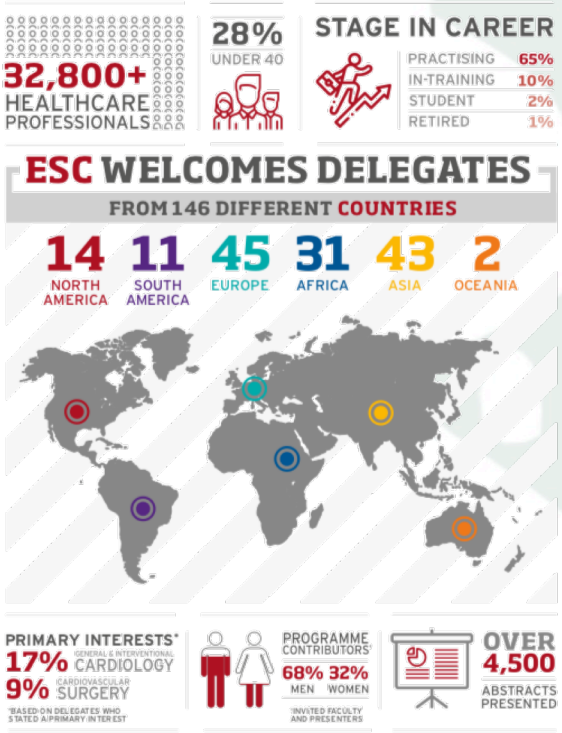
Novedades del congreso ESC 2019

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

ESC
European Society
of Cardiology



483.040M Impressions

58,649 Tweets

11,923 Participants

489 Avg Tweets/Hour

5 Avg Tweets/Participant

Tweet

Lorenzo Fácila Rubio

@mi_cardiologo

Índice

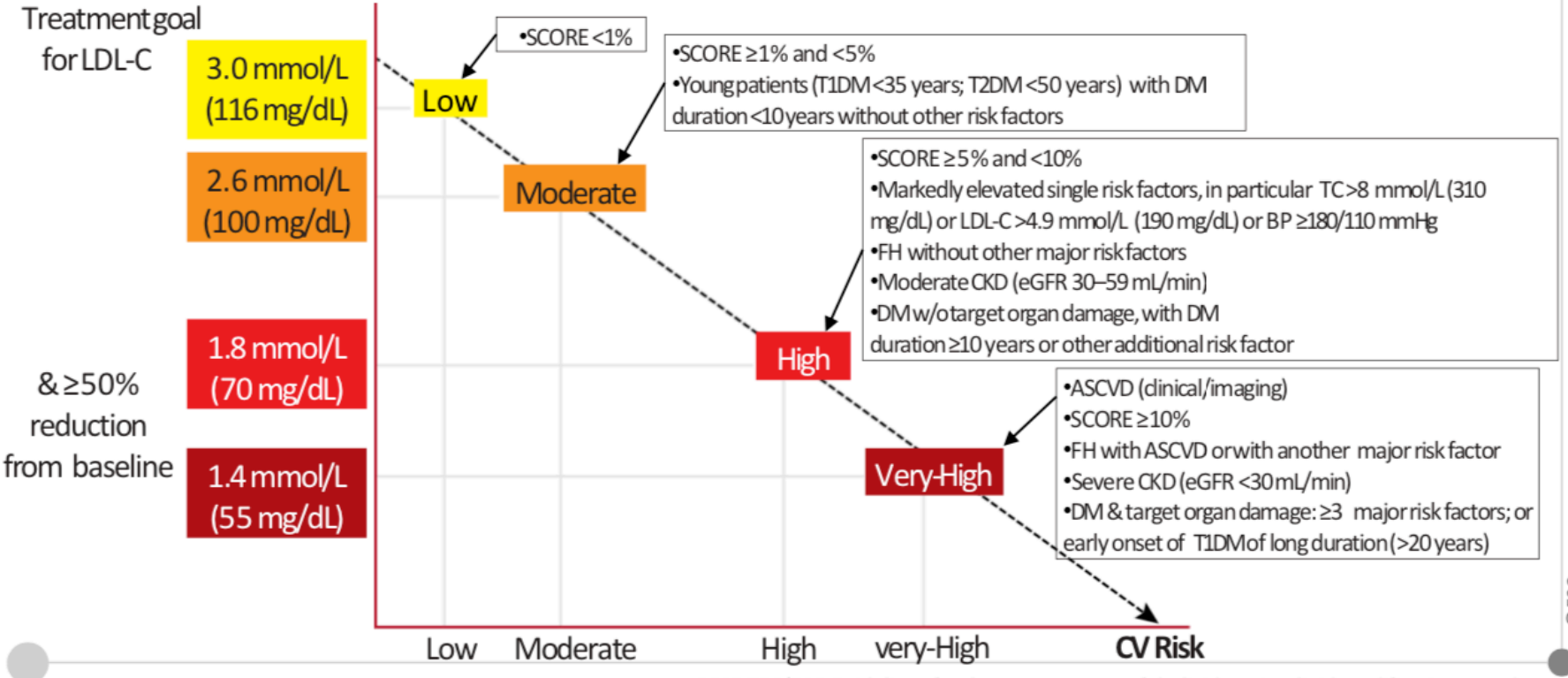
- Guías
- Ensayos clínicos
  - Insuficiencia cardiaca
  - Cardiopatía isquémica-ATG
  - Prevención
  - Fibrilación auricular

Guías

- Dislipemia
- Diabetes, pre-diabetes
- Síndromes coronarios crónicos
- Taquicardias supraventriculares
- TEP

Treatment goals for low-density lipoprotein cholesterol (LDL-C) across categories of total cardiovascular disease risk

EAS ESC European Society of Cardiology



© ESC

www.escardio.org/guidelines

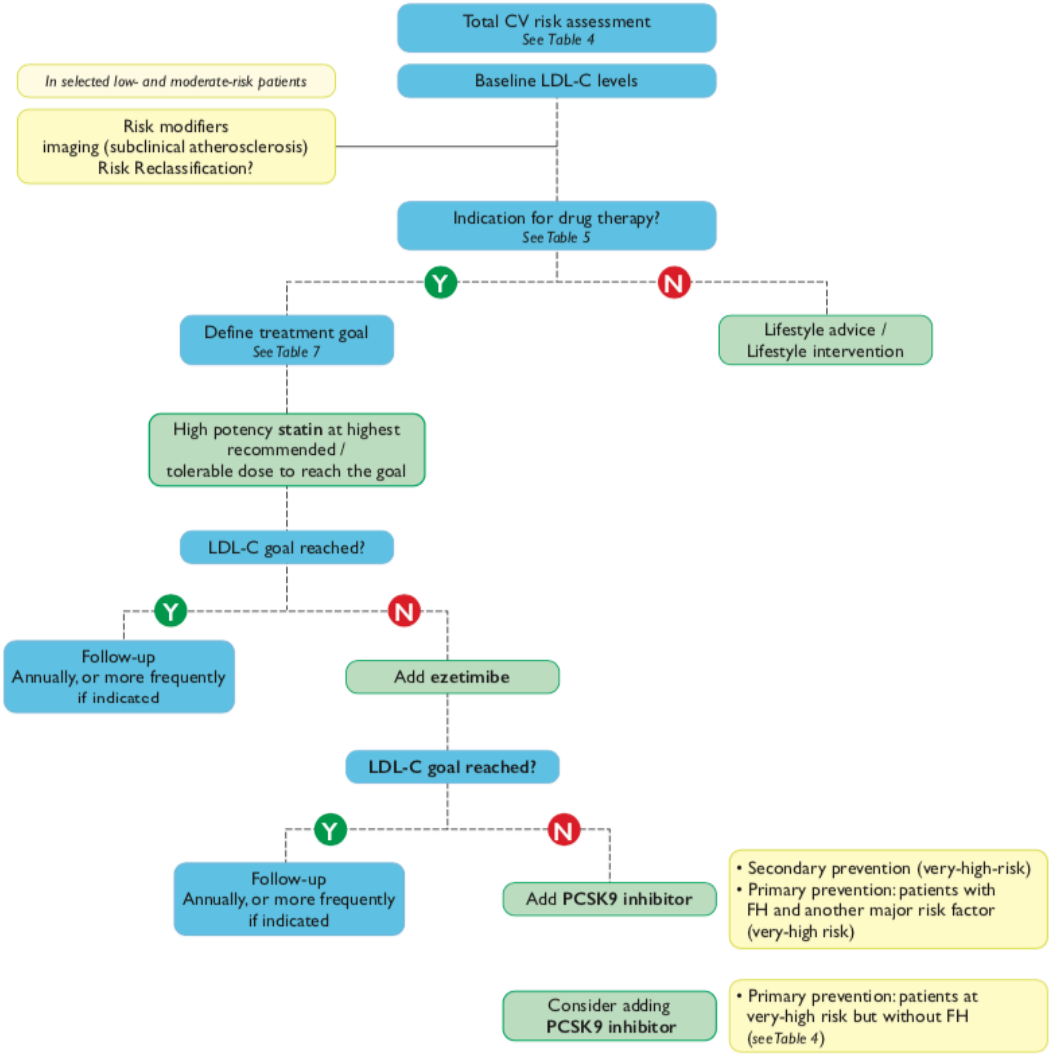
2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk (European Heart Journal 2019 -doi: 10.1093/eurheartj/ehz455)

Evidence for efficacy of LDL-lowering therapies down to below 1.4 mmol/L (55 mg/dL)

EAS ESC European Society of Cardiology

Source of evidence	Mean reduction in LDL cholesterol; mmol/L [mg/dL]	Outcome	RR (95% CI)
CTT meta-analysis[1] (high-intensity vs standard statin; subgroup <2.0 mmol/L)	1.71 [66] vs 1.32 [50]	MI, CHD death, stroke, coronary revasc.	0.71 (0.56-0.91) [per mmol/L]
IMPROVE-IT[2] (eze plus statin vs statin)	1.55 [70] vs 1.40 [54]	CV death, MI, stroke, UA, coronary revasc	0.94 (0.89-0.99)
FOURIER[3] (evolocumab plus high-dose statin ± eze vs high-dose statin ± eze)	2.37 [92] vs 0.78 [30]	CV death, MI, stroke, UA, coronary revasc	0.85 (0.79-0.92)
ODYSSEYOUTCOMES[4] (alirocumab plus high-dose statin ± eze vs high-dose statin ± eze)	2.37 [92] vs 1.37 [53]	MI, CHD death, stroke, UA	0.85 (0.78-0.93)

[1] Lancet 2010; 376: 1670-81; [2] NEJM 2015; 372: 2387-97; [3] NEJM 2017; 376: 1713-22; [4] NEJM 2018; 379: 2097-107



CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

@mi_cardiologo

2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD

ESC European Society of Cardiology

CARDIOLOGIA CONSORCI HOSPITAL GENERAL UNIVERSITARI VALÈNCIA

Change in recommendations	
2013	**2019**
BP targets	
BP target <140/85 mmHg is recommended for all	Individualized BP targets are recommended SBP to 130 mmHg and, if well tolerated, <130 mmHg, but not <120 mmHg In older people (>65 years) target SBP to a range of 130 - 139 mmHg DBP to <80 mmHg but not <70 mmHg
	On-treatment SBP to <130 mmHg should be considered for patients at high risk of cerebrovascular events or diabetic kidney disease
Lipid targets	
In DM at high CV risk, an LDL-C target of <2.5 mmol/L (<100 mg/dL) In DM at very high CV risk, an LDL-C target of <1.8 mmol/L (<70 mg/dL) is recommended	In patients with T2DM at moderate CV risk, an LDL-C target of <2.6 mmol/L (<100 mg/dL) is recommended In patients with T2DM at high CV risk, an LDL-C target of <1.8 mmol/L (<70 mg/dL) and LDL-C reduction of at least 50% is recommended In patients with T2DM at very high CV risk, an LDL-C target of <1.4 mmol/L (<55 mg/dL) and LDL-C reduction of at least 50% is recommended
Antiplatelet therapy	
Aspirin for primary prevention is not recommended in DM at low CVD risk	Aspirin (75 - 100 mg/day) for primary prevention may be considered in patients with DM at very high/high risk in the absence of clear contraindications
	Aspirin for primary prevention is not recommended in patients with DM at moderate CV risk
Glucose-lowering treatment	
Metformin should be considered as first-line therapy in patients with DM	Metformin should be considered in overweight patients with T2DM without CVD and at moderate CV risk

@mi_cardiologo

2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD

ESC
European Society of Cardiology

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL UNIVERSITARI
VALÈNCIA

Very high risk	Patients with DM **and** established CVD **or** other target organ damage[b] **or** three or more major risk factors[c] **or** early onset T1DM of long duration (>20 years)
High risk	Patients with DM duration ≥10 years without target organ damage plus any other additional risk factor
Moderate risk	Young patients (T1DM aged <35 years or T2DM aged <50 years) with DM duration <10 years, without other risk factors

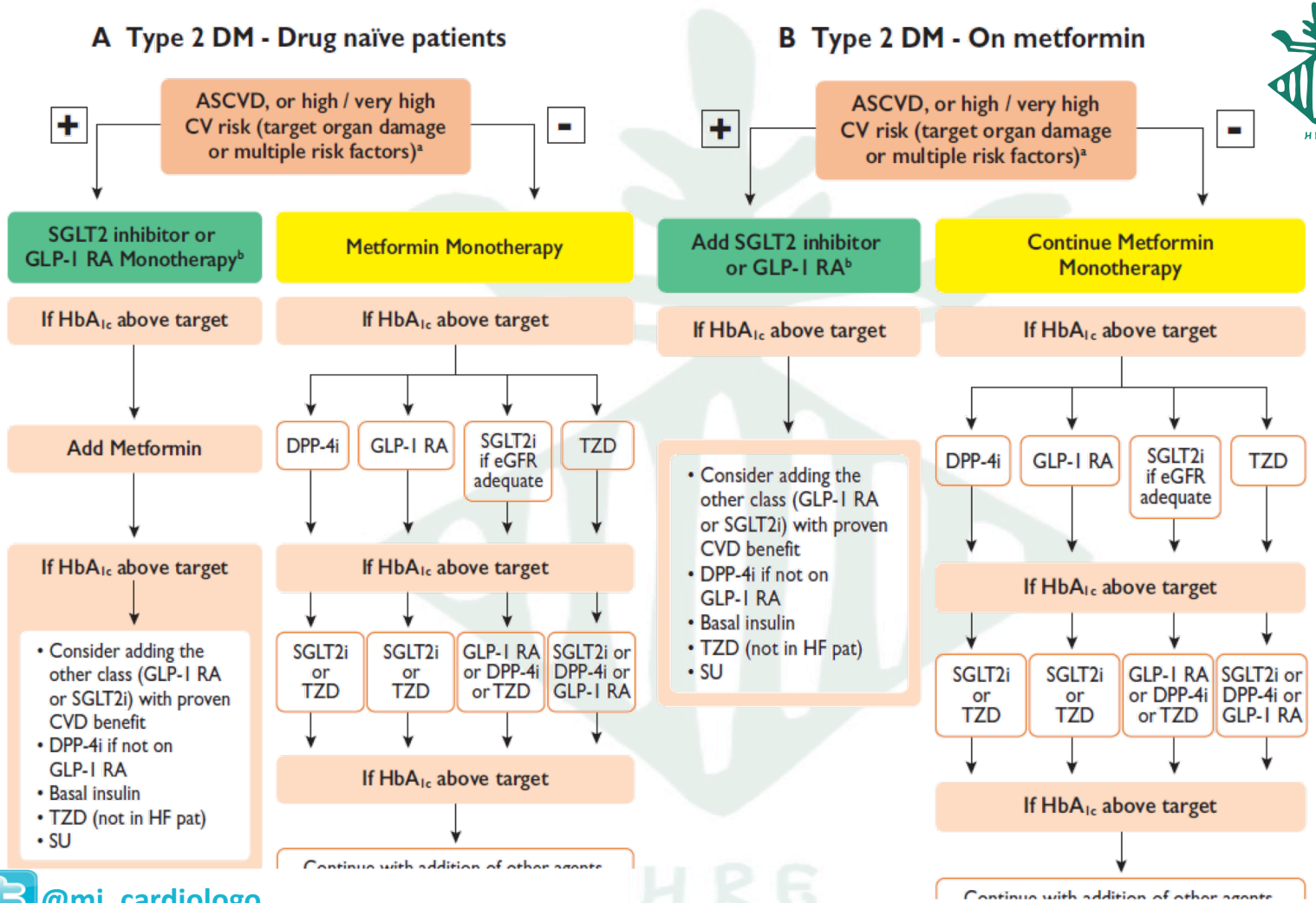
@mi_cardiologo

Fármacos

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

SGLT2 inhibitors		
Empagliflozin, canagliflozin, or dapagliflozin are recommended in patients with T2DM and CVD, or at very high/high CV risk,[c] to reduce CV events.[306,308,309,311]	I	A
Empagliflozin is recommended in patients with T2DM and CVD to reduce the risk of death.[306]	I	B
GLP1-RAs		
Liraglutide, semaglutide, or dulaglutide are recommended in patients with T2DM and CVD, or at very high/high CV risk,[c] to reduce CV events.[176,299–300,302–303]	I	A
Liraglutide is recommended in patients with T2DM and CVD, or at very high/high CV risk,[c] to reduce the risk of death.[176]	I	B
Biguanides		
Metformin should be considered in overweight patients with T2DM without CVD and at moderate CV risk.[146,149]	IIa	C
Insulin		
Insulin-based glycaemic control should be considered in patients with ACS with significant hyperglycaemia (>10 mmol/L or >180 mg/dL), with the target adapted according to comorbidities.[260–262]	IIa	C
Thiazolidinediones		
Thiazolidinediones are not recommended in patients with HF.	III	A
DPP4 inhibitors		
Saxagliptin is not recommended in patients with T2DM and a high risk of HF.[291]	III	B

@mi_cardiologo



CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

@mi_cardiologo

2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes

- De angina estable a enfermedad coronaria estable y ahora SÍNDROME CORONARIO CRÓNICO

- ATEROESCLEROSIS es un proceso dinámico, por lo que es fundamental:
  Cambio en el estilo de vida / TMO / Revascularización

- Seis ESCENARIOS clínicos:
  1. Angina/disnea y sospecha EAC
  2. IC o disfunción VI y sospecha de EAC
  3. SCA o revascularización < 12 meses
  4. SCA o revascularización > 12 meses
  5. Angina vasoespástica o microvascular
  6. Asintomáticos con detección de EAC en screening

- Probabilidad pretest a ”probabilidad clínica de EAC”. Factores modificadores

- Énfasis en estilo de vida

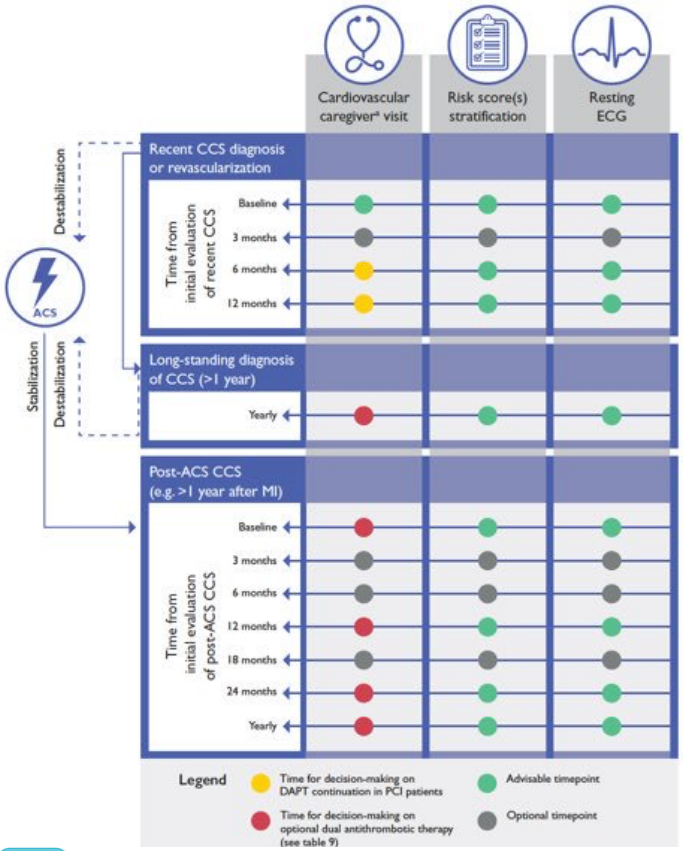
ESC European Society of Cardiology
European Heart Journal (2019) 00, 1–71
doi:10.1093/eurheartj/ehz425

ESC GUIDELINES

CARDIOLOGIA CONSORCI HOSPITAL GENERAL UNIVERSITARI VALÈNCIA

2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes

The Task Force for the diagnosis and management of chronic coronary syndromes of the European Society of Cardiology (ESC)



Echocardiography at rest	Early (e.g. 1-3 months) after revascularization to set as a reference and/or periodically (e.g. at 1 year if previously abnormal and/or every 3-5 years) to evaluate LV function, valvular status and haemodynamic status.
Stress test for inducible ischaemia	As necessary, to investigate changes in symptoms level, and/or early (e.g. 1-3 months) after revascularization to set as a reference and/or periodically (e.g. every 3-5 years) to reassess ischaemia.
Invasive coronary angiography	As necessary, for patients at high risk based on noninvasive ischaemia testing, or severe angina symptoms (e.g. CCS class 3-4). Not recommended solely for risk stratification.

©ESC 2019

@mi_cardiologo

ESC European Society of Cardiology
European Heart Journal (2019) **00**, 1–71
doi:10.1093/eurheartj/ehz425

ESC GUIDELINES

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes

The Task Force for the diagnosis and management of chronic coronary syndromes of the European Society of Cardiology (ESC)

Table 9 Treatment options for dual antithrombotic therapy in combination with aspirin 75 – 100 mg daily in patients who have a high[a] or moderate[b] risk of ischaemic events, and do not have a high bleeding risk[c]

Drug option	Dose	Indication	Additional cautions	References
Clopidogrel	75 mg o.d.	Post-MI in patients who have tolerated DAPT for 1 year		289,290
Prasugrel	10 mg o.d or 5 mg o.d.; if body weight <60 kg or age >75 years	Post-PCI for MI in patients who have tolerated DAPT for 1 year	Age >75 years	289,290,313
Rivaroxaban	2.5 mg b.i.d.	Post-MI >1 year or multivessel CAD	Creatinine clearance 15 - 29 mL/min	297
Ticagrelor	60 mg b.i.d.	Post-MI in patients who have tolerated DAPT for 1 year		291–293,307,314

© ESC 2019

@mi_cardiologo

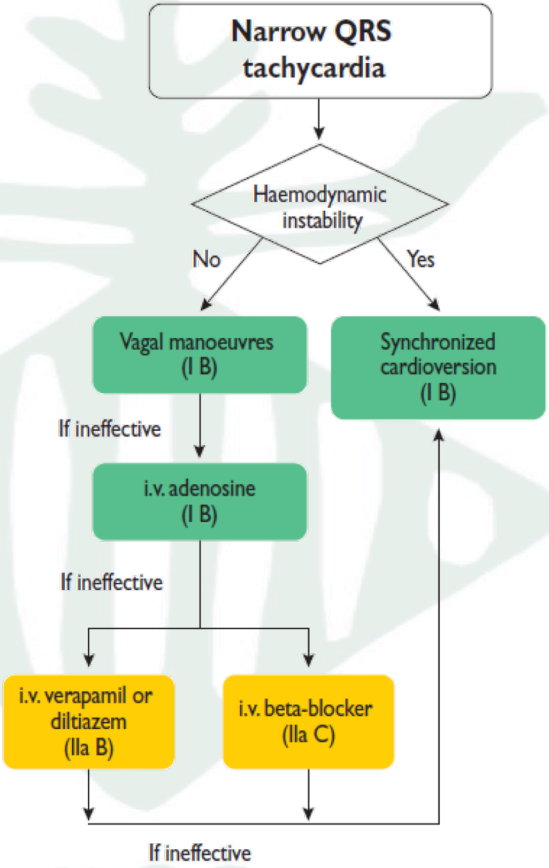
ESC European Society of Cardiology
European Heart Journal (2019) 00, 1–65
doi:10.1093/eurheartj/ehz467
ESC GUIDELINES

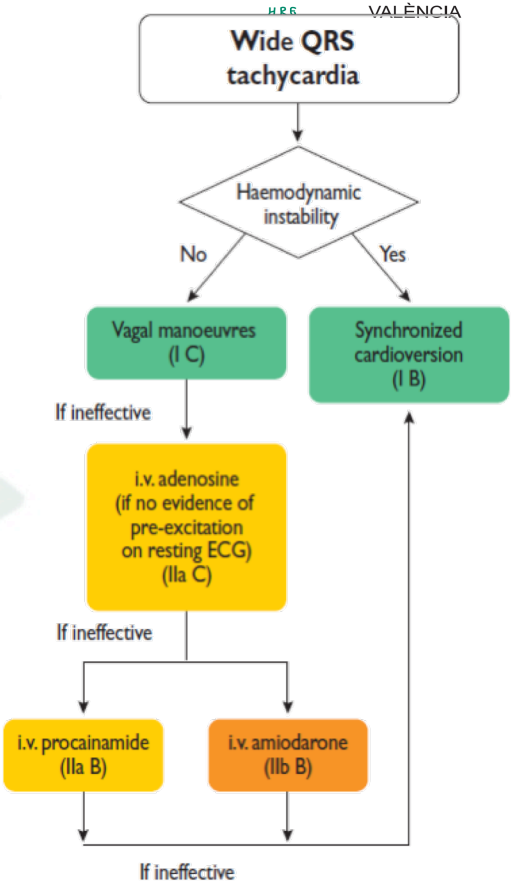
CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL UNIVERSITARI VALÈNCIA

2019 ESC Guidelines for the management of patients with supraventricular tachycardia

The Task Force for the management of patients with supraventricular tachycardia of the European Society of Cardiology (ESC)

	2003	2019
Acute management of narrow QRS tachycardias		
Verapamil and diltiazem	I	IIa
Beta-blockers	IIb	IIa
Amiodarone and digoxin are not mentioned in the 2019 Guidelines		
Acute management of wide QRS tachycardias		
Procainamide	I	IIa
Adenosine	IIb	IIa
Amiodarone	I	IIb
Sotalol and lidocaine are not mentioned in the 2019 Guidelines		
Therapy of inappropriate sinus tachycardia		
Beta-blockers	I	IIa
Verapamil/diltiazem and catheter ablation are not mentioned in the 2019 Guidelines		
Therapy of postural orthostatic tachycardia syndrome		
Salt and fluid intake	IIa	IIb
Head-up tilt sleep, compression stockings, selective beta-blockers, fludrocortisone, clonidine, methylphenidate, fluoxetine, erythropoietin, ergotamine/octreotide, and phenobarbitone are not mentioned in the 2019 guidelines.		





@mi_cardiologo

2019 ESC Guidelines on the diagnosis and management of acute pulmonary embolism

ESC European Society of Cardiology

CARDIOLOGIA CONSORCI HOSPITAL GENERAL UNIVERSITARI VALÈNCIA

- Inestabilidad hemodinámica y alto riesgo de TEP
- Algoritmos adaptados al riesgo
- Nuevas recomendaciones diagnósticas
- Importancia pronóstica de la DVD
- Manejo integrado en algoritmos
- Indicación del tratamiento extendido del TEP (Riva y apixa)
- TEP y Cáncer
- Diagnóstico y tratamiento del TEP en el embarazo
- ACOD recomendación I

Ensayos en IC

- PARAGON-HF
- PROVE-HF
- DAPA-HF
- BB en HF y RF
- GALACTIC

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

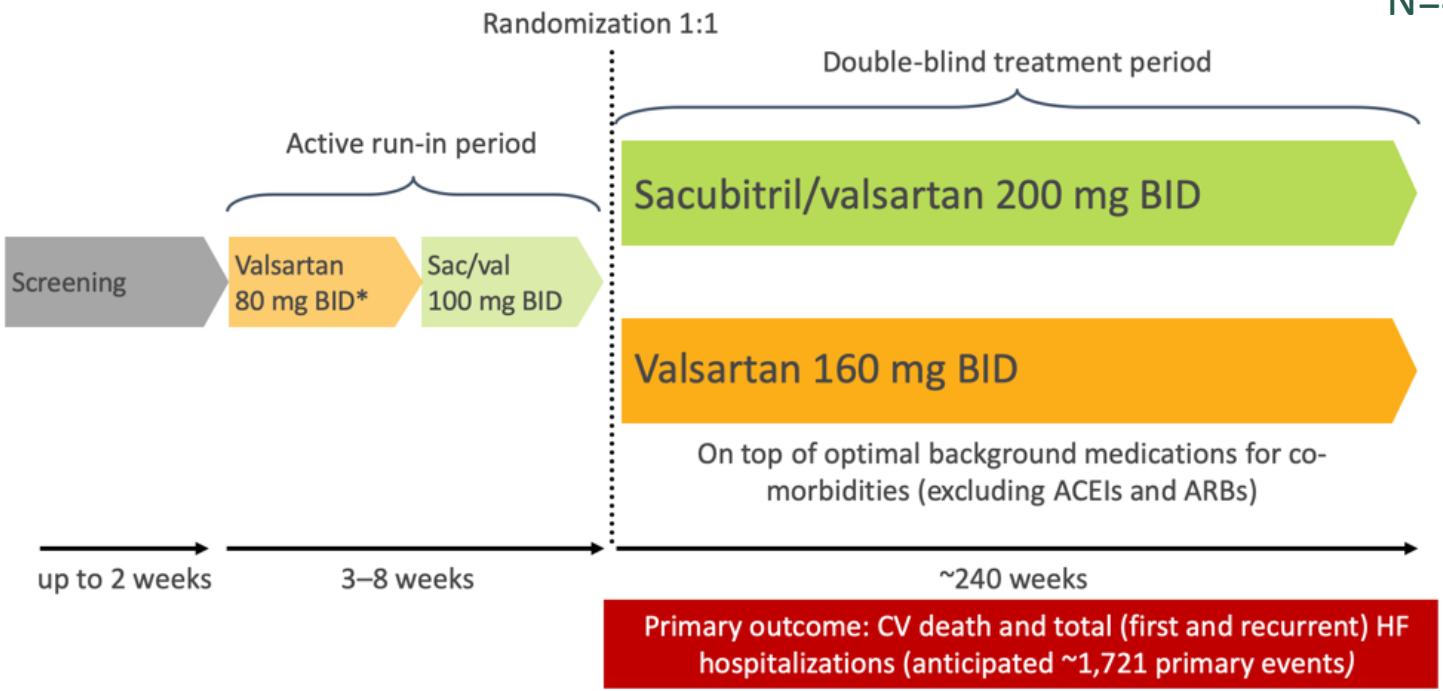
Angiotensin–Neprilysin Inhibition in Heart Failure with Preserved Ejection Fraction

S.D. Solomon, J.J.V. McMurray, I.S. Anand, J. Ge, C.S.P. Lam, A.P. Maggioni, F. Martinez, M. Packer, M.A. Pfeffer, B. Pieske, M.M. Redfield, J.L. Rouleau, D.J. van Veldhuisen, F. Zannad, M.R. Zile, A.S. Desai, B. Claggett, P.S. Jhund, S.A. Boytsov, J. Comin-Colet, J. Cleland, H.-D. Düngen, E. Goncalvesova, T. Katova, J.F. Kerr Saraiva, M. Lelonek, B. Merkely, M. Senni, S.J. Shah, J. Zhou, A.R. Rizkala, J. Gong, V.C. Shi, and M.P. Lefkowitz, for the PARAGON-HF Investigators and Committees

PARAGON

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

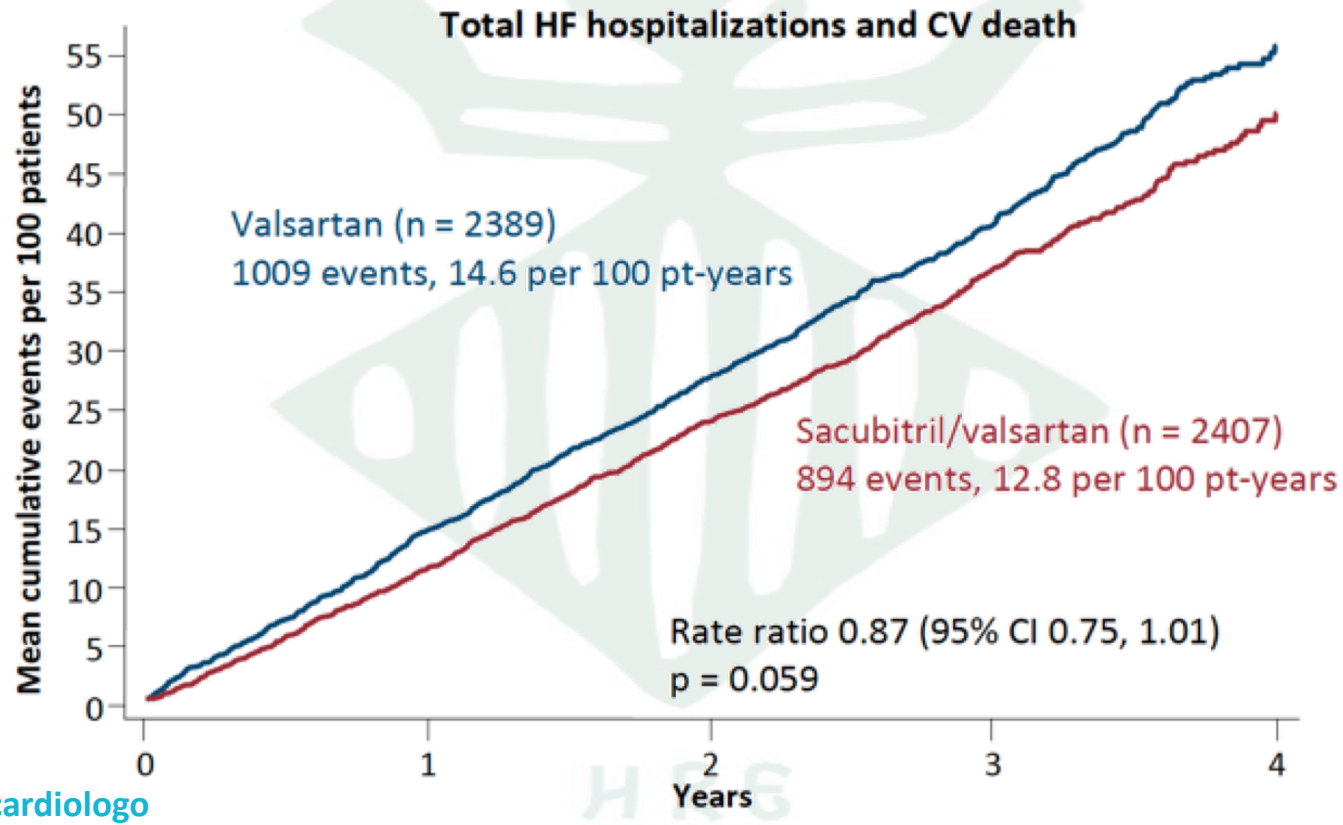
N=4822



*Valsartan 40 mg BID (up to 2 weeks) followed by valsartan 80 mg BID as an optional starting run-in dose for those patients being treated with less than the minimum dose of ACEI or ARB at Visit 1;

@mi_cardiologo

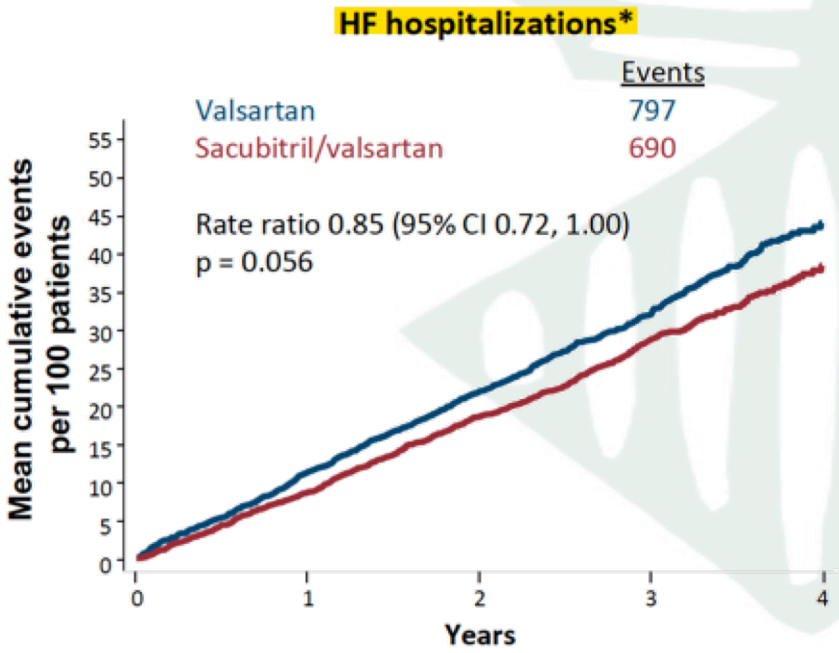
Objetivo Primario

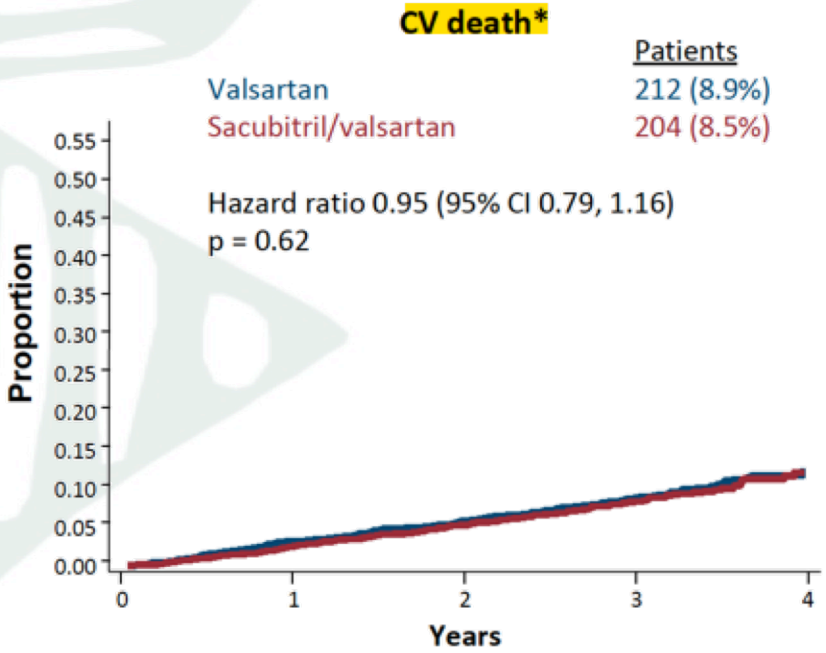


@mi_cardiologo

Objetivos secundarios

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA





@mi_cardiologo

Calidad de vida

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

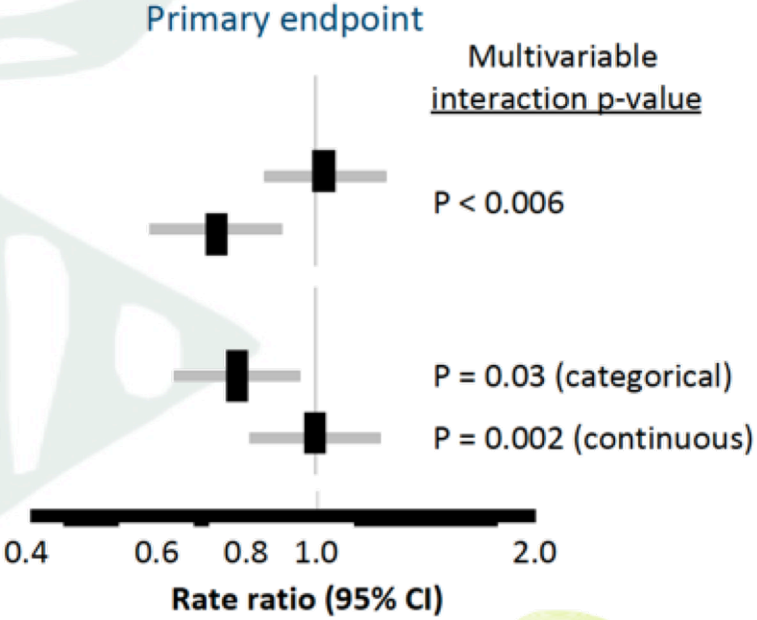
	Sacubitril/valsartan N = 2316	Valsartan N = 2302	Effect size (95% CI)	Nominal P-value
NYHA functional classification at 8 months – Change from baseline (%) Improved Unchanged Worsened	15.0% 76.3% 8.7%	12.6% 77.9% 9.6%	OR for improvement 1.45 (1.13, 1.86)	0.004
KCCQ clinical summary score at 8 months – Change from baseline (SE)	-1.6 (0.4)	-2.6 (0.4)	LSM of difference = 1.03 (0.00, 2.1)	0.051
KCCQ responder (> than 5-point improvement)	33.0%	29.6%	OR = 1.30 (1.04, 1.61)	0.019
Worsening Renal Function Composite of renal death, reaching ESRD, or ≥50% decline in eGFR relative to baseline.	1.4%	2.7%	HR = 0.50 (0.33, 0.77)	0.002
All-cause mortality (%)	14.2%	14.6%	HR = 0.97 (0.84, 1.13)	0.68

@mi_cardiologo

Subgrupos

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Subgroup	No. of events/ patients	Rate ratio (95% CI)	Multivariable interaction p-value
Sex			
Male	980/2317	1.03 (0.85–1.25)	P < 0.006
Female	923/2479	0.73 (0.59–0.90)	
LVEF			
at or below median (57%)	1048/2495	0.78 (0.64–0.95)	P = 0.03 (categorical)
above median (57%)	855/2301	1.00 (0.81–1.23)	P = 0.002 (continuous)



Together with

@mi_cardiologo

Conclusiones

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

- En pacientes con HFpEF, SAC/VAL vs valsartán, se observa una reducción del **13% en el resultado primario, sin alcanzar la significación estadística**, que fue impulsado principalmente por una reducción en primeras y recurrentes **hospitalizaciones por IC**

- Síntomas, calidad de vida y función renal, mejora con sacubitril / valsartán vs valsartán.

- SAC/VAL es seguro en HFpEF

- Mayor beneficio en mujeres y FEVI< 57% (heterogeneidad)

PROVE-HF

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Screening period

Patients with NYHA class II–IV HFrEF:
- ≥18 years of age
- Naïve to and eligible for on-label sacubitril/valsartan treatment per the standard of care
- No contraindications to therapy
- No history of angioedema or malignancy within 1 year

Open-label treatment period (N = 795)

Sacubitril/valsartan 24/26-97/103 mg twice daily*

Day	−28	1	14	30	45	60	90	180	270	365
Visit		X	X	X	X	X	X	X	X	X
	Echo				↑			Echo		Echo

Titration phase — **Follow-up phase**

Key endpoints		
Primary	**Secondary**	**Exploratory**
• Changes in NT-proBNP concentrations and cardiac remodeling from baseline to 1 year	• Changes in concentrations of NT-proBNP and remodeling from baseline to 6 months • Changes in patient-reported outcomes using the KCCQ-23 from baseline to 1 year	• Changes in biomarker concentrations relative to the number of CV events within 12 months

@mi_cardiologo

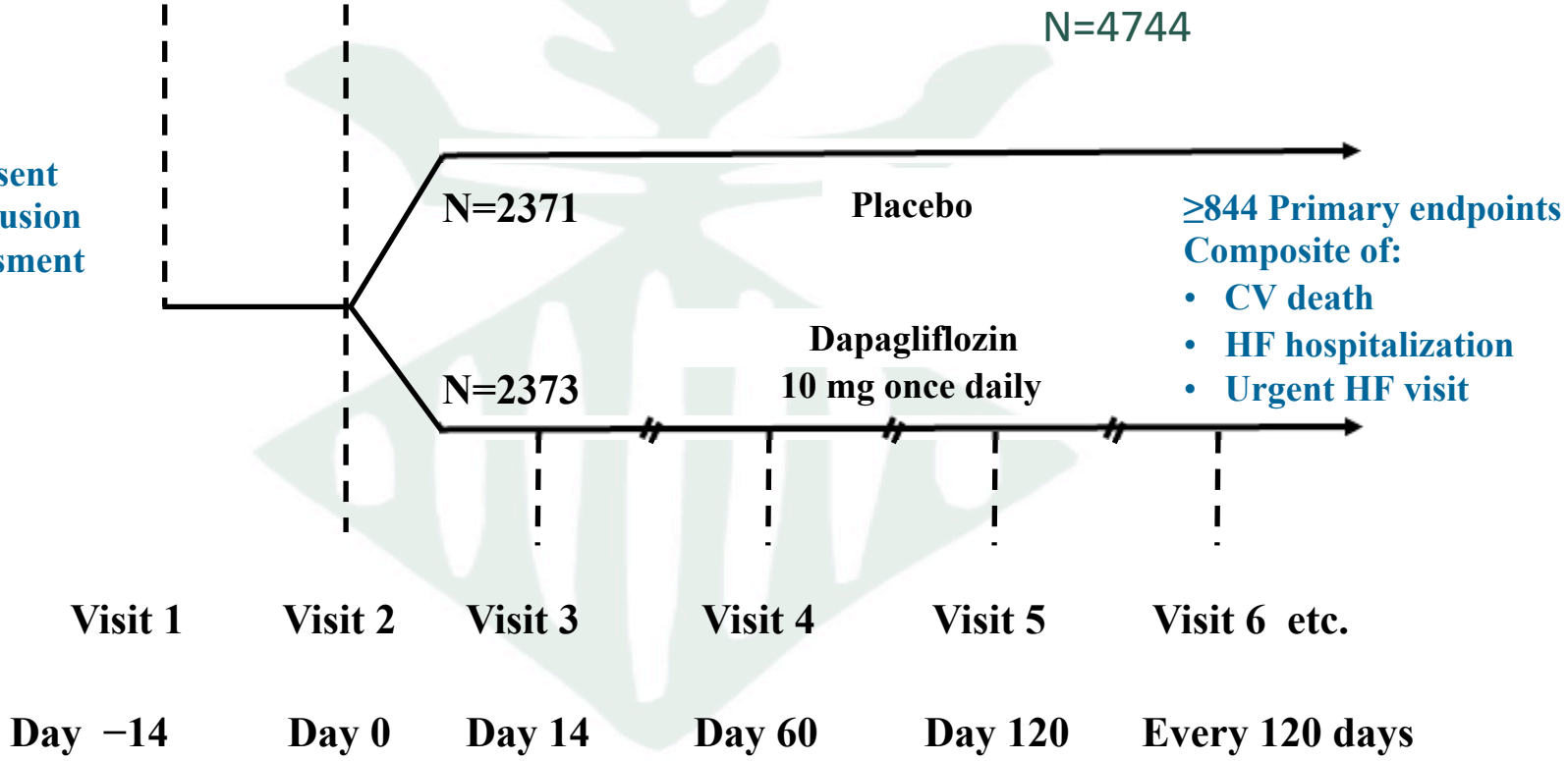
PROVE-HF

- SAC/VAL en pacientes con ICrFEVI, disminuye cifras de NT-proBNP, y se asocia de manera significativa con el remodelado inverso del VI
- En el global de la muestra la mejoría de la FEVI a 12 meses es de 9.4%. Implicaciones pronósticas y de manejo de pacientes
- El grado de remodelado explica como SAC/VAL reduce morbilidad y mortalidad en pacientes con ICrFEVI (PARADIGM-HF)
- La mayor reducción de NT-proBNP ocurre principalmente en las 2 primeras semanas de tratamiento
- En pacientes NAIVE/novo la mejora de la FEVI 12.8%
- Mantiene respuesta en pacientes con péptidos bajos y dosis baja/media de SAC/VAL

DAPA-HF

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

- Informed consent
- Inclusion/exclusion
- Clinical assessment
- ECG
- NT-proBNP
- Laboratory



McMurray presentation ESC 2019.

@mi_cardiologo

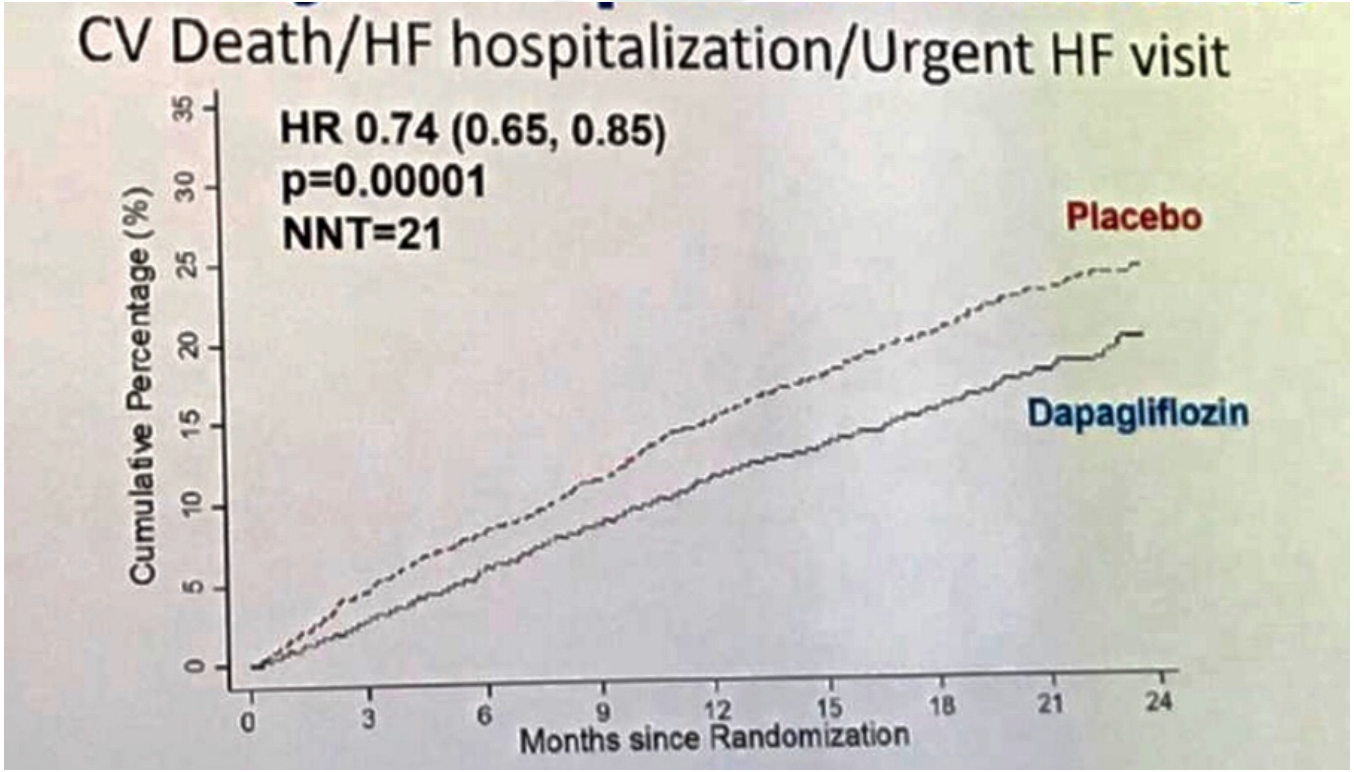
DAPA-HF

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Characteristic	Dapagliflozin (n=2373)	Placebo (n=2371)
Mean age (yr)	66	67
Male (%)	76	77
NYHA class II/III/IV (%)	68/31/1	67/32/1
Mean LVEF (%)	31	31
Median NT pro BNP (pg/ml)	1428	1446
Mean systolic BP (mmHg)	122	122
Ischaemic aetiology (%)	55	57
Mean eGFR (ml/min/1.73m2)	66	66
Prior diagnosis T2D (%)	42	42
Any baseline T2D (%)*	45	45

@mi_cardiologo

Objetivo Primario



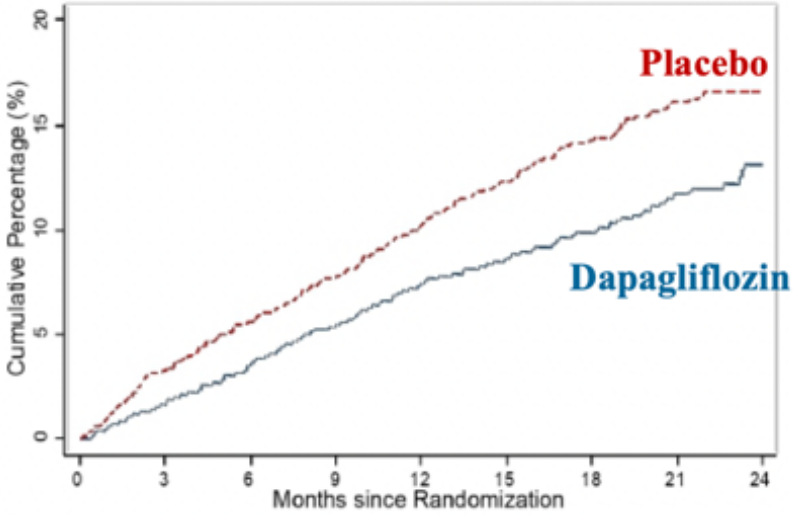
@mi_cardiologo

Objetivo Primario

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Worsening HF event

HR 0.70 (0.59, 0.83); p=0.00003

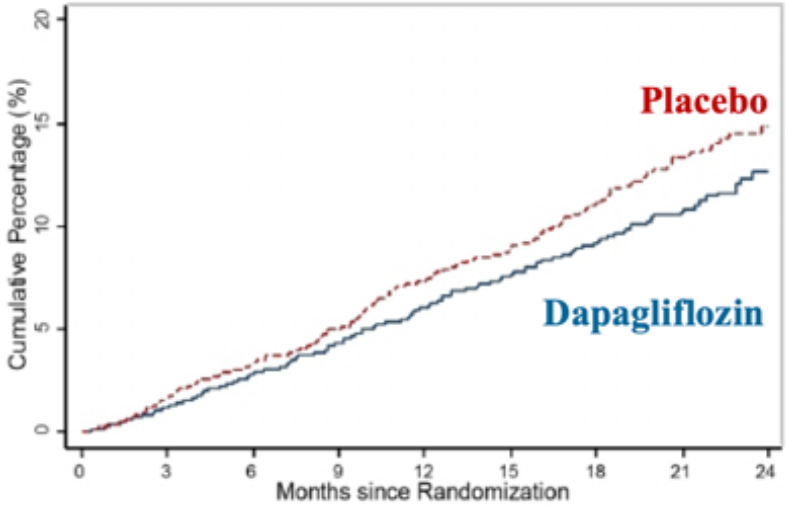


Number at Risk

Dapagliflozin	2373	2305	2221	2147	2002	1560	1146	612	210
Placebo	2371	2258	2163	2075	1917	1478	1096	593	210

Cardiovascular death

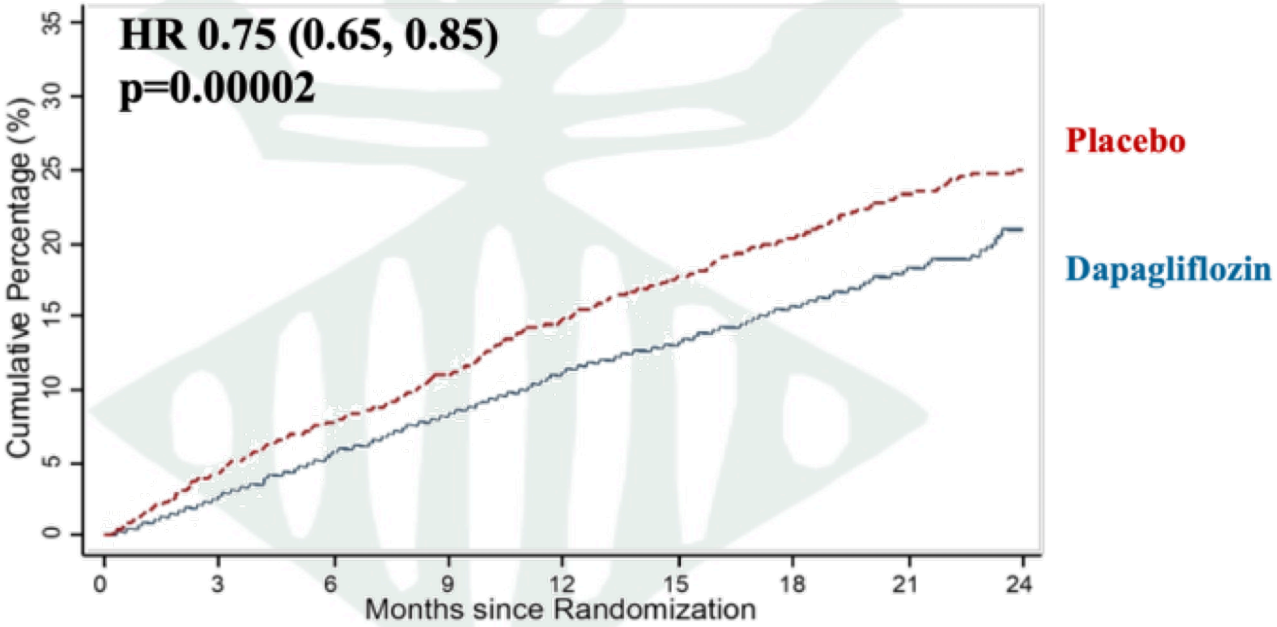
HR 0.82 (0.69, 0.98); p=0.029



	2373	2339	2293	2248	2127	1664	1242	671	232
	2371	2330	2279	2230	2091	1636	1219	664	234

@mi_cardiologo

Muerte CV u Hospitalización IC



Number at Risk

Dapagliflozin	2373	2306	2223	2153	2007	1563	1147	613	210
Placebo	2371	2264	2168	2082	1924	1483	1101	596	212

DAPA-HF

- Dapagliflozina añadido a TMO en pacientes con **ICFEr**, **redujo el compuesto de muerte cardiovascular (CV) o empeoramiento de la IC en un 26% (p <0,0001)** y mostró una reducción en cada uno de los componentes individuales
- Disminuye un 30% (p <0,0001) en el riesgo de **episodio de IC** y reduce el 18% (p = 0,0294) en el **riesgo de muerte CV**
- También en los diferentes subgrupos, incluido en pacientes **NO DIABÉTICOS**
- Mejora significativa **de calidad de vida**

Beta-blockers in high-risk heart failure patients with reduced ejection fraction and moderately-severe renal dysfunction

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Individual patient data meta-analysis

BB-meta-HF Collaborative Group

MDC 1993	CIBIS 1994	US-HF 1996
ANZ 1997	CIBIS-II 1999	MERIT-HF 1999
COPERNICUS 2001	CAPRICORN 2001	BEST 2001
CHRISTMAS 2003	SENIORS 2005	

- Randomised controlled trials
- Reporting mortality as a major trial endpoint
- Unconfounded head-to-head
- Planned >6m follow-up
- >300 patients (accounts for >95% of eligible RCT participants)

Pooling of individual patient data from 18,637 heart failure patients in double-blind RCTs according to a published extraction and analysis plan.

Bisoprolol • Bucindolol • Carvedilol • Metoprolol XL • Nebivolol

@mi_cardiologo

Conclusiones

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

1. IRENAL muchas veces es una barrera para el tratamiento con BB en ICrFEVI
2. **BB son efectivos en la reducción de mortalidad** en pacientes con ICFEr en **RITMO SINUSAL**, incluso en eGFR de **30-44ml/min/1.73m^2**)
3. El beneficio en este grupo de pacientes es similar a pacientes con función renal conservada
4. Interrupción por Efectos adversos es similar en BB vs placebo
5. IRENAL NO DEBE SER UN IMPEDIMENTO EN LA PRESCRIPCION Y MANTENIMIENTO DE BB en ICFEr

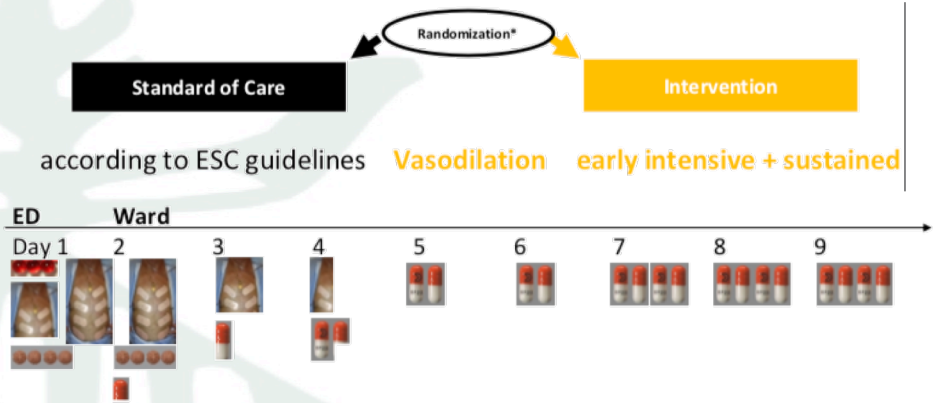
@mi_cardiologo

GALACTIC

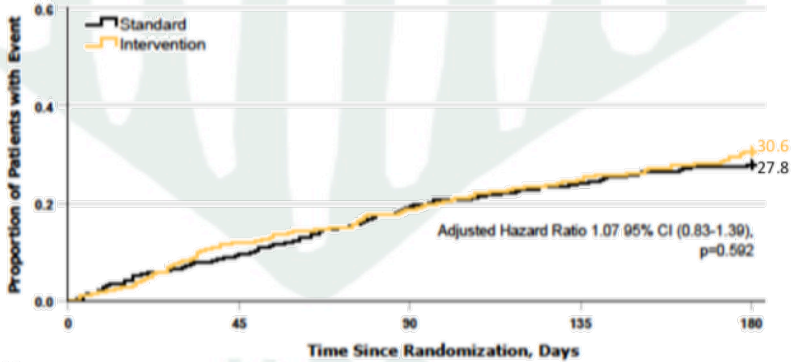
novel therapy concept in acute heart failure

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

- Adult patients presenting with AHF to the ED
- Acute dyspnea NYHA III or IV
- BNP ≥ 500 or NT-proBNP ≥ 2000 ng/L
- Written informed consent
- Negative pregnancy test in females < 60years



Results: Primary Endpoint (Death or AHF)



No at risk					
Standard	399	361	322	303	288
Intervention	382	337	311	287	265

@mi_cardiologo

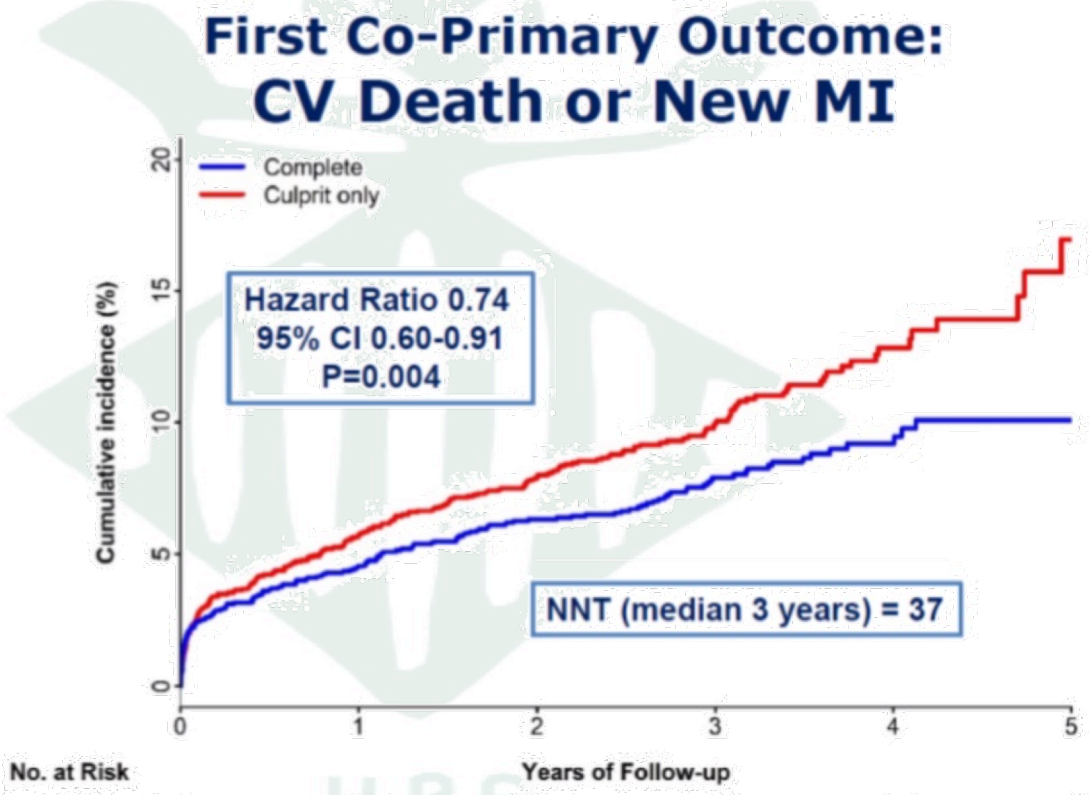
Ensayos en CI-ATG

- COMPLETE
- THEMIS
- ISAR-REACT 5
- NZOTACS
- HiSTORIC

COMPLETE

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

COMPLETE TRIAL



@mi_cardiologo

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

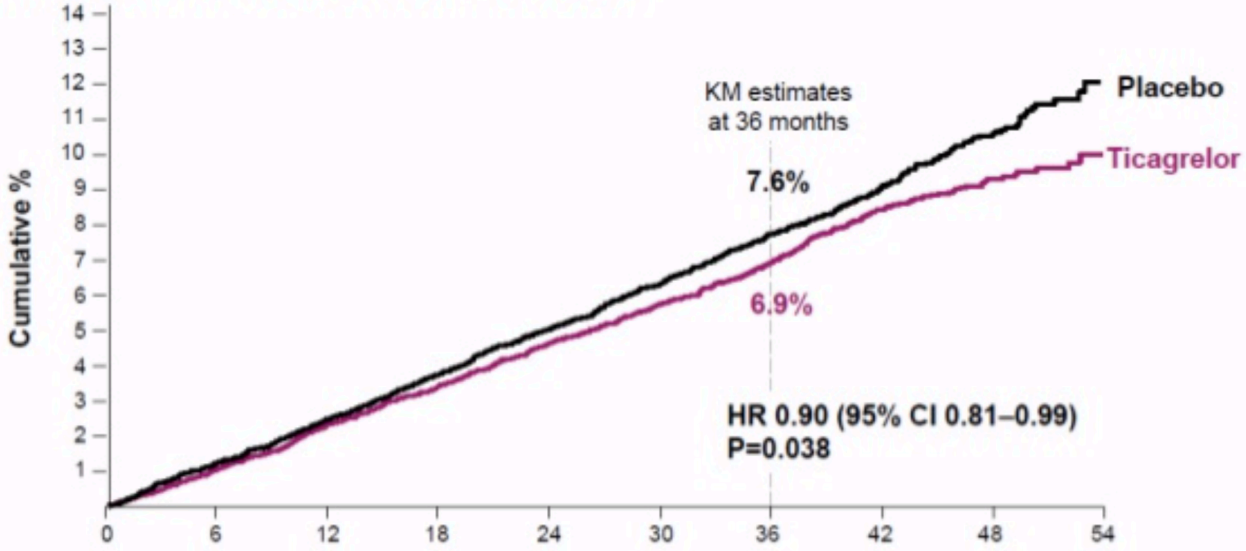
THEMIS: Ticagrelor Added to Aspirin in Patients with Stable Coronary Disease and Diabetes

NEJM. *September 1, 2019. DOI: 10.1056/NEJMoa1908077*

PARTHENON
THEMIS

@mi_cardiologo

Cardiovascular death/MI/stroke



N at Risk										
Ticagrelor	9619	9416	9237	9074	8909	8692	5974	3664	1684	170
Placebo	9601	9414	9246	9076	8909	8692	5934	3682	1685	174

CI=confidence interval; HR=hazard ratio; KM=Kaplan-Meier; MI=myocardial infarction; N=number of patients

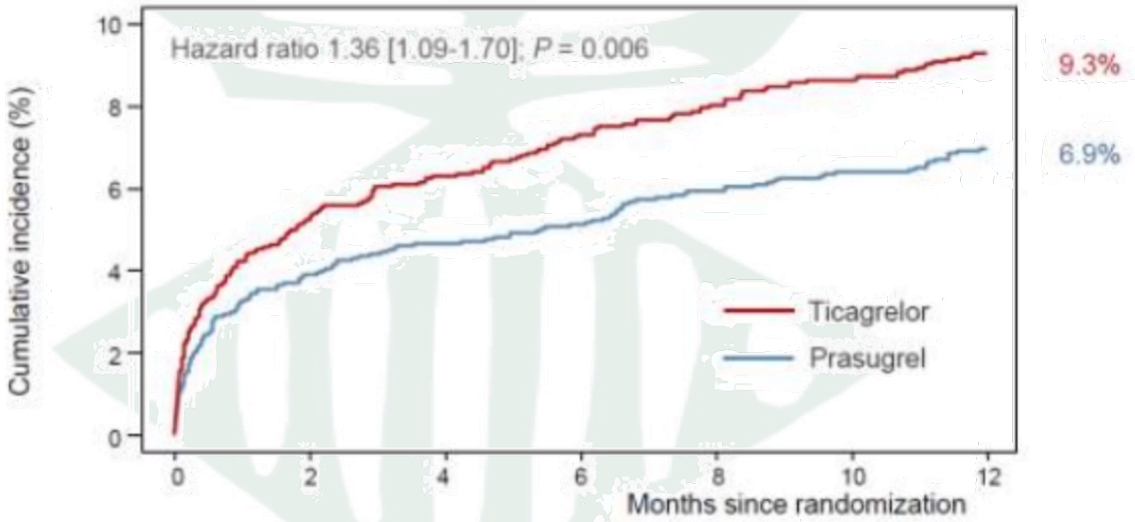
Sangrado

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

	Ticagrelor (N=9562)		Placebo (N=9531)			
	Patients with events (%)	Event rate/ 100 patient years)	Patients with events (%)	Event rate/ 100 patient years)	Hazard Ratio (95% CI)	p-value
TIMI major bleeding	206 (2.2%)	0.89	100 (1.0%)	0.38	2.32 (1.82–2.94)	<0.001
TIMI major or minor bleeding	285 (3.0%)	1.23	129 (1.4%)	0.49	2.49 (2.02–3.07)	<0.001
TIMI major, minor, or requiring medical attention	1072 (11.2%)	4.61	485 (5.1%)	1.85	2.51 (2.26–2.80)	<0.001
PLATO major bleeding	310 (3.2%)	1.33	145 (1.5%)	0.55	2.41 (1.98–2.93)	<0.001
BARC bleeding						
5 (fatal bleeding)	17 (0.2%)	0.07	10 (0.1%)	0.04	1.90 (0.87–4.15)	0.11
5 or 4	17 (0.2%)	0.07	11 (0.1%)	0.04	1.73 (0.81–3.69)	0.16
5, 4 or 3	341 (3.6%)	1.47	163 (1.7%)	0.62	2.36 (1.96–2.84)	<0.001
Intracranial hemorrhage	70 (0.7%)	0.30	46 (0.5%)	0.18	1.71 (1.18–2.48)	0.005
Spontaneous	28 (0.3%)	0.12	27 (0.3%)	0.10	1.17 (0.69–1.98)	0.57
Procedural	1 (0.0%)	0.00	3 (0.0%)	0.01		
Traumatic	41 (0.4%)	0.18	16 (0.2%)	0.06	2.87 (1.61–5.12)	<0.001

ISAR-REACT 5

Muerte, IAM o ACV



No. at Risk							
Ticagrelor	2012	1877	1857	1835	1815	1801	1772
Prasugrel	2006	1892	1877	1862	1839	1829	1803

@mi_cardiologo

The New Zealand Oxygen in ACS Trial

Aim

To compare 30 day mortality for two oxygen protocols used as part of routine care in patients with a suspected acute coronary syndrome

High oxygen protocol

Oxygen by face mask at 6-8l/min for ischaemic chest pain or ECG changes irrespective of SpO_2

Stop oxygen when clinical evidence of myocardial ischemia has resolved

Low oxygen protocol

Only give oxygen if SpO_2<90%.

Target SpO_2 90 to 94%

Stop O_2 when not needed to maintain SpO_2>90%

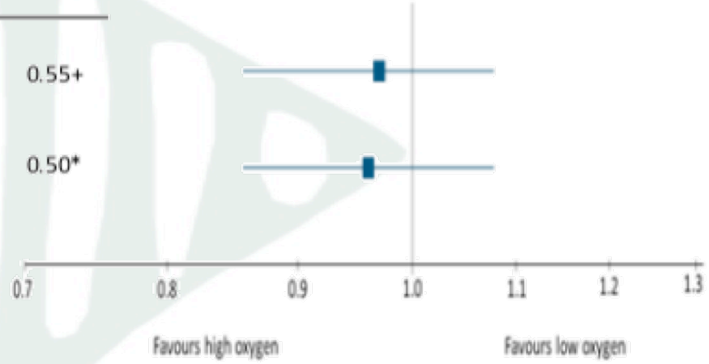
The New Zealand Oxygen in ACS Trial

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Primary outcome

30 day mortality for all patients with suspected ACS

	High oxygen	Low oxygen	Odds ratio (95%CI)	P value
Mortality	613 (3.02%)	642 (3.12%)	0.97 (0.86, 1.08)+	0.55+
			0.96 (0.86, 1.08)*	0.50*



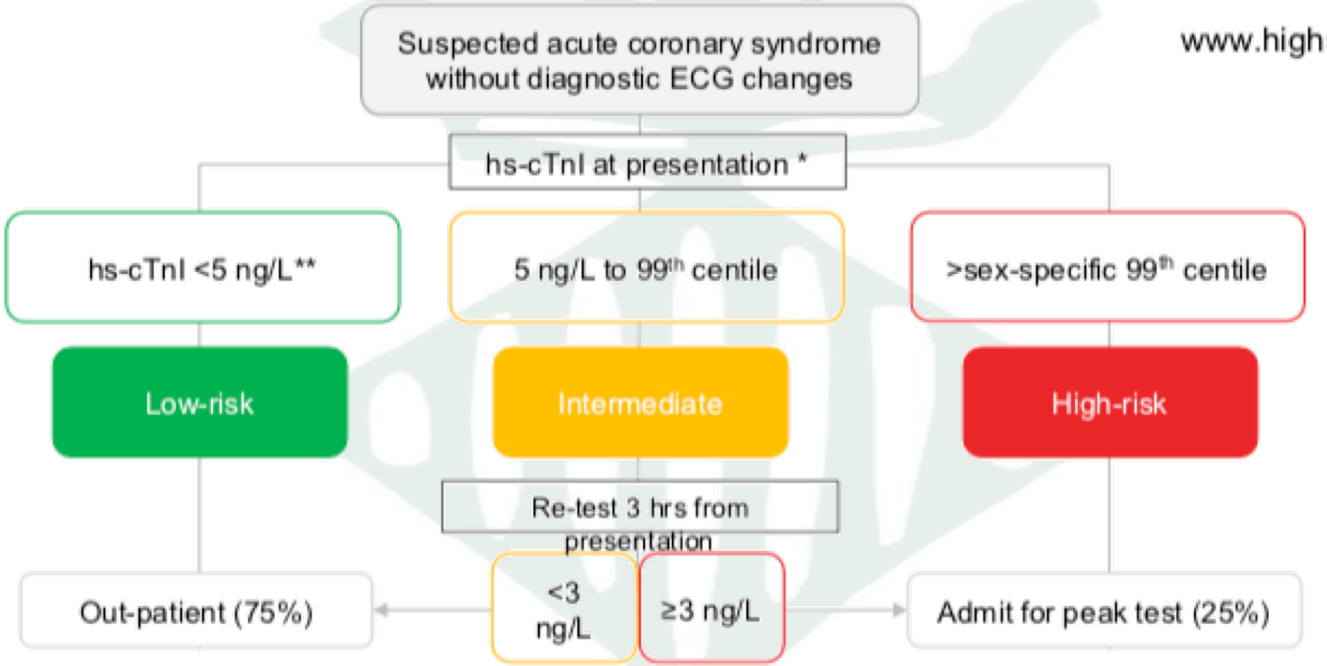
+ unadjusted
**adjusted for region, age, sex, ethnicity, socioeconomic level, season, ACS type*

@mi_cardiologo

Algoritmo HiSTORIC

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

www.highsteacs.com



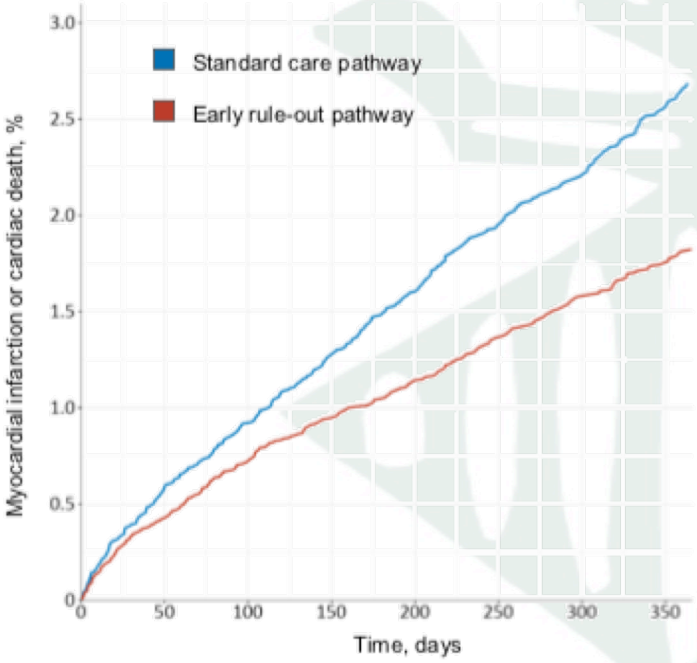
*Abbott Diagnostics ARCHITECT$_{STAT}$ high-sensitive cardiac troponin I (16 ng/L women and 34 ng/L men); **Retest if ≤2h from symptoms onset

Circulation 2017;135:1586-

@mi_cardiologo

Resultados HiSTORIC

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA



	Standard care	Early rule-out
No. of participants	14,700	16,792
30 days	57 (0.4)	56 (0.3)

At 30 days unable to conclude non-inferiority at 0.5% margin (adjusted risk difference 0.02% to 0.70%)*

At 1 year no evidence of adverse cardiac events (adjusted odds ratio 1.02, 95% CI 0.74 to 1.40)*

*Linear mixed effects regression model adjusting for site, season, and time since start of study

@mi_cardiologo

Ensayos en prevención

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

- SALT SUBS
- SWEDEHEART
- HOPE 4
- PURE
- COMBINED LDL Y PA

Evaluar la eficacia de la sustitución de sal para la reducción de cifras de TA, y su impacto en la incidencia de HTA en una población de Perú

Department: Tumbes

Population: ~200,000

Poverty level: ~25.0%

Hypertension: 27%
(≥35 years, in 2010)

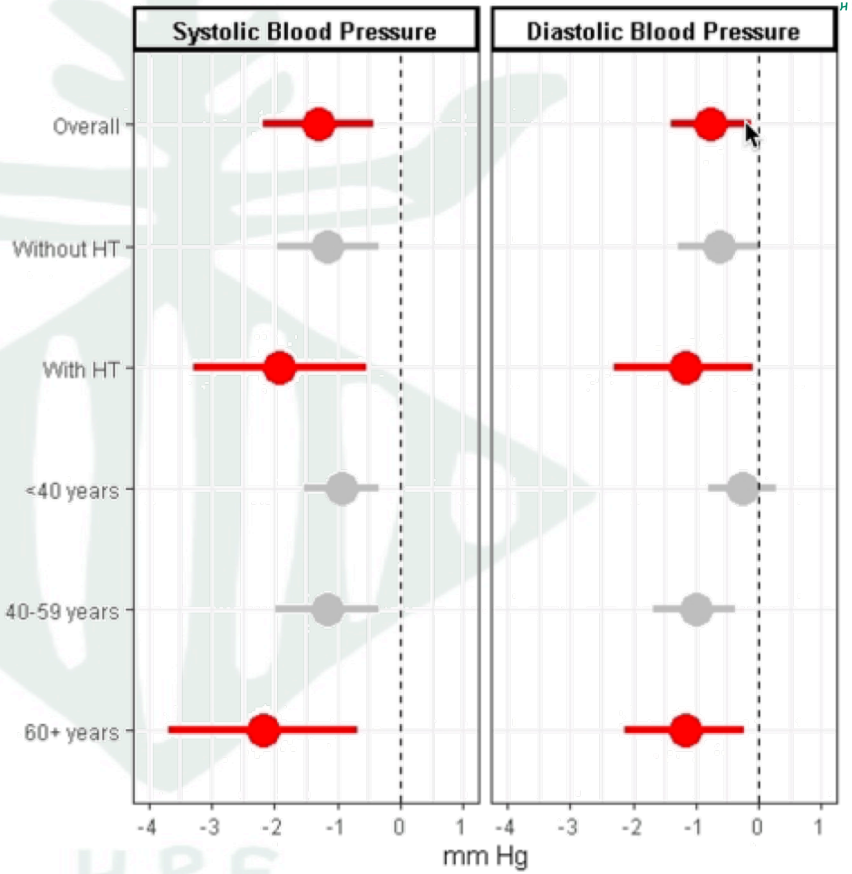
Reductions in SBP and DBP

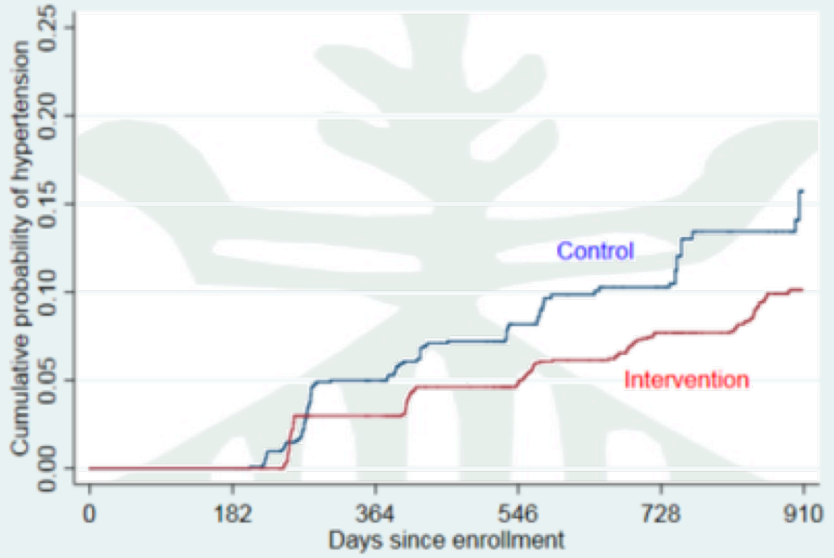
People with hypertension

SBP -1.92 mm Hg [95% CI -3.29; -0.54]

Subjects ≥60 yo

SBP -2.17 mm Hg [95% CI -3.67; -0.68]





No. at risk						
Control	1381	1381	997	438	416	0
Intervention	484	484	770	1251	1182	1458

Cumulative probability of developing hypertension

Fully-adjusted model: HR 0.45 [95% CI 0.66 – 0.31], p0.001>

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

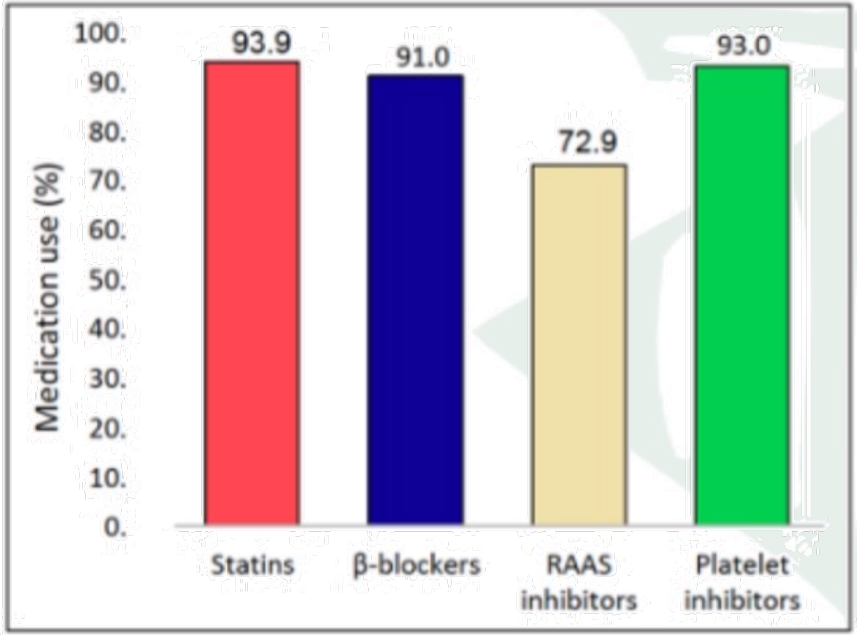
Secondary prevention medication after coronary artery bypass surgery and long-term mortality:

A longitudinal population-based study from the SWEDEHEART registry

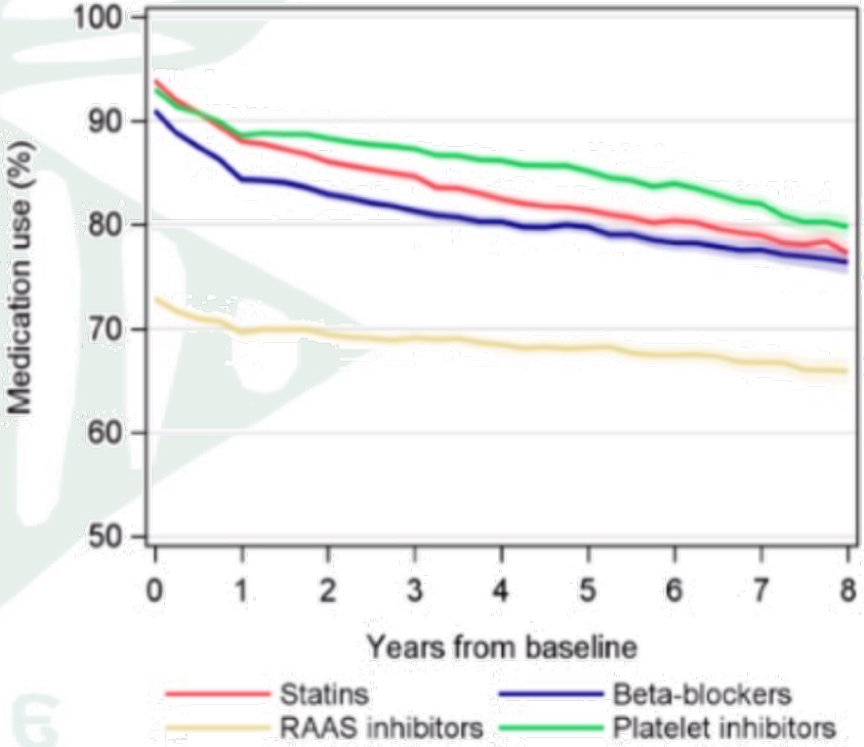
@mi_cardiologo

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

At baseline (6 months after discharge)



Over time

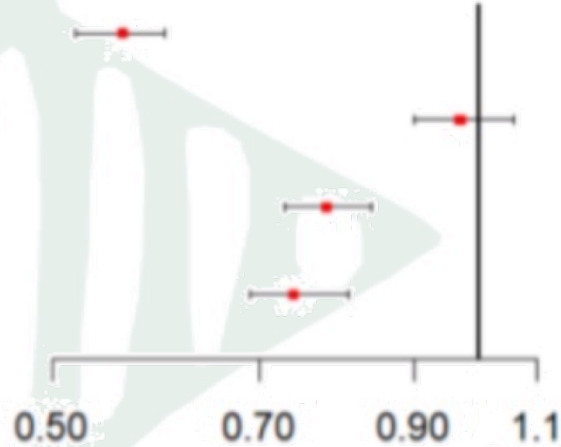


@mi_cardiologo

Mortalidad

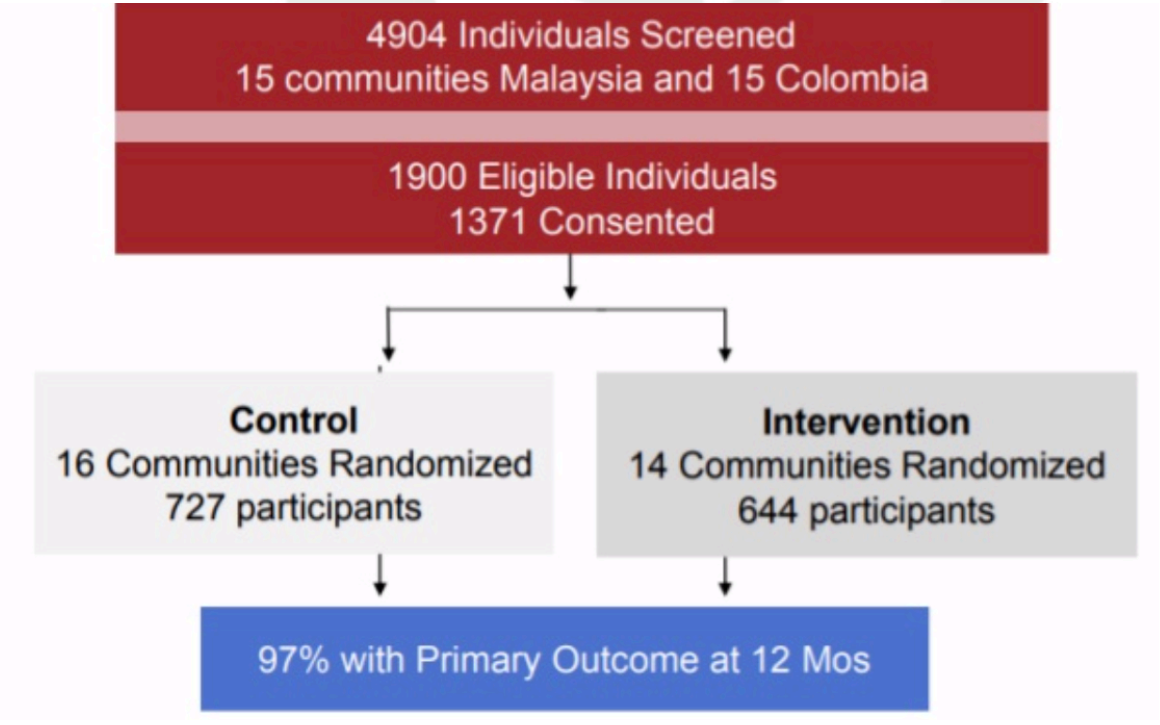
CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Treatment	Adjusted HR (95% CI)	p-value
Statins	0.56 (0.52-0.60)	<0.001
Beta blockers	0.97 (0.90-1.06)	0.54
RAAS inhibitors	0.78 (0.73-0.84)	<0.001
Platelet inhibitors	0.74 (0.69-0.81)	<0.001



@mi_cardiologo

HOPE-4



CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA
HRG

@mi_cardiologo

HOPE-4- Conclusiones

Una estrategia de atención mediante trabajadores sanitarios guiado con algoritmos en tablet, que involucra a atención primaria y al entorno familiar, además de proporcionar medicación antihipertensiva y estatinas gratuitas, sustancialmente mejoró el riesgo CV y el control de la tensión arterial

LDL bajo y PAS baja

Study design

Study population: 438,952 participants enrolled in the UK Biobank (40-79y)

Mendelian randomization

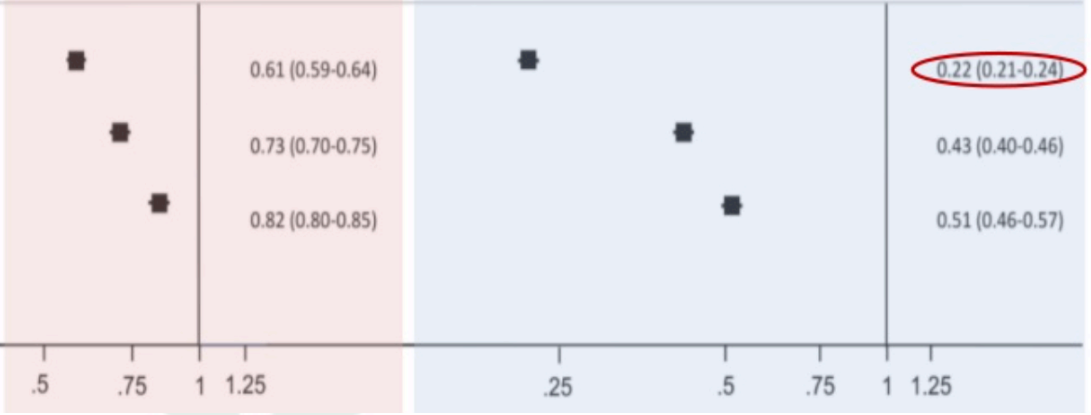
1. By LDL-C score
(built from 100 genetic variants associated with **low LDL-C**: number of variants + strenght of association)

2. By SBP score
(built from 61 genetic variants associated with **low SBP**: number of variants + strenght of association)

LDL bajo y PAS baja

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Group	No. Particpants	No. Events	Δ LDL-C (mg/dl)	Δ SBP (mmHg)	Odds ratio for MCE	Odds ratio (95% CI)	Odds ratio for MCE scaled for 1 mmol/L lower LDL-C, 10 mmHg lower SBP, or both	Odds ratio (95% CI)
Both lower LDL-C and lower SBP	105,528	4,832	-13.9	-3.1		0.61 (0.59-0.64)		0.22 (0.21-0.24)
Lower LDL-C	109,027	5,784	-14.7	-0.1		0.73 (0.70-0.75)		0.43 (0.40-0.46)
Lower SBP	111,097	6,515	1.6	-2.9		0.82 (0.80-0.85)		0.51 (0.46-0.57)
Reference	113,300	7,849	Ref.	Ref.				



@mi_cardiologo

ENSAYOS EN FA

- AFIRE: Rivaroxaban
- ENTRUST-AF PCI: Edoxaban

Rivaroxaban Monotherapy versus Combination Therapy in Patients with Atrial Fibrillation and Stable Coronary Artery Disease

A multicenter, prospective, randomized, open-label, parallel-group trial [1)]

2200 patients with AF ($CHADS_2 \geq 1$) and stable CAD

Key inclusion criteria

- Underwent PCI or CABG more than 1 year earlier
- Angiographically confirmed CAD (with stenosis of ≥50%) not requiring revascularization

Key exclusion criteria

- A history of stent thrombosis
- Coexisting active tumor
- Poorly controlled hypertension

→ **RANDOMIZE** →

Rivaroxaban Monotherapy

- **Rivaroxaban** 10 or 15 mg/day [2)*]

*The level of rivaroxaban in blood samples obtained from Japanese patients who were taking rivaroxaban at the 15-mg dose was similar to the level in white patients who were taking the 20-mg dose.

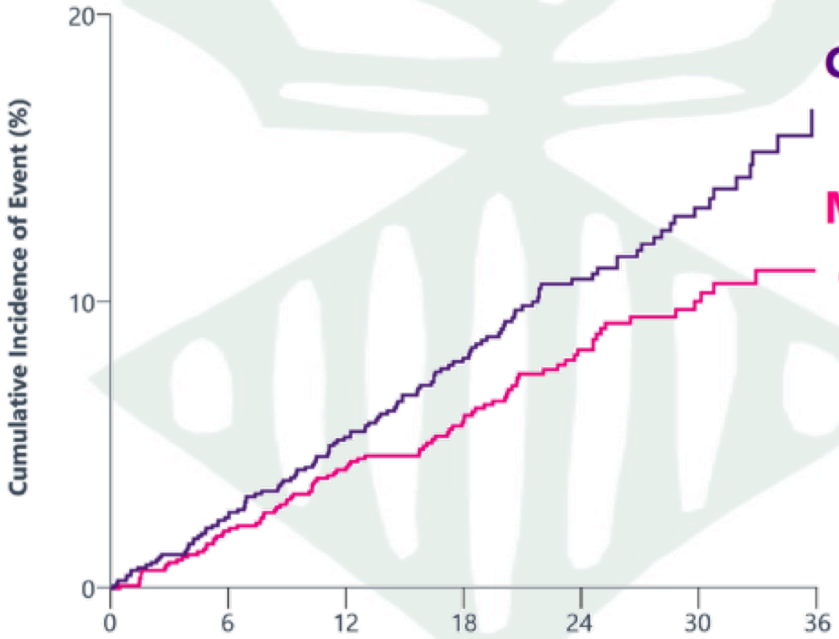
Combination Therapy

- **Rivaroxaban** 10 or 15 mg/day
- **Single antiplatelet**
  Aspirin 81 or 100 mg/day,
  Clopidogrel 50 or 75 mg/day, Prasugrel 2.5 or 3.75 mg/day

AFIRE Atrial Fibrillation and Ischemic events with Rivaroxaban in patiEnts with stable coronary artery disease

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Rivaroxaban Monotherapy versus Combination Therapy in Patients with Atrial Fibrillation and Stable Coronary Artery Disease



No. at Risk							
Rivaroxaban monotherapy	1107	1071	984	774	518	309	89
Combination therapy	1108	1057	962	754	499	292	80

Combination therapy
5.75% per patient-year

Monotherapy
4.14% per patient-year

HR, **0.72** (**0.55** to **0.95**)
P<0.001 (noninf.)

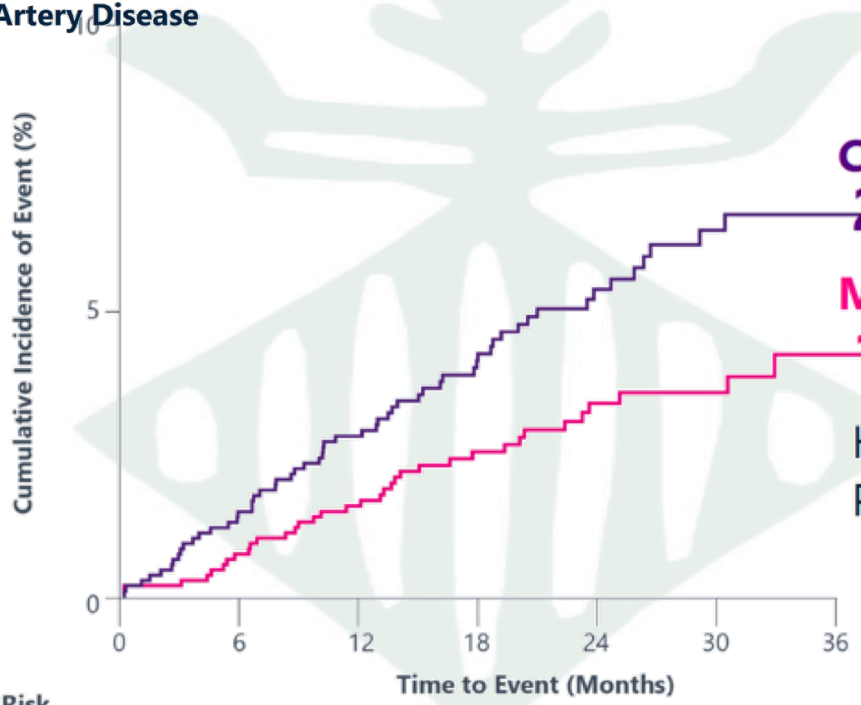
*In the assessment for **superiority for the primary efficacy end point** (that was not prespecified), the **P value was 0.02.**

@mi_cardiologo

AFIRE Atrial Fibrillation and Ischemic events with Rivaroxaban in patiEnts with stable coronary artery disease

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Rivaroxaban Monotherapy versus Combination Therapy in Patients with Atrial Fibrillation and Stable Coronary Artery Disease



Combination therapy
2.76% per patient-year

Monotherapy
1.62% per patient-year

HR, **0.59** (**0.39** to **0.89**)
P=0.01 (sup.)

No. at Risk							
Rivaroxaban monotherapy	1099	1074	994	786	526	312	89
Combination therapy	1099	1055	962	750	506	294	80

@mi_cardiologo

Rivaroxaban Monotherapy versus Combination Therapy in Patients with Atrial Fibrillation and Stable Coronary Artery Disease

- AFIRE demuestra que en pacientes con FA + enfermedad coronaria estable (> 1 año):
  - RIVAROXABAN en monoterapia es NO INFERIOR a la combinación de RIVAROXABAN + ANTIAGREGACION, con respecto a los eventos CV y muerte por cualquier causa.
  - RIVAROXABAN es superior en seguridad (sangrado mayor) en pacientes con FA y CI.

ENTRUST-AF PCI

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Edoxaban- vs vitamin-K-antagonist-based anti-thrombotic regimen after successful coronary stenting in patients with atrial fibrillation (ENTRUST-AF PCI): A randomised, open-label, phase 3b trial

Andreas Goette, Marco Valgimigli, Lars Eckardt, Jan Tijssen, Thorsten Lewalter, Giuseppe Gargiulo, Valerii Batushkin, Gianluca Campo, Zoreslava Lysak, Igor Vakaliuk, Krzysztof Milewski, Petra Laeis, Paul-Egbert Reimitz, Rüdiger Smolnik, Wolfgang Zierhut, Pascal Vranckx

@mi_cardiologo

ENTRUST-AF PCI

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

N=1506

Inclusion Criteria:
- OAC indication for AF for at least 12 months
- Successful PCI with stent placement (goal of at least 25% ACS)

4 hours – 5 days after sheath removal

RANDOMIZE

Edoxaban 60 mg/day*
$P2Y_{12}$ inhibitor** (without aspirin)

Vitamin K Antagonist***
$P2Y_{12}$ inhibitor
aspirin 1 - 12 months****

12 m.

*Edoxaban dose reduction to 30 mg OD
- if CrCL≤50 ml/min
- BW≤60 kg
- certain P-gp inhibitors

**Clopidogrel 75mg once-daily or if documented need prasugrel 5 or 10mg once-daily or ticagrelor 90mg twice-daily . Predeclared at randomization

*** VKA, target INR 2-3

****aspirin 100mg OD for 1-12 months guided by clinical presentation (ACS or stable CAD), CHA_2DS-$VASc_2$ and HAS_BLED

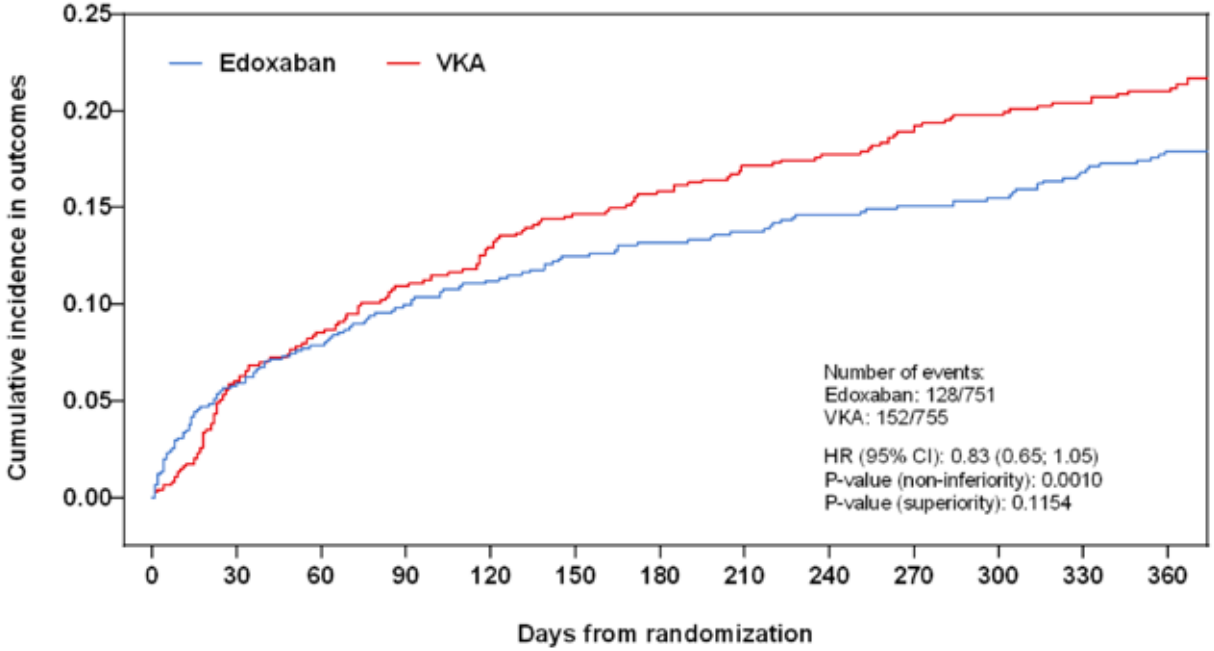
Primary outcome:
ISTH major or clinically relevant non-major bleeding

@mi_cardiologo

ENTRUST-AF PCI

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

ITT Analysis (N=1506), overall study period



Number at risk:

OXABAN	751	688	665	646	629	618	609	600	590	584	575	565	506
VKA	755	678	648	625	603	588	578	568	561	552	543	538	485

@mi_cardiologo

Conclusiones

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

- Edoxaban 60 + P2Y12 es no inferior a triple terapia en sangrado mayor o clínicamente relevante a 12 meses

- La doble terapia con Edoxaban muestra unas tasas de eventos isquémicos similar a la triple terapia

- **En paciente con FA e ICP la terapia dual con edoxaban es NO inferior en sangrados vs AVK en triple terapia, sin diferencias en eventos isquémicos**

ESC
European Society of Cardiology
European Heart Journal (2019) 00, 1–21
doi:10.1093/eurheartj/ehz641

FASTTRACK CLINICAL RESEARCH
Heart failure/cardiomyopathy

How to diagnose heart failure with preserved ejection fraction: the HFA–PEFF diagnostic algorithm: a consensus recommendation from the Heart Failure Association (HFA) of the European Society of Cardiology (ESC)

Algoritmo PEFF

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

P	Initial Workup (Step 1 (P) : Pretest Assessment)	• Symptoms and/or Signs of HF • Comorbidities / Risk factors • ECG • Standard Echocardiography • Natriuretic Peptides • Ergometry / 6 min walking test or Cardiopulmonary Exercise Testing
E	Diagnostic Workup (Step 2 (E) : Echocardiographic and Natriuretic Peptide Score)	• Comprehensive Echocardiography • Natriuretic Peptides, if not measured in Step 1
F1	Advanced Workup (Step 3 (F1) : Functional testing in Case of Uncertainty)	• Diastolic Stress Test: Exercise Stress Echocardiography • Invasive Haemodynamic Measurements
F2	Aetiological Workup (Step 4 (F2) : Final Aetiology)	• Cardiovascular Magnetic Resonance • Cardiac or Non-Cardiac Biopsies • Scintigraphy / CT / PET • Genetic testing • Specific Laboratory Tests

@mi_cardiologo

Eco y BNP Score

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

	Functional	Morphological	Biomarker (SR)	Biomarker (AF)
Major	septal e' < 7 cm/s or lateral e' < 10 cm/s or Average E/e' ≥ 15 or TR velocity > 2.8 m/s (PASP > 35 mmHg)	LAVI > 34 ml/m^2 or LVMI ≥ 149/122 g/m^2 (m/w) and RWT > 0,42 #	NT-proBNP > 220 pg/ml or BNP > 80 pg/ml	NT-proBNP > 660 pg/ml or BNP > 240 pg/ml
Minor	Average E/e' 9 -14 or GLS < 16 %	LAVI 29-34 ml/m^2 or LVMI > 115/95 g/m^2 (m/w) or RWT > 0,42 or LV wall thickness ≥ 12 mm	NT-proBNP 125-220 pg/ml or BNP 35-80 pg/ml	NT-proBNP 365-660 pg/ml or BNP 105-240 pg/ml

Major: 2 points; Minor: 1 point

Exclusion: ≤1 point; Diagnostic: ≥4 point; Grey zone: 2-4 points

@mi_cardiologo

Decálogo ESC 2019

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Rafael Vidal @rafavidalperez · 4 sept.
En respuesta a @rafavidalperez
1/ Definitivamente este ha sido el congreso con mas presencia redes sociales de la historia. Con el impulso de la ESC @Barbara_Casadei @ESC_Lavinia #ESCCongress #WCC2019 @escardio @secardiologia
1 5 20

Rafael Vidal @rafavidalperez · 4 sept.
2/ Sin duda la Insuficiencia cardiaca ha sido protagonista DAPA HF Dapaglifozina nuevo escalon terapeutico en reducida, PARAGON HF seguimos sin dar con la clave en preservada PROVE HF sac/val remodela adecuadamente #ESCCongress #WCC2019 @escardio @secardiologia
1 7 24

Rafael Vidal @rafavidalperez · 4 sept.
3/ COMPLETE si revascularizamos que sea todo lo posible y sin demoras en IAM con elevacion ST. Extenso debate tuitero sobre el tema #ESCCongress #WCC2019 @escardio @secardiologia
1 5 22

Rafael Vidal @rafavidalperez · 4 sept.
4/ ISAR REACT 5 cuando ya habiamos enterrado al prasugrel vuelve al escenario para superar a ticagrelor. ¿Cambiaremos nuestros protocolos? #ESCCongress #WCC2019 @escardio @secardiologia
1 7 21

Rafael Vidal @rafavidalperez · 4 sept.
5/ THEMIS Ticagrelor + AAS en diabetico estable con papel reductor de eventos pagando aumento sangrado #ESCCongress #WCC2019 @escardio @secardiologia
1 5 17

@mi_cardiologo

Decálogo ESC 2019

CARDIOLOGIA
CONSORCI
HOSPITAL GENERAL
UNIVERSITARI
VALÈNCIA

Rafael Vidal @rafavidalperez · 4 sept.
6/ GALACTIC ojo con la terapia precoz vasodilatadora intensiva en insuficiencia cardiaca aguda #ESCCongress #WCC2019 @escardio @secardiologia

2 6 18

Rafael Vidal @rafavidalperez · 4 sept.
7/ ENTRUST AF todos los DOACs (ahora edoxaban) probados en el mismo escenario de intervencionismo, no mas sangrados que warfarina #ESCCongress #WCC2019 @escardio @secardiologia

1 8 19

Rafael Vidal @rafavidalperez · 4 sept.
8/ MITRA-FR 2 sigue la discusión sobre diferencias con COAPT. Esperando los estudios en marcha que seran claves en el desempate #ESCCongress #WCC2019 @escardio @secardiologia

1 5 14

Rafael Vidal @rafavidalperez · 4 sept.
9/ Ojo con los subanalisis de subgrupos, son generadores de hipotesis, repita conmigo generadores de hipotesis #ESCCongress #WCC2 @escardio @secardiologia

2 12 45

Rafael Vidal @rafavidalperez · 4 sept.
10/ Nuevas guias: diabetes (islgt2/ glp1) lipidos (ldl <55) supraventriculares (Mas ablación) sindromes coronarios cronicos (nueva nomenclatura a debate) embolismo pulmonar (no muchos comentarios) A leer toca escardio.org/Guidelines/Cli... #ESCCongress @secardiologia @escardio #WCC2019

@mi_cardiologo