT ≤0.8	I	B
In individuals at high risk of adverse events (regardless of symptoms), ICA—complemented by invasive coronary pressure (FFR/iFR) when appropriate—is recommended, with the aim of refining risk stratification and improving symptoms and cardiovascular outcomes by revascularization.	I	A

https://www.escardio.org/Congresses-Events/ESC-Congress/Congress-resources

Köszönöm a figyelmet!