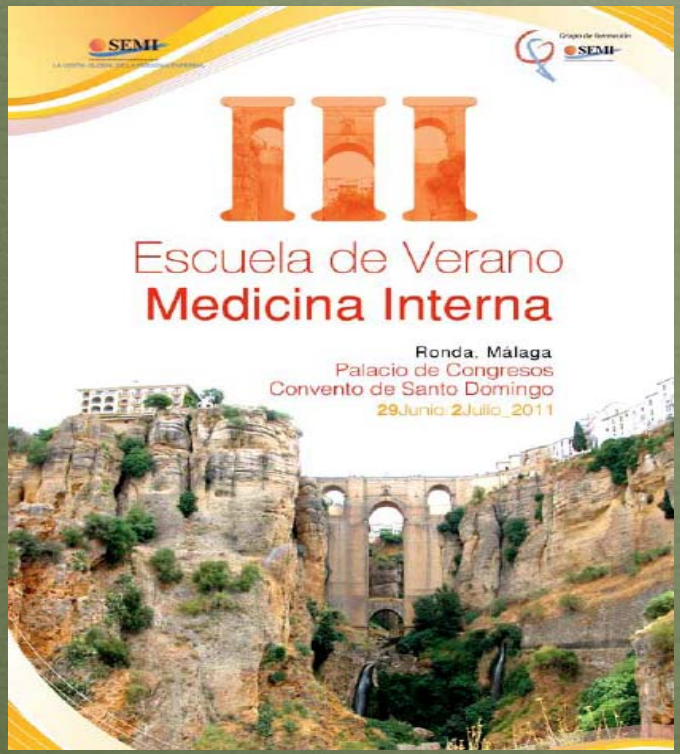
¿ Qué hay de nuevo en Insuficiencia Cardiaca ?



José Luis Morales Rull

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Lleida

Insuficiencia Cardiaca Aguda:

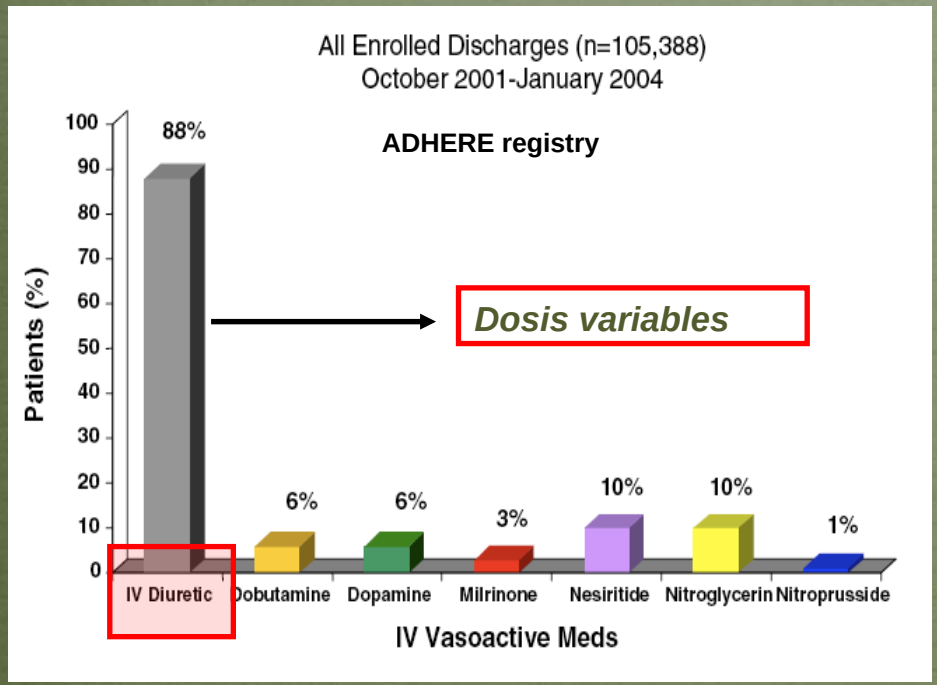
-Diuréticos
-Betabloqueantes

Insuficiencia Cardiaca Crónica:

-Hierro intravenoso
-Antialdosterónicos
-Ivabradina
-Revascularización

Tratamiento diurético

Diuretic Optimization Strategies Evaluation in Acute Heart Failure (DOSE)



Heart Fail Rev (2007) 12:125–130

[Intervention Review]

Continuous infusion versus bolus injection of loop diuretics in congestive heart failure

Existen **8 ensayos con 254 pacientes**

Infusión continua:
-mayor efecto diurético
-menos efectos secundarios
-menor estancia hospitalaria
-reducción de mortalidad global
pero no cardiovascular

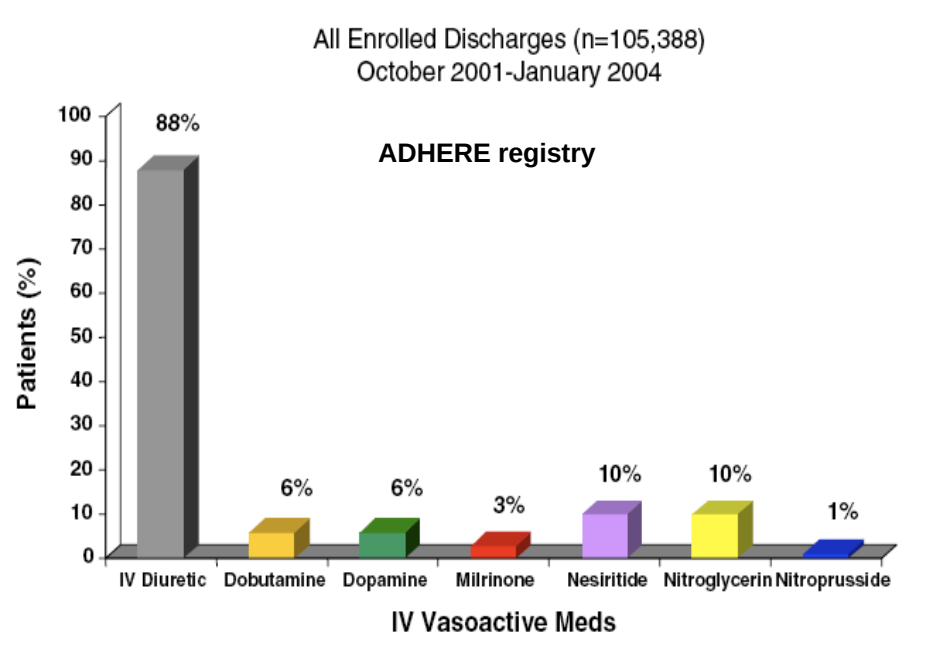
No hay recomendaciones definitivas

Cochrane Database Syst Rev 2009 1:CD003178

Diuretic Strategies in Patients with Acute Decompensated Heart Failure

BACKGROUND

Loop diuretics are an essential component of therapy for patients with acute decompensated heart failure, but there are few prospective data to guide their use.

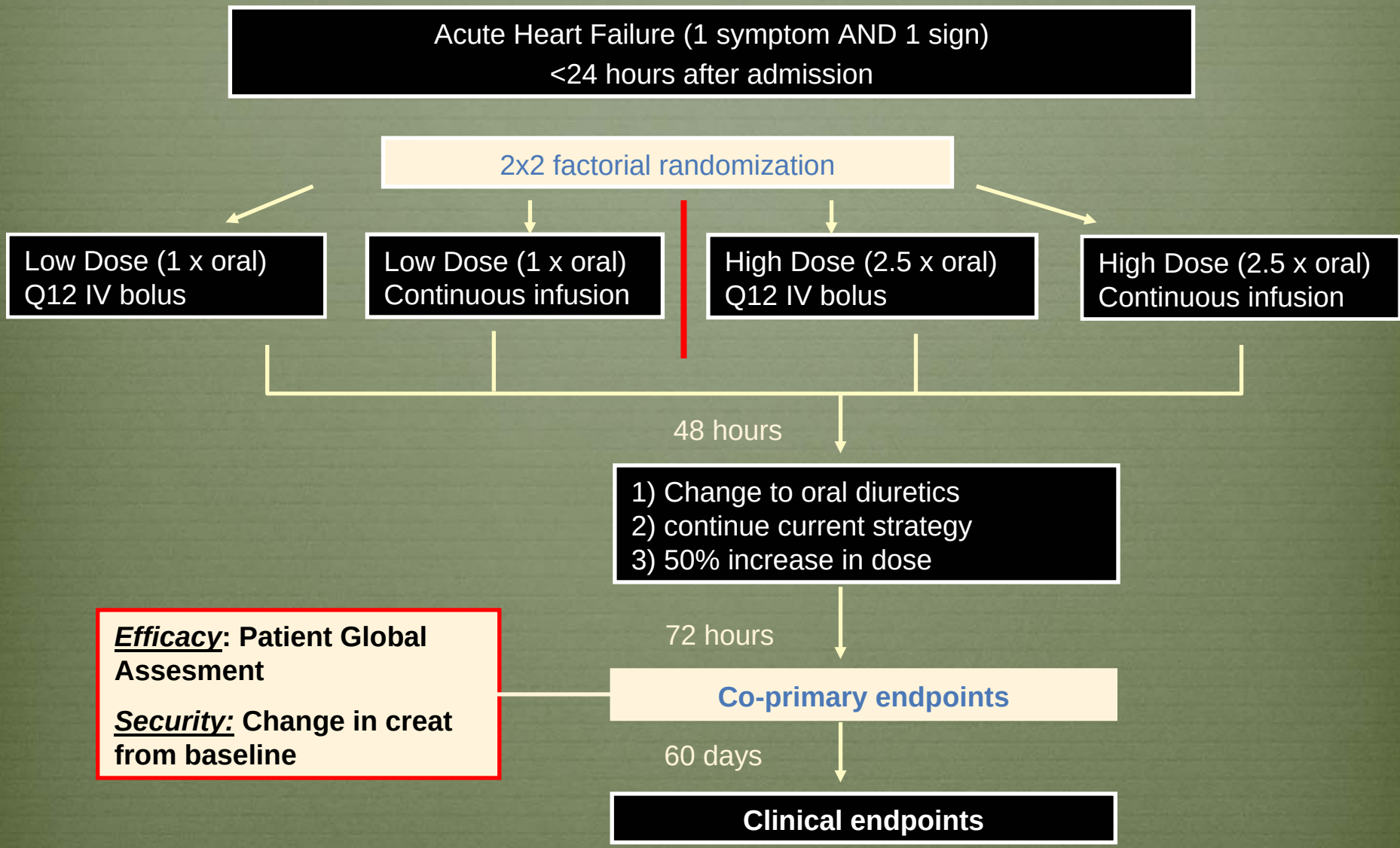


- 308 pacientes con FEVI media 35% en tratamiento con furosemida (entre 80 y 240 mg/día como dosis basal) que ingresan por agudización IC

- Se excluyen tto inotropo, vasodilatador o ultrafiltración, creat > 3 mg/dl.

-***Objetivos***: Comparar de dosis de furosemida y via de administración en términos de eficacia y seguridad

N Engl J Med 2011;364:797-805.



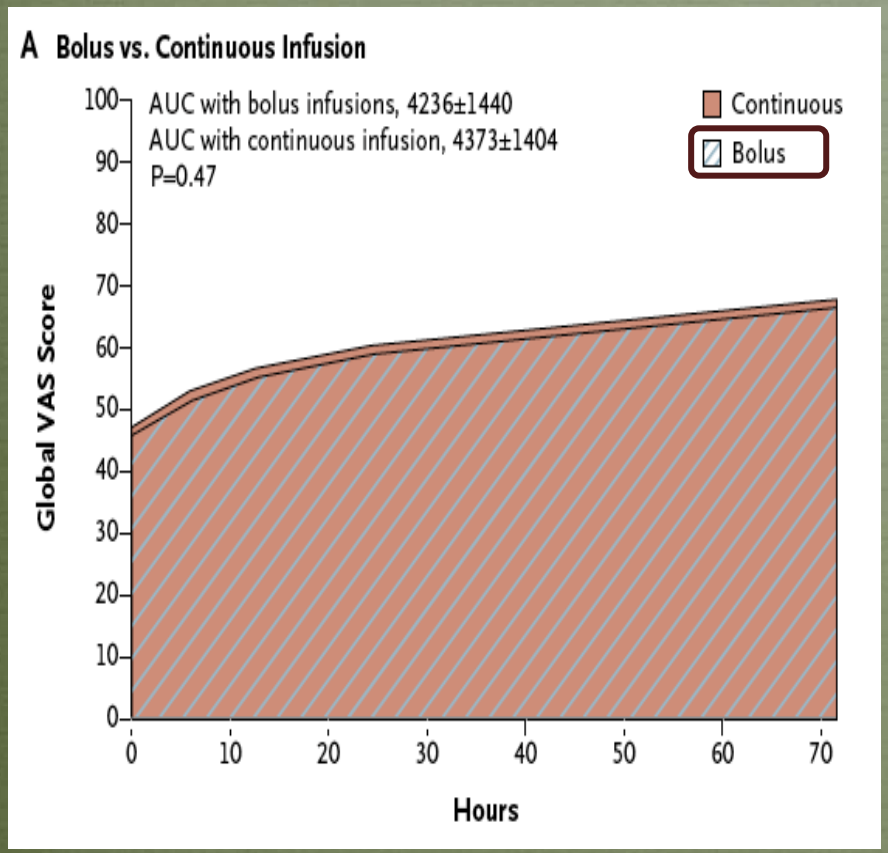
N Engl J Med 2011;364:797-805.

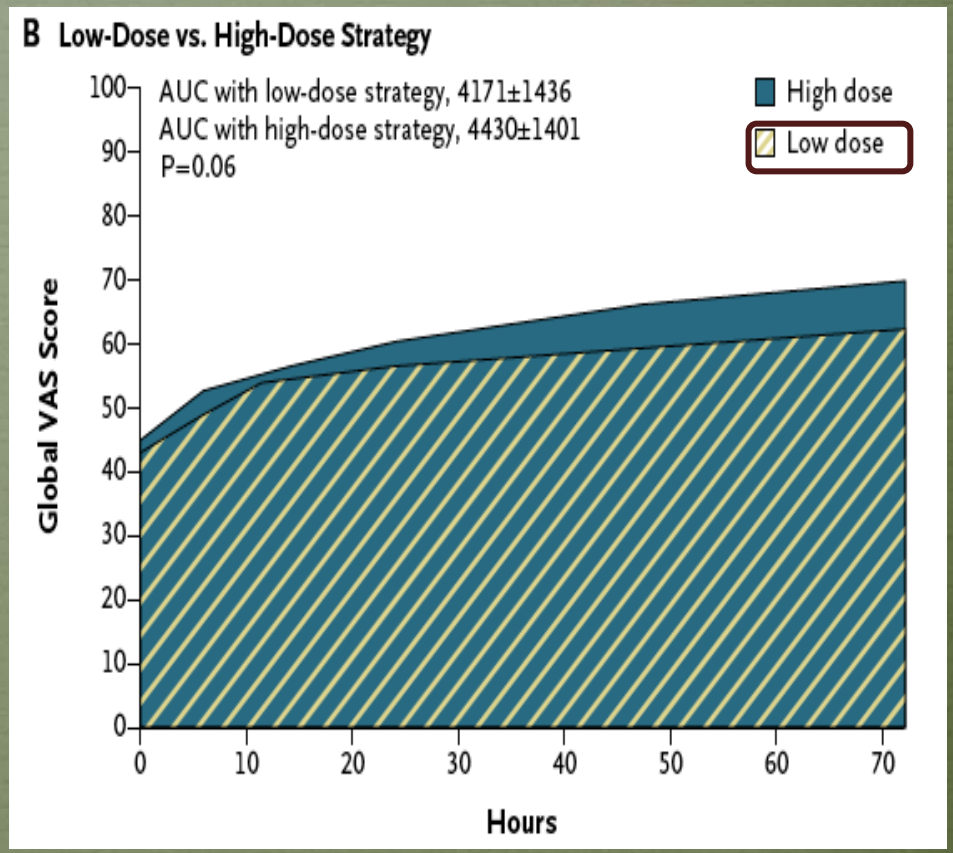
Diuretic Strategies in Patients with Acute Decompensated Heart Failure

Characteristic	Bolus Every 12 Hr (N=156)	Continuous Infusion (N=152)	Low Dose (N=151)	High Dose (N=157)
Age — yr	66.2±13.2	65.8±14.1	65.9±13.3	66.2±13.9
Male sex — no. (%)	115 (74)	111 (73)	110 (73)	116 (74)
Dose of oral furosemide or furosemide equivalent — mg/day	134±53	127±50	131±52	131±51
Ejection fraction (%)	35±18	35±18	33±17	36±18
Creatinine — mg/dl	1.5±0.5	1.5±0.5	1.5±0.5	1.5±0.5
Systolic blood pressure — mm Hg	118±19	121±22	120±19	119±21
Heart rate — beats/min	76±14	80±17	78±15	79±17
ACE inhibitor or ARB — no. (%)	104 (67)	93 (61)	94 (62)	103 (66)
Beta-blocker — no. (%)	133 (85)	123 (81)	125 (83)	131 (83)
Aldosterone antagonist — no. (%)	42 (27)	44 (29)	43 (28)	43 (27)

N Engl J Med 2011;364:797-805.

Efficacy: Patient Global Assesment





A las 48 horas el grupo Bolus precisó mayor incremento de dosis (21 vs 11% - p= 0.01)

A las 48 horas el grupo dosis-bajas precisó duplicar la dosis con mayor frecuencia. (24 vs 9% - p= 0.01)

N Engl J Med 2011;364:797-805.

Table 2. Secondary End Points for Each Treatment Comparison.*

End Point	Bolus Every 12 Hr (N=156)	Continuous Infusion (N=152)	P Value	Low Dose (N=151)	High Dose (N=157)	P Value
AUC for dyspnea at 72 hr	4456±1468	4699±1573	0.36	4478±1550	4668±1496	0.04
Freedom from congestion at 72 hr — no./total no. (%)	22/153 (14)	22/144 (15)	0.78	16/143 (11)	28/154 (18)	0.09
Change in weight at 72 hr — lb	−6.8±7.8	−8.1±10.3	0.20	−6.1±9.5	−8.7±8.5	0.01
Net fluid loss at 72 hr — ml	4237±3208	4249±3104	0.89	3575±2635	4899±3479	0.001
Change in NT-proBNP at 72 hr — pg/ml	−1316±4364	−1773±3828	0.44	−1194±4094	−1882±4105	0.06
Worsening or persistent heart failure — no./total no. (%)	38/154 (25)	34/145 (23)	0.78	38/145 (26)	34/154 (22)	0.40
Treatment failure — no./total no. (%)†	59/155 (38)	57/147 (39)	0.88	54/147 (37)	62/155 (40)	0.56
Increase in creatinine of >0.3 mg/dl within 72 hr — no./total no. (%)	27/155 (17)	28/146 (19)	0.64	20/147 (14)	35/154 (23)	0.04
Length of stay in hospital — days *			0.97			0.55
Median	5	5		6	5	
Interquartile range	3–9	3–8		4–9	3–8	
Alive and out of hospital — days *			0.36			0.42
Median	51	51		50	52	
Interquartile range	42–55	38–55		39–54	42–56	

N Engl J Med 2011;364:797-805.

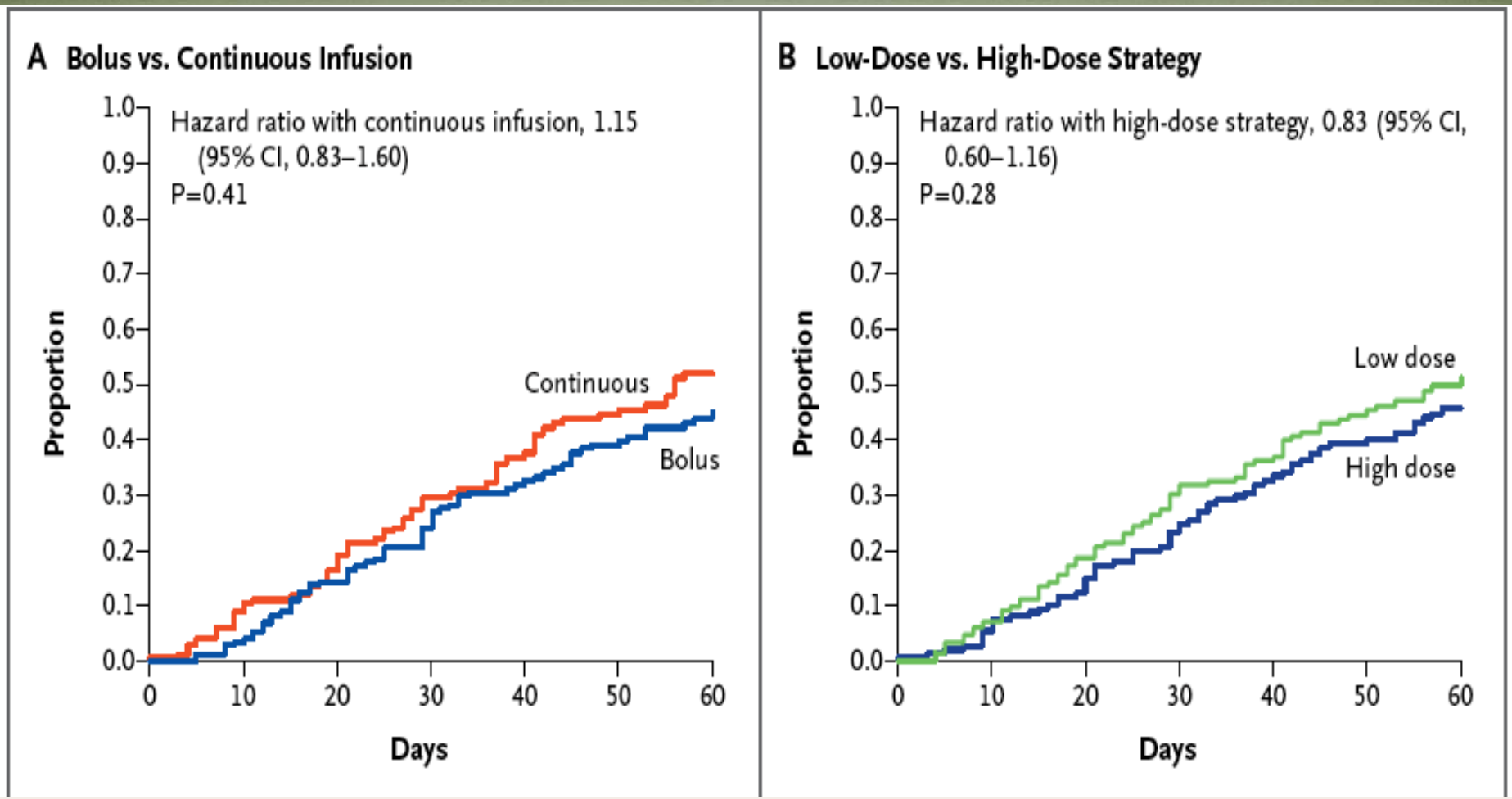


Figure 3. Kaplan–Meier Curves for the Clinical Composite End Point of Death, Rehospitalization, or Emergency Department Visit.

N Engl J Med 2011;364:797-805.

Diuretic Strategies in Patients with Acute Decompensated Heart Failure

¿Cómo ha afectado el poder cambiar el tratamiento a las 48 horas del inicio – sesgo?

Perfusión continua y dosis elevadas precisan menores ajustes de dosis a las 48 h

Conclusiones:

- Cuando se comparan dosis altas vs bajas de furosemida:

  * **No hay diferencias significativas** en el alivio de los síntomas

  * **No hay diferencias significativas** en cuanto a cambios en la función renal

- Cuando se comparan bolus vs infusión continua:

  * **No hay diferencias significativas** en el alivio de los síntomas

  * **No hay diferencias significativas** en cuanto a cambios en la función renal

- Las **dosis elevadas** se asocian a una tendencia a la **mejoria más rápida de la disnea**, **perdida de peso y volumen mayor , reducción de NT-proBNP mayor**

- No hay diferencias en cuanto a mortalidad y reingreso a los 60 días con ninguna de las estrategias.

N Engl J Med 2011;364:797-805.

Betabloqueantes

B-CONVINCED: Beta-blocker CONtinuation Vs. INterruption in patients with Congestive heart failure hospitalizED for a decompensation episode

β-Blockers in worsening heart failure: good or bad?

EUROPEAN SOCIETY OF CARDIOLOGY®

Eur Heart J 2008;29:2388–2442

'In patients admitted to hospital due to worsening HF, a reduction in the β-blocker dose may be necessary. In severe situations, temporary discontinuation can be considered. Low-dose therapy should be re-instituted and up-titrated as soon as the patient's clinical condition permits, preferably prior to discharge.'

-147 pacientes con FEVI<40% en tratamiento con BB durante al menos un mes previo a ingreso por agudización IC.

- Se randomiza a mantener BB con misma dosis vs retirada.

- ***Estudio de no inferioridad***

- ***Objetivo principal:*** valorar el efecto sobre el estado general y la mejoría de la disnea valorada por el clínico a los 3 días del ingreso (Cuestionario)

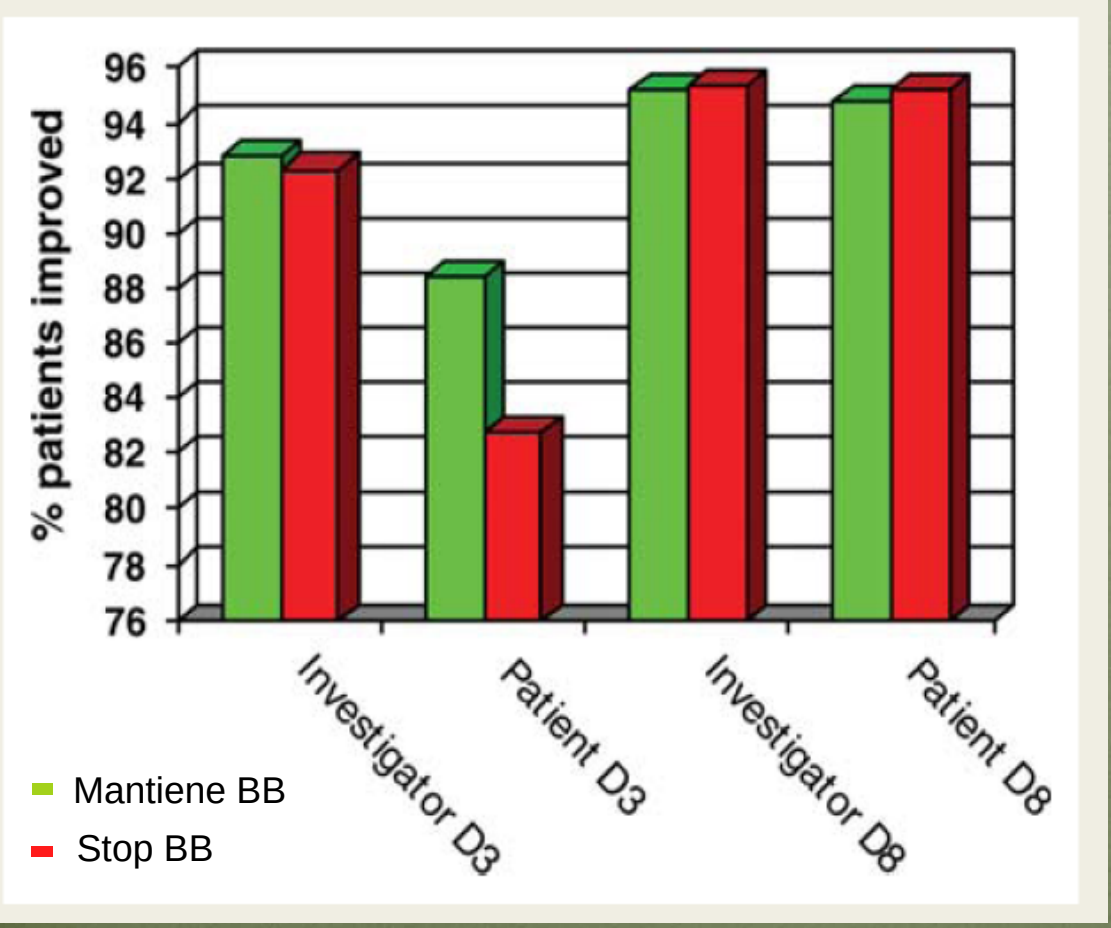
Eur Heart Journal (2009) 30, 2186–2192

B-CONVINCED: Beta-blocker CONtinuation Vs. INterruption in patients with Congestive heart failure hospitalizED for a decompensation episode

	Keep BB, *n* = 69	Stop BB, *n* = 78	*P*-value
Treatment before decompensation			
BB, *n* (%)			
Max dose	14 (20)	21 (27)	0.6
50%≤Dose<100%	18 (26)	17 (22)	
Dose<50%	37 (54)	40 (51)	
ACE-I, *n* (%)	45 (65)	50 (64)	0.89
Diuretics, *n* (%)	56 (81)	66 (84)	0.57
Treatment during decompensation, *n* (%)			
Diuretics	69 (100)	77 (99)	1.0
Nitrates	35 (51)	28 (36)	0.11

Eur Heart Journal (2009) 30, 2186–2192

B-CONVINCED: Beta-blocker CONtinuation Vs. INterruption in patients with Congestive heart failure hospitalizED for a decompensation episode



-No existieron diferencias en la mejoría de la disnea ni del estado general percibida por los investigadores al tercer día de ingreso.

-Tampoco diferencias en los mismos items percibidos por los pacientes al tercer día.

-Tampoco al octavo día.

Eur Heart Journal (2009) 30, 2186–2192

B-CONVINCED: Beta-blocker CONtinuation Vs. INterruption in patients with Congestive heart failure hospitalizED for a decompensation episode

Table 3 Clinical events

	Keep BB, *n* = 69	Stop BB, *n* = 78	*P*-value
During hospitalization			
Durations (days)	11.5 ± 8.3	10.4 ± 9.7	0.2
Median, range	9 (1–50)	8 (1–62)	
Deaths (n)	1 (HF)	2 (HF)	
Dobutamine (*n*)	3	1	
After 3 months			
Deaths, *n* (%)	6 (9)	6 (8)	0.83
Rehospit, *n* (%)	27 (40)	36 (47)	0.43
For HF	15 (22)	24 (32)	0.19
For arrhythmia	2 (3)	3 (4)	1
Receiving BB, *n* (%)	61 (90)	58 (76)	0.04

Rehospit, rehospitalization; HF, heart failure; BB, beta-blocker.

El número de pacientes que recibía BB 3 meses después del ingreso era menor en el grupo al que se le había suspendido el tratamiento.

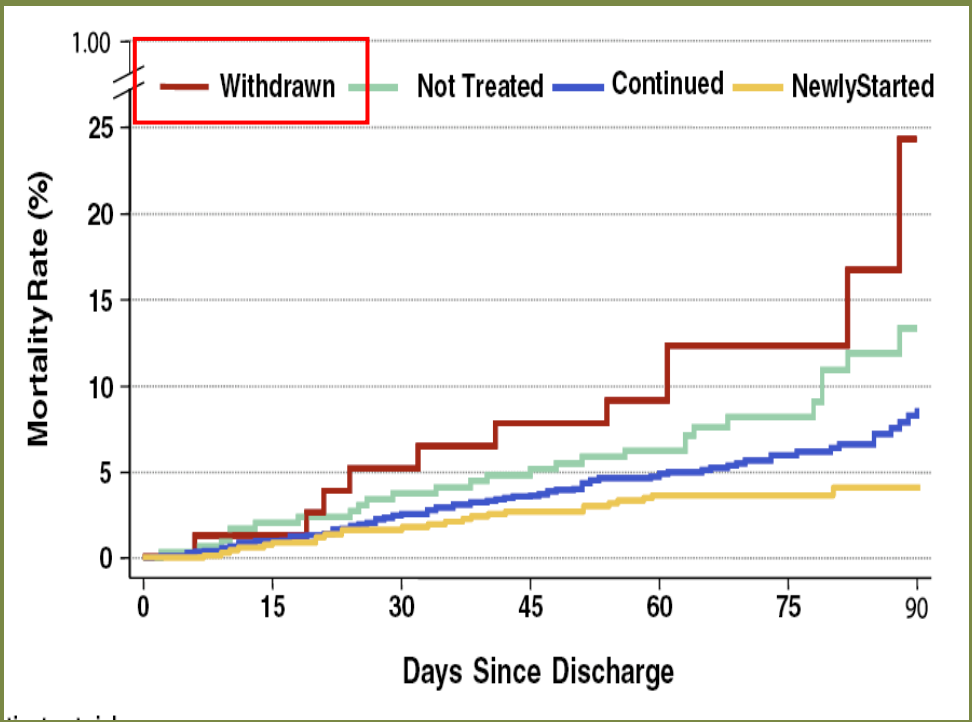
Eur Heart Journal (2009) 30, 2186–2192

B-CONVINCED: Beta-blocker CONtinuation Vs. INterruption in patients with Congestive heart failure hospitalizED for a decompensation episode

Conclusiones:

*** Queda establecida la seguridad de continuar el tto BB durante las fases de agudización de la IC *(en pacientes sin necesidad de dobutamina)***

*** El mantener el tto BB supone un mejor cumplimiento del tto BB a los 3 meses de la agudización**



Influence of Beta-Blocker Continuation or Withdrawal on Outcomes in Patients Hospitalized With Heart Failure

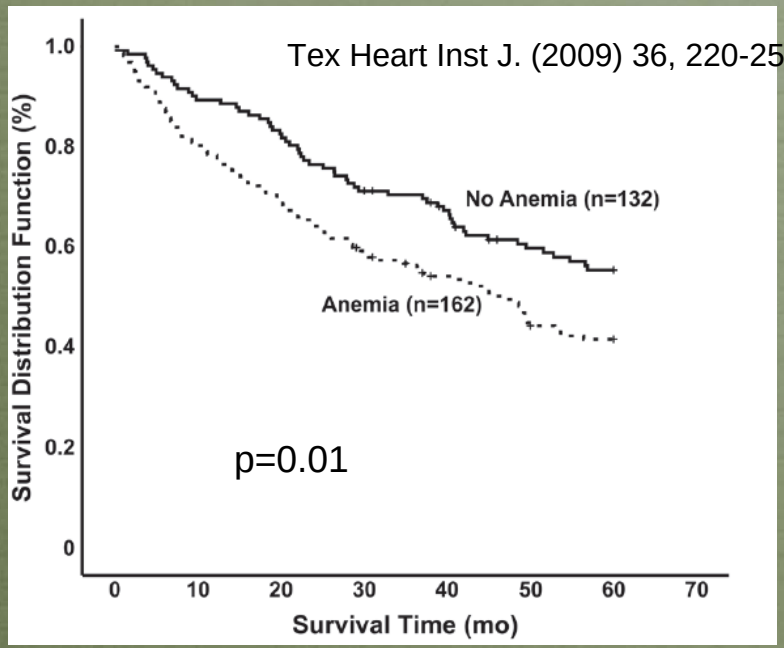
Findings From the OPTIMIZE-HF Program

J Am Coll Cardiol 2008;52:190–9

No diseñado para valorar mortalidad

Hierro intravenoso

Ferric Carboxymaltose in Patients with Heart Failure and Iron Deficiency



459 pacientes ICC en clase II-III NYHA + FEVI<45% + deficid de hierro

Deficid de hierro: ferritina < 100 µg/L o < 300 µg/L e ISAT < 20%

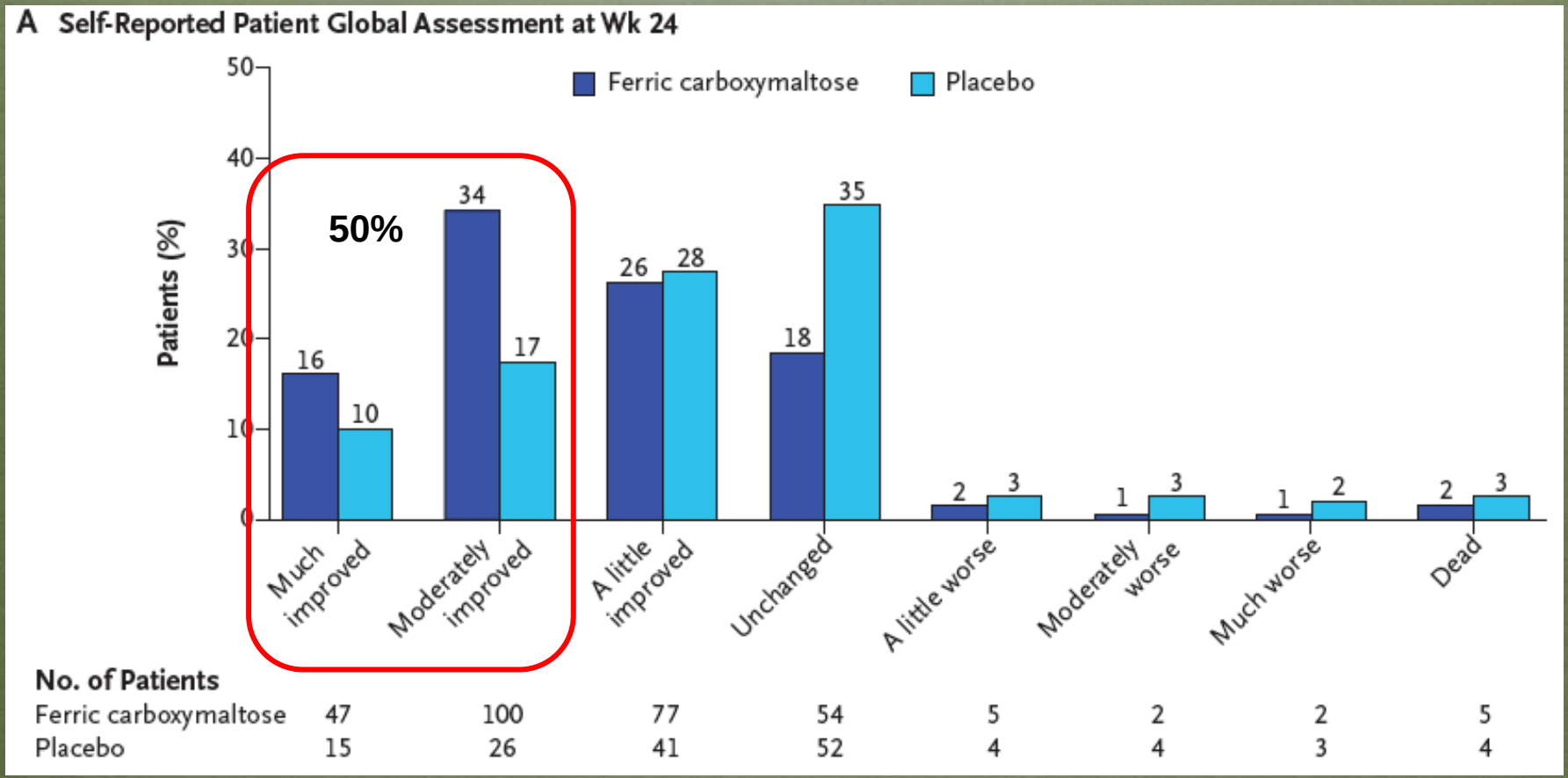
Objetivo principal: Patient Global Assestment + NYHA semana 24 .

Objetivos secundarios: Walking test + Calidad de vida

Iron deficiency may impair aerobic performance. This study aimed to determine whether treatment with intravenous iron (ferric carboxymaltose) would improve symptoms in patients who had heart failure, reduced left ventricular ejection fraction, and iron deficiency, either with or without anemia.

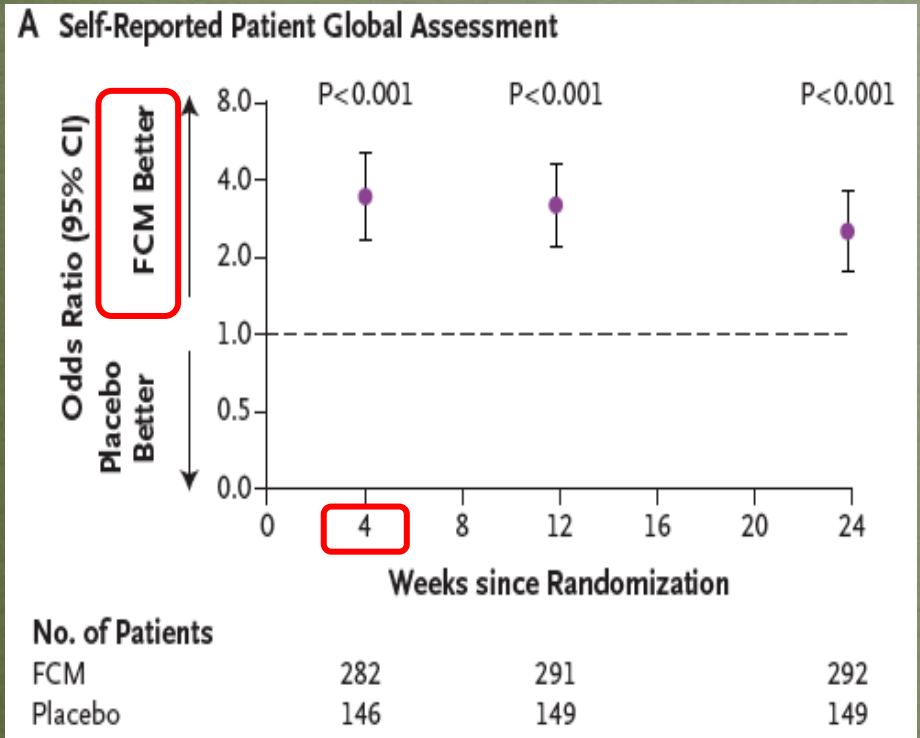
N Engl J Med 2009;361:2436-48.

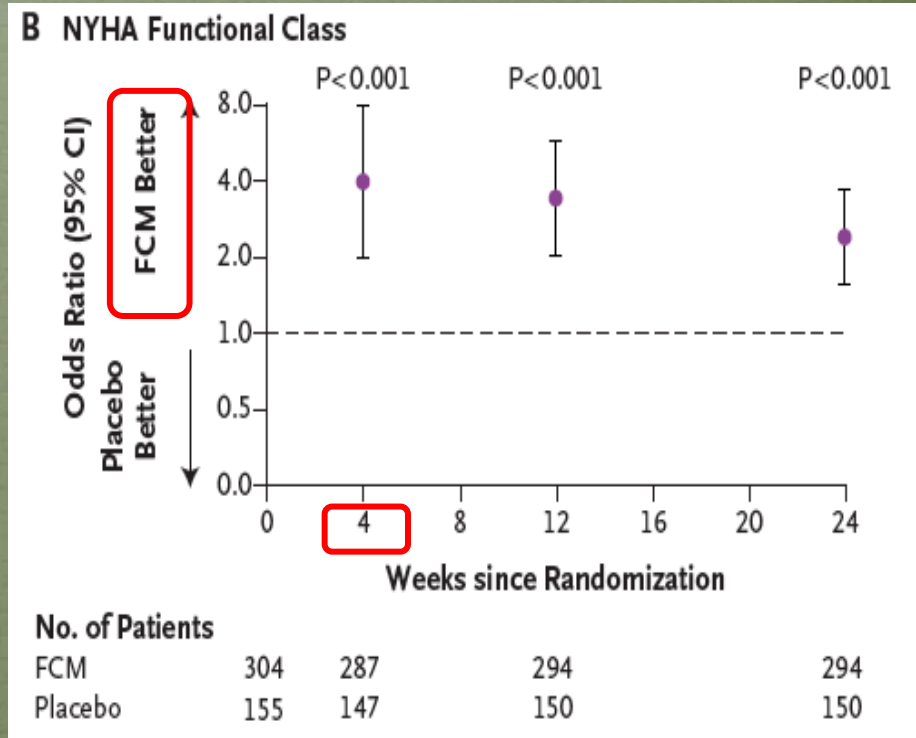
Ferric Carboxymaltose in Patients with Heart Failure and Iron Deficiency



N Engl J Med 2009;361:2436-48.

Ferric Carboxymaltose in Patients with Heart Failure and Iron Deficiency

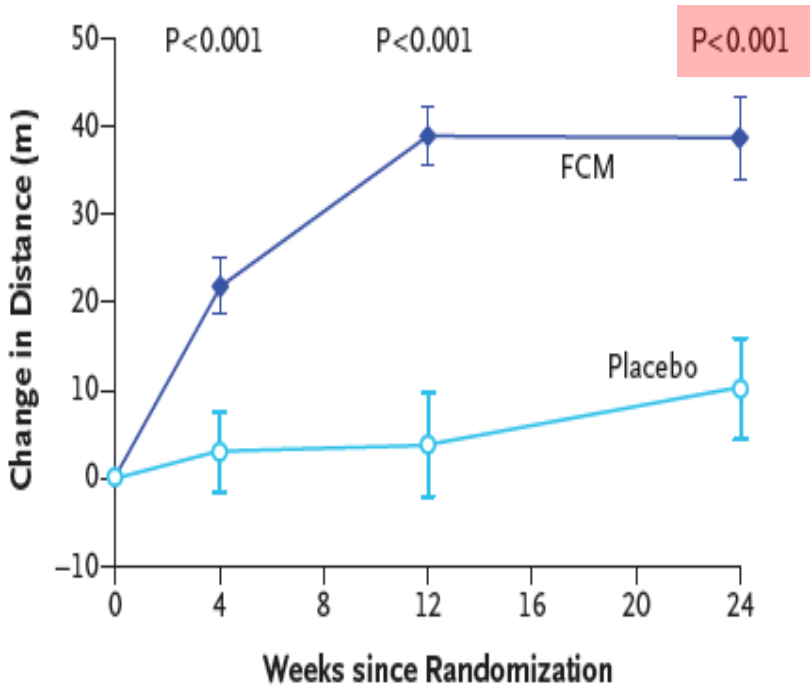




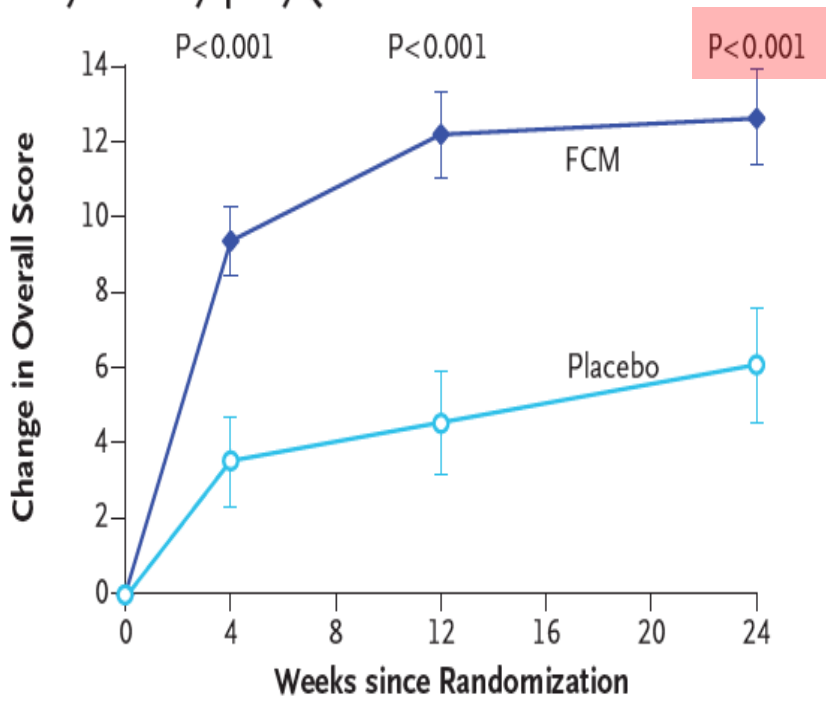
N Engl J Med 2009;361:2436-48.

Subgroup	Self-Reported Patient Global Assessment: Ferric Carboxymaltose (no. of patients)	Self-Reported Patient Global Assessment: Placebo (no. of patients)	Self-Reported Patient Global Assessment: Odds Ratio (95% CI)	Self-Reported Patient Global Assessment: P Value for Interaction	NYHA Functional Class: Ferric Carboxymaltose (no. of patients)	NYHA Functional Class: Placebo (no. of patients)	NYHA Functional Class: Odds Ratio (95% CI)	NYHA Functional Class: P Value for Interaction
Hemoglobin				0.98				0.51
≤120 (g/liter)	146	74			148	74		
>120 (g/liter)	146	75			146	76		

C 6-Minute-Walk Test



E Kansas City Cardiomyopathy Questionnaire



FCM

N Engl J Med 2009;361:2436-48.

Ferric Carboxymaltose in Patients with Heart Failure and Iron Deficiency

Conclusiones:

- El tratamiento con hierro intravenoso consigue mejoría de forma global y en la clase funcional.

- Mejora la capacidad funcional medida mediante walking test.

- Mejora la autopercepción de la calidad de vida. .

- ***Sus efectos beneficiosos se observan en aquellos pacientes con ferropenia pero sin anemia.***

- No efectos sobre mortalidad o reingresos

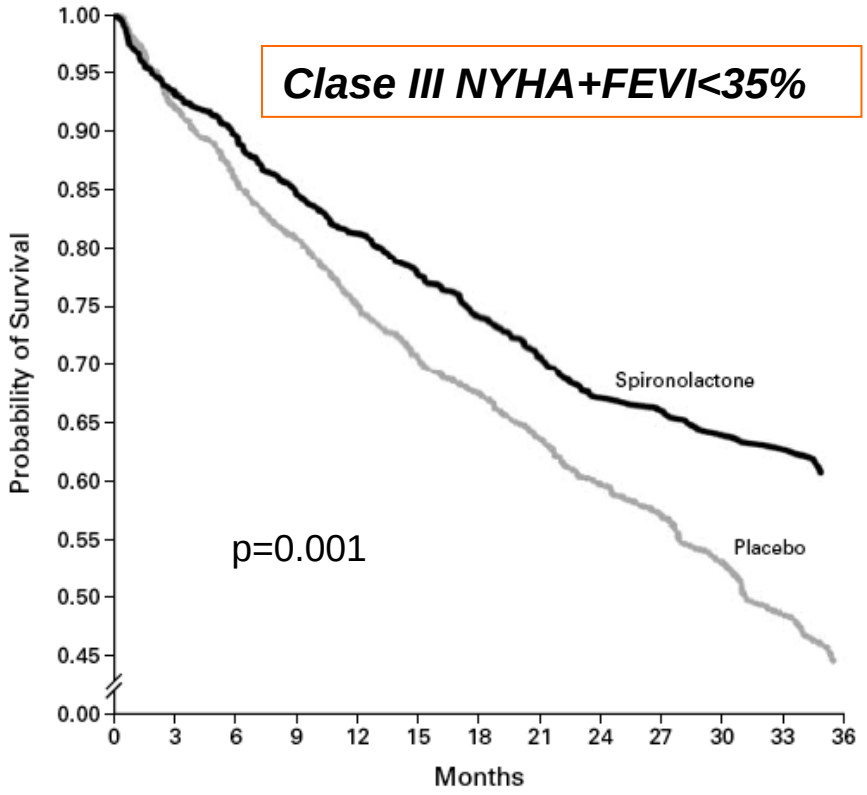
Tratamiento con hierro intravenoso puede ser un nuevo objetivo terapeutico en pacientes con ferropenia y FEVI deprimida

N Engl J Med 2009;361:2436-48.

Antialdosterónicos

THE EFFECT OF SPIRONOLACTONE ON MORBIDITY AND MORTALITY IN PATIENTS WITH SEVERE HEART FAILURE

RANDOMIZED ALDACTONE EVALUATION STUDY



CHARACTERISTIC	PLACEBO GROUP (N=841)	SPIRONOLACTONE GROUP (N=822)
Medications — %		
Loop diuretics	100	100
ACE inhibitors	94	95
Digitalis	72	75
Aspirin	37	36
Potassium supplements	27	29
Beta-blockers	10	11

N Engl J Med 1999:341:709-17.

Eplerenone in Patients with Systolic Heart Failure and Mild Symptoms

EMPHASIS-HF Study

- 2737 pacientes con FEVI < 35% en clase II NYHA estables durante 6 meses y con tto óptimo.

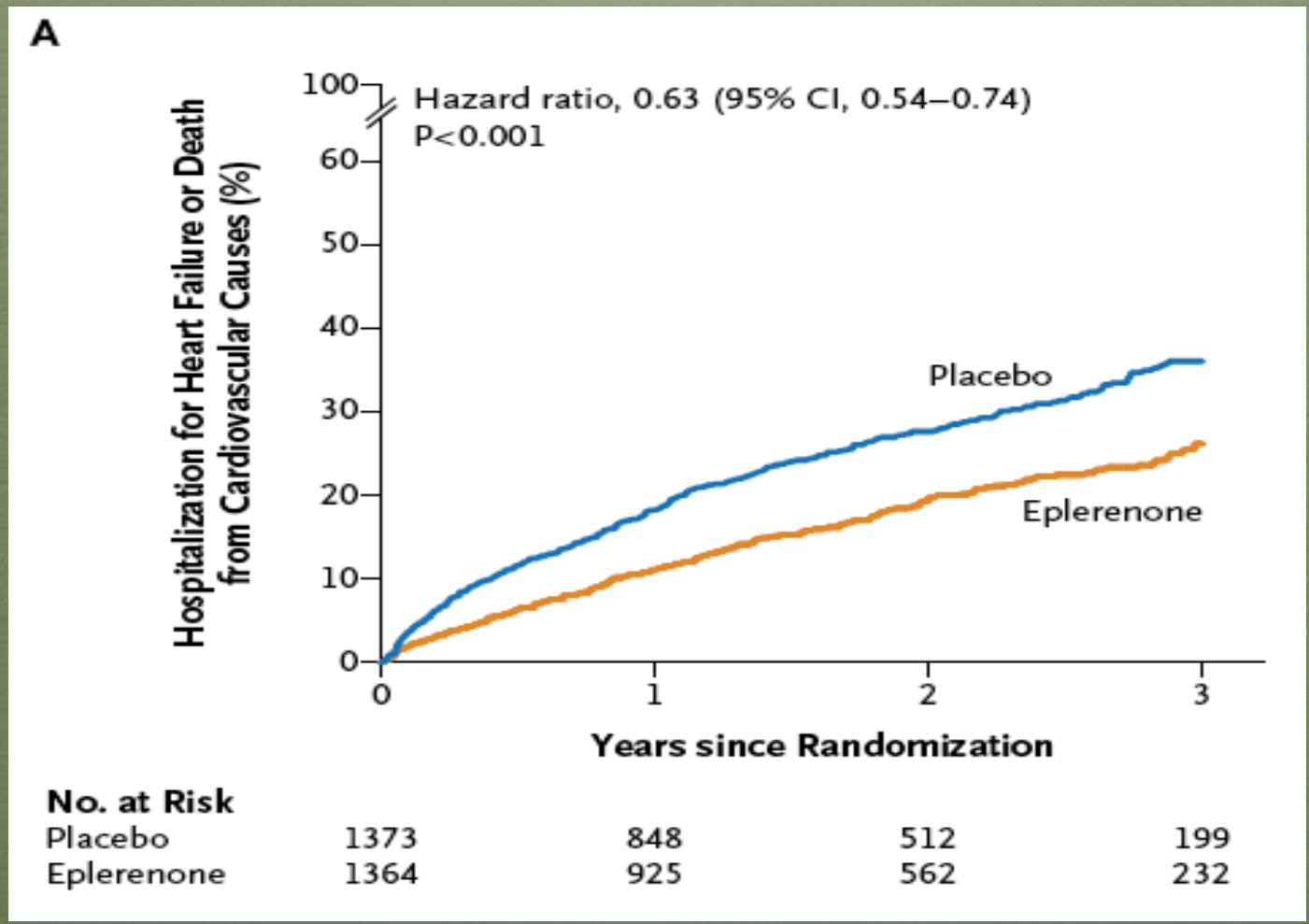
-Se excluyen hiperpotasemia y FG < 30 ml/min.

-***Objetivos***: Mortalidad cardiovascular o reingreso por insuficiencia cardiaca

Characteristic	Eplerenone (N=1364)	Placebo (N=1373)
Medication at randomization visit — no. (%)		
Diuretic	1150 (84.3)	1176 (85.7)
ACE inhibitor	1068 (78.3)	1055 (76.8)
ARB	261 (19.1)	266 (19.4)
ACE inhibitor, ARB, or both	1282 (94.0)	1275 (92.9)
Beta-blocker	1181 (86.6)	1193 (86.9)
Digitalis glycosides	363 (26.6)	377 (27.5)
Antiarrhythmic drug	196 (14.4)	192 (14.0)
Antithrombotic drug (antiplatelet or oral anticoagulant)	1205 (88.3)	1214 (88.4)
Lipid-lowering agent	857 (62.8)	856 (62.3)

N Engl J Med 2011;364:11-21.

Eplerenone in Patients with Systolic Heart Failure and Mild Symptoms



N Engl J Med 2011;364:11-21.

Eplerenone in Patients with Systolic Heart Failure and Mild Symptoms

Outcome	Eplerenone (N=1364)	Placebo (N=1373)	Adjusted Hazard Ratio (95% CI)	Adjusted P Value	Unadjusted Hazard Ratio (95% CI)	Unadjusted P Value
Prespecified adjudicated secondary outcomes						
Death from any cause or hospitalization for heart failure	270 (19.8)	376 (27.4)	0.65 (0.55–0.76)	<0.001	0.68 (0.58–0.79)	<0.001
Death from any cause	171 (12.5)	213 (15.5)	0.76 (0.62–0.93)	0.008	0.78 (0.64–0.95)	0.01
Death from cardiovascular causes	147 (10.8)	185 (13.5)	0.76 (0.61–0.94)	0.01	0.77 (0.62–0.96)	0.02
Hospitalization for any reason	408 (29.9)	491 (35.8)	0.77 (0.67–0.88)	<0.001	0.78 (0.69–0.89)	<0.001
Hospitalization for heart failure	164 (12.0)	253 (18.4)	0.58 (0.47–0.70)	<0.001	0.61 (0.50–0.75)	<0.001
Hospitalization for cardiovascular causes	304 (22.3)	399 (29.1)	0.69 (0.60–0.81)	<0.001	0.72 (0.62–0.83)	<0.001
Fatal or nonfatal myocardial infarction	45 (3.3)	33 (2.4)	1.32 (0.84–2.06)	0.23	1.34 (0.86–2.10)	0.20
Death from any cause or hospitalization for any reason	462 (33.9)	569 (41.4)	0.75 (0.66–0.85)	<0.001	0.76 (0.68–0.86)	<0.001
Death from heart failure or hospitalization for heart failure	170 (12.5)	262 (19.1)	0.58 (0.48–0.70)	<0.001	0.61 (0.51–0.74)	<0.001

N Engl J Med 2011;364:11-21.

Eplerenone in Patients with Systolic Heart Failure and Mild Symptoms

Conclusiones:

- El tratamiento con eplerenona disminuye la mortalidad cardiovascular y los reingresos por insuficiencia cardiaca

- Se asocia a mayor incidencia de hiperpotasemia.

Retrospectivo de 144 ingresos con criterios

Table II. Use of heart failure medications by different age groups before and after admission

Age (y)	Furosemide (loop diuretics)		ACE Inhibitors		BB		AA	
	home care [no. of pts (%)]	hospital care [no. of pts (%)]	home care [no. of pts (%)]	hospital care [no. of pts (%)]	home care [no. of pts (%)]	hospital care [no. of pts (%)]	home care [no. of pts (%)]	hospital care [no. of pts (%)]
21–30	5 (100)	5 (100)	5 (100)	5 (100)	4 (80)	3 (60)	4 (80)	5 (10)
31–40	13 (81)	16 (100)	13 (81)	16 (100)	14 (88)	12 (75)	9 (56)	14 (88)
41–50	26 (96)	26 (96)	23 (85)	26 (96)	17 (63)	19 (70)	14 (52)	16 (59)
51–60	38 (83)	45 (98)	34 (74)	41 (89)	30 (65)	31 (67)	17 (37)	27 (59)
61–70	15 (75)	18 (90)	12 (60)	19 (95)	12 (60)	14 (70)	4 (20)	12 (60)
71–80	14 (78)	18 (100)	11 (61)	15 (83)	14 (78)	13 (72)	6 (33)	8 (44)
81–90	7 (78)	9 (100)	7 (78)	8 (89)	4 (44)	4 (44)	2 (22)	2 (22)
91–100	2 (67)	3 (100)	2 (67)	3 (100)	1 (33)	1 (33)	0 (0)	0 (0)
Total	120 (83)	140 (97)	107 (74)	133 (92)	96 (67)	97 (67)	39%	58%

AA = aldosterone antagonists; BB = β-adrenoceptor antagonists (β-blockers); pts = patients.

Guglin M et al Am J Cardiovasc Drugs 2007; 7 (1): 75-79

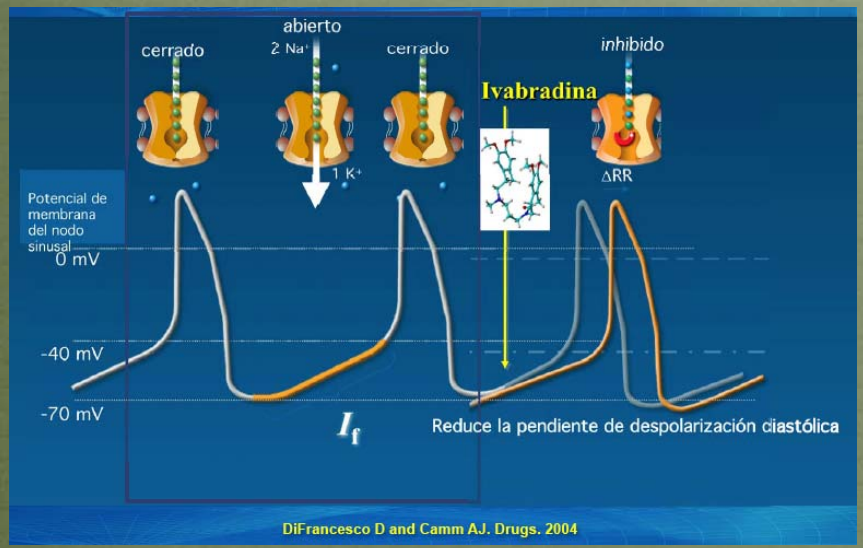
¿ Existen diferencias entre espironolactona y eplerenona?

N Engl J Med 2011;364:11-21.

Frecuencia Cardiaca - *Ivabradina*

Ivabradine and outcomes in chronic heart failure (SHIFT): a randomised placebo-controlled study

Background Chronic heart failure is associated with high mortality and morbidity. Raised resting heart rate is a risk factor for adverse outcomes. We aimed to assess the effect of heart-rate reduction by the selective sinus-node inhibitor ivabradine on outcomes in heart failure.



6558 pacientes ICC estable + FEVI<35% + tto óptimo

Ritmo sinusal > 70 x´

Ivabradina vs placebo

Objetivo principal: Combinación de muerte cardiovascular u hospitalizacion por ICC.

Objetivos secundarios: combinado en tratados con >50% dosis objetivo de betabloqueante.

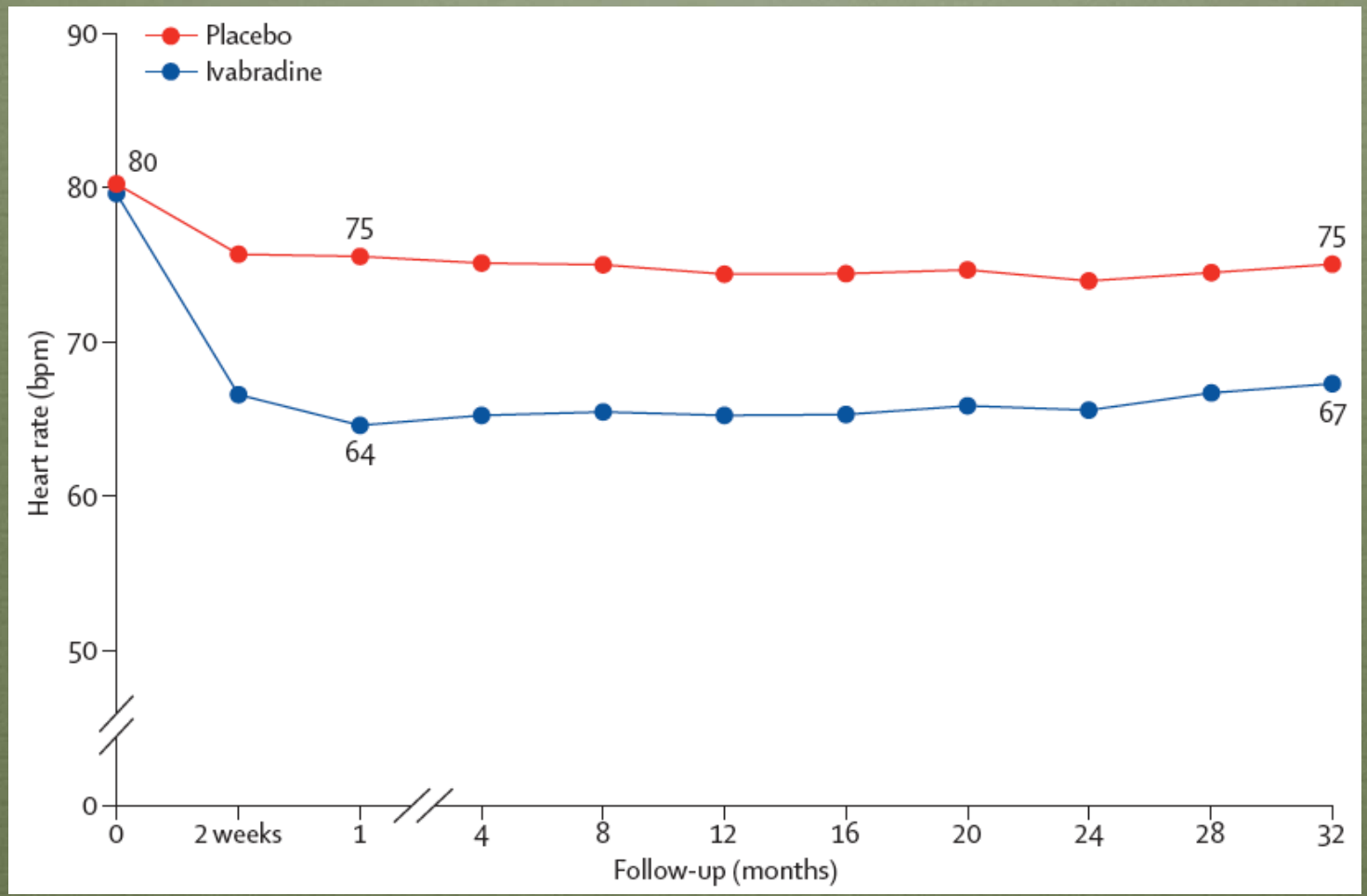
Lancet 2010; 376: 875–85

Ivabradine and outcomes in chronic heart failure (SHIFT): a randomised placebo-controlled study

	Ivabradine group (n=3241)	Placebo group (n=3264)
Patients receiving β blocker	2897 (89%)	2923 (90%)
Patients at target dose of β blocker*	743 (26%)	745 (26%)
Patients at ≥50% target dose of β blocker*	1581 (56%)	1600 (56%)
Reasons for failure to reach target dose*†		
Hypotension	933 (44%)	952 (45%)
Fatigue	676 (32%)	670 (32%)
Dyspnoea	284 (14%)	302 (14%)
Dizziness	267 (13%)	245 (12%)
Bradycardia	134 (6%)	125 (6%)
Other	199 (9%)	219 (10%)

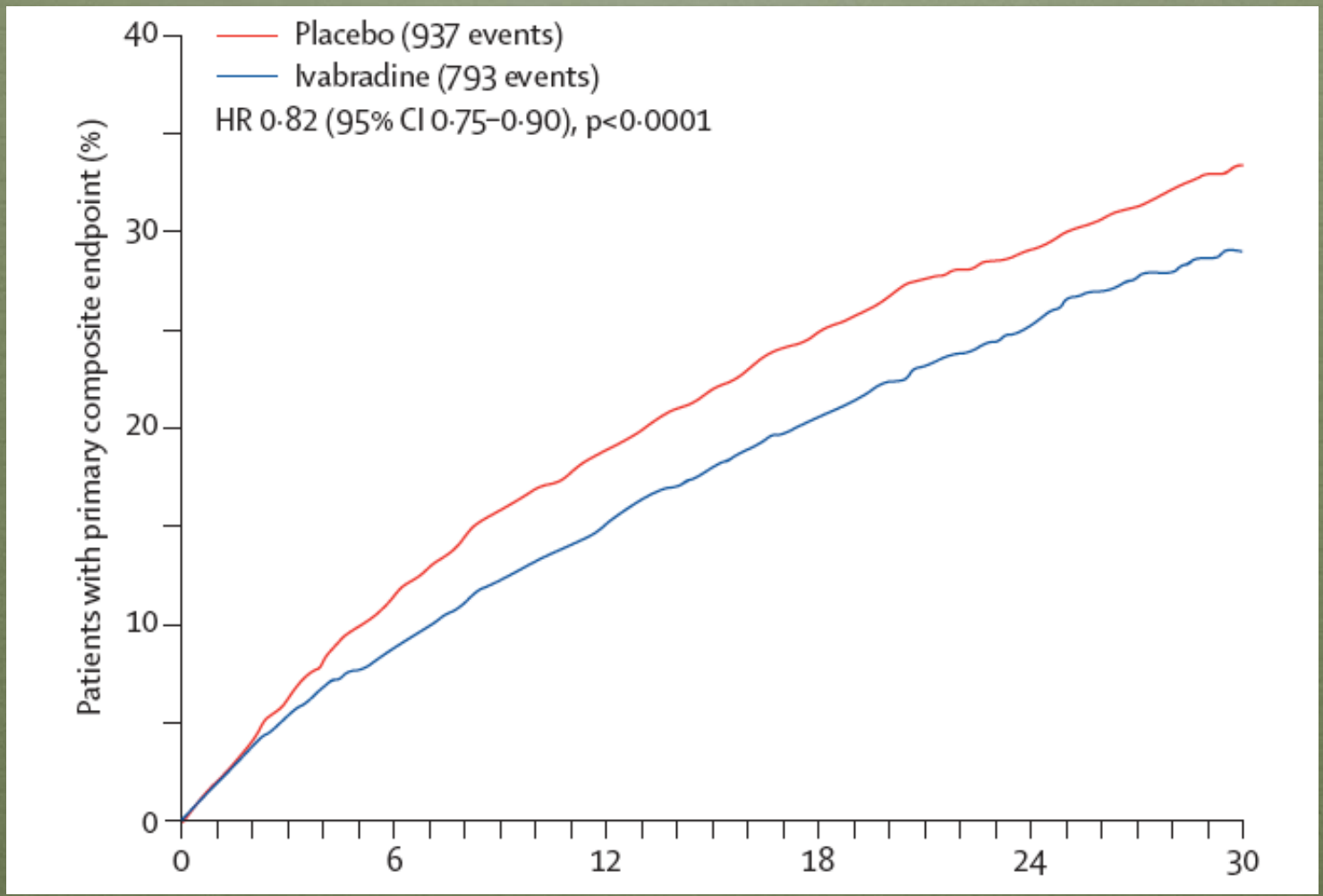
Lancet 2010; 376: 875–85

Ivabradine and outcomes in chronic heart failure (SHIFT): a randomised placebo-controlled study

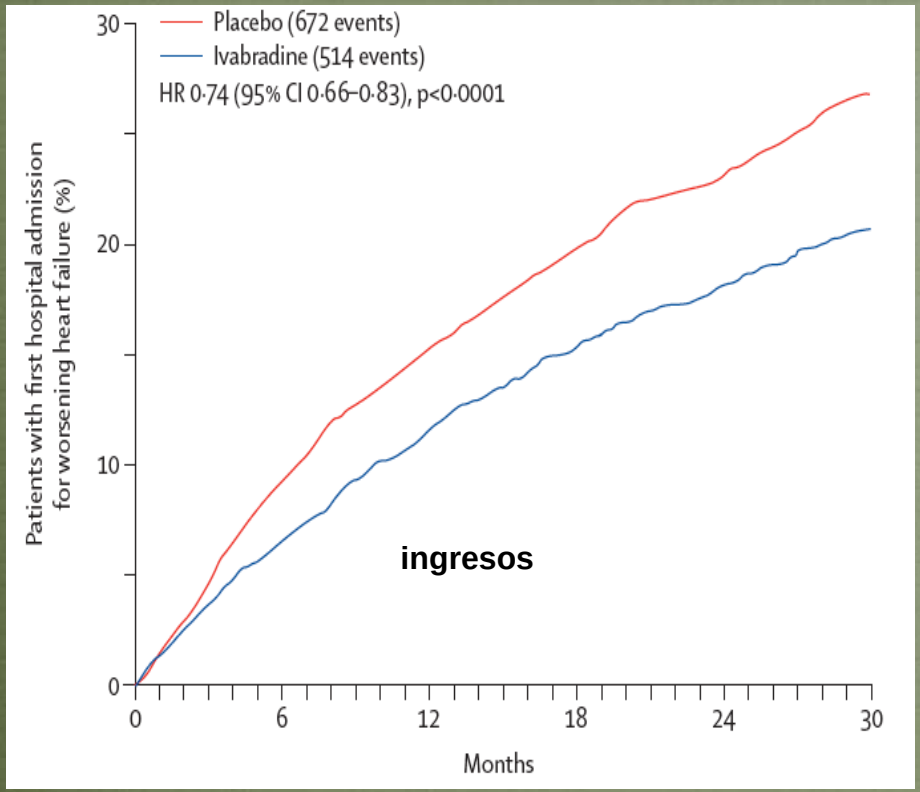


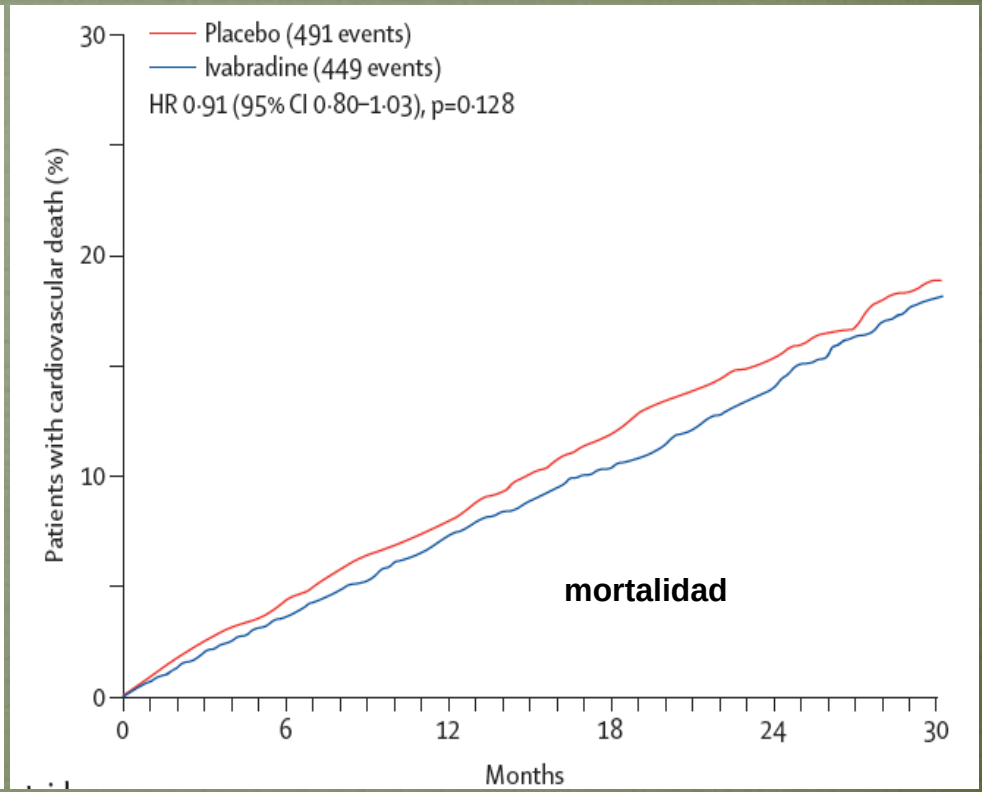
Lancet 2010; 376: 875–85

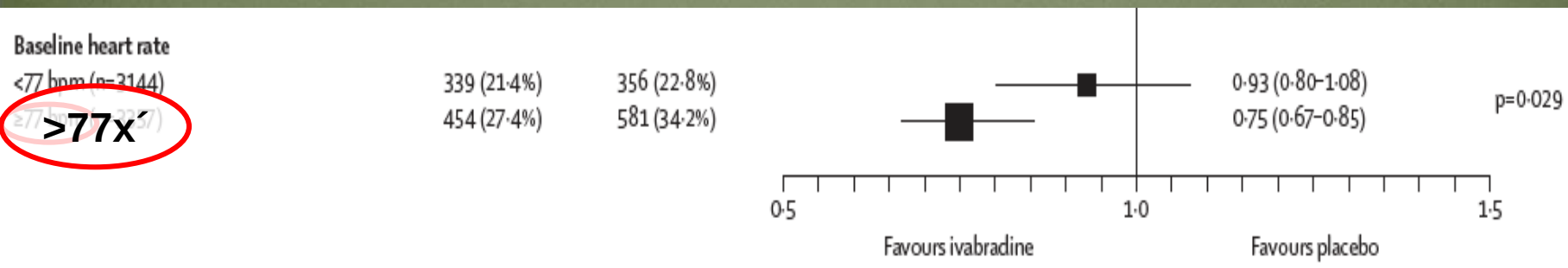
Ivabradine and outcomes in chronic heart failure (SHIFT): a randomised placebo-controlled study



Lancet 2010; 376: 875–85

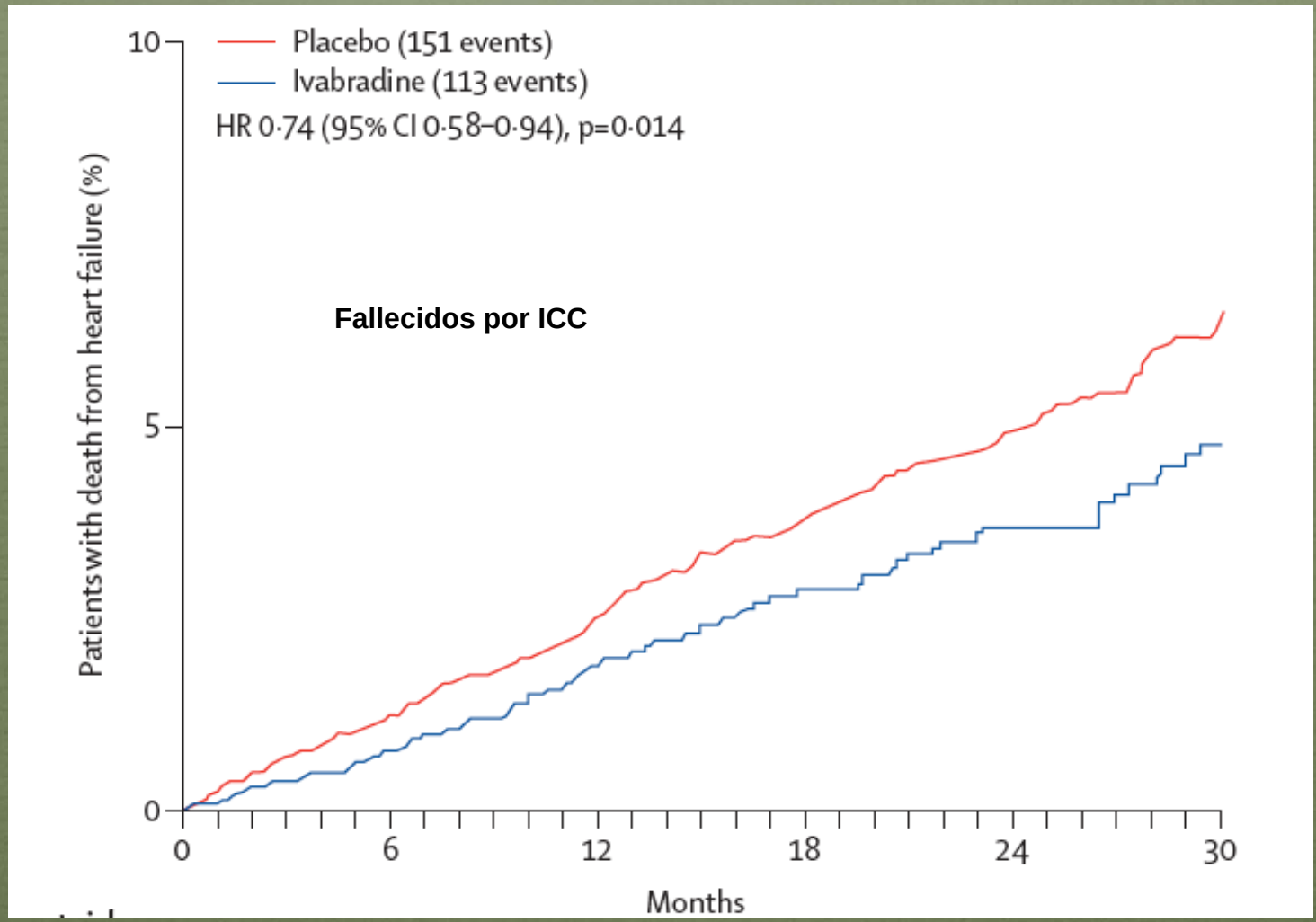






Lancet 2010; 376: 875–85

Ivabradine and outcomes in chronic heart failure (SHIFT): a randomised placebo-controlled study



Lancet 2010; 376: 875–85

Ivabradine and outcomes in chronic heart failure (SHIFT): a randomised placebo-controlled study

Conclusiones:

- El tratamiento con Ivabradina en pacientes con ICC y FEVI deprimida reduce los reingresos por IC.

- Reduce la mortalidad por IC en el reingreso.

- Beneficio demostrado en frecuencia cardiaca > 77 x´en reposo.

¿ Se podría haber optimizado el tratamiento betabloquante ?
¿ Mismo efecto con otros fármacos controladores de frecuencia cardiaca ?

Lancet 2010; 376: 875–85

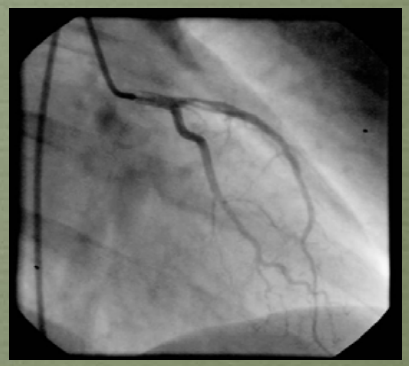
Revascularización coronaria

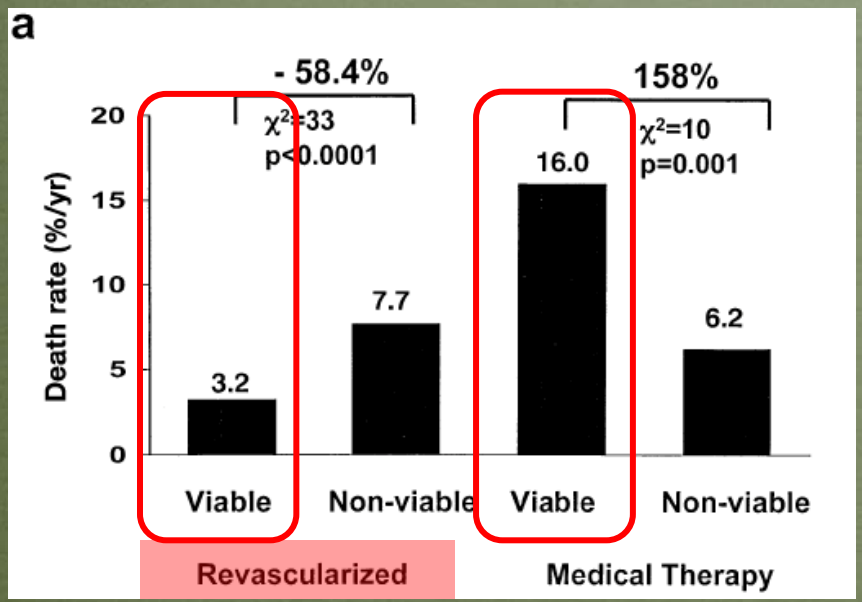
A RANDOMIZED TRIAL OF CORONARY ARTERY BYPASS SURGERY

Survival of Patients with a Low Ejection Fraction

N Engl J Med 1985;312:1665–1671.

Myocardial Viability Testing and Impact of Revascularization on Prognosis in Patients With Coronary Artery Disease and Left Ventricular Dysfunction: A Meta-Analysis





J Am Coll Cardiol 2002;39:1151– 8

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Key evidence

There are no data from multicentre trials assessing the value of revascularization procedures for the relief of HF symptoms. However, single-centre, observational studies on HF of ischaemic origin suggest that revascularization may lead to symptomatic improvement and potentially improve cardiac function. Clinical trials are ongoing that address the effect of intervention on clinical outcomes.[134]

Eur Heart Journal (2011) 32, 820–828

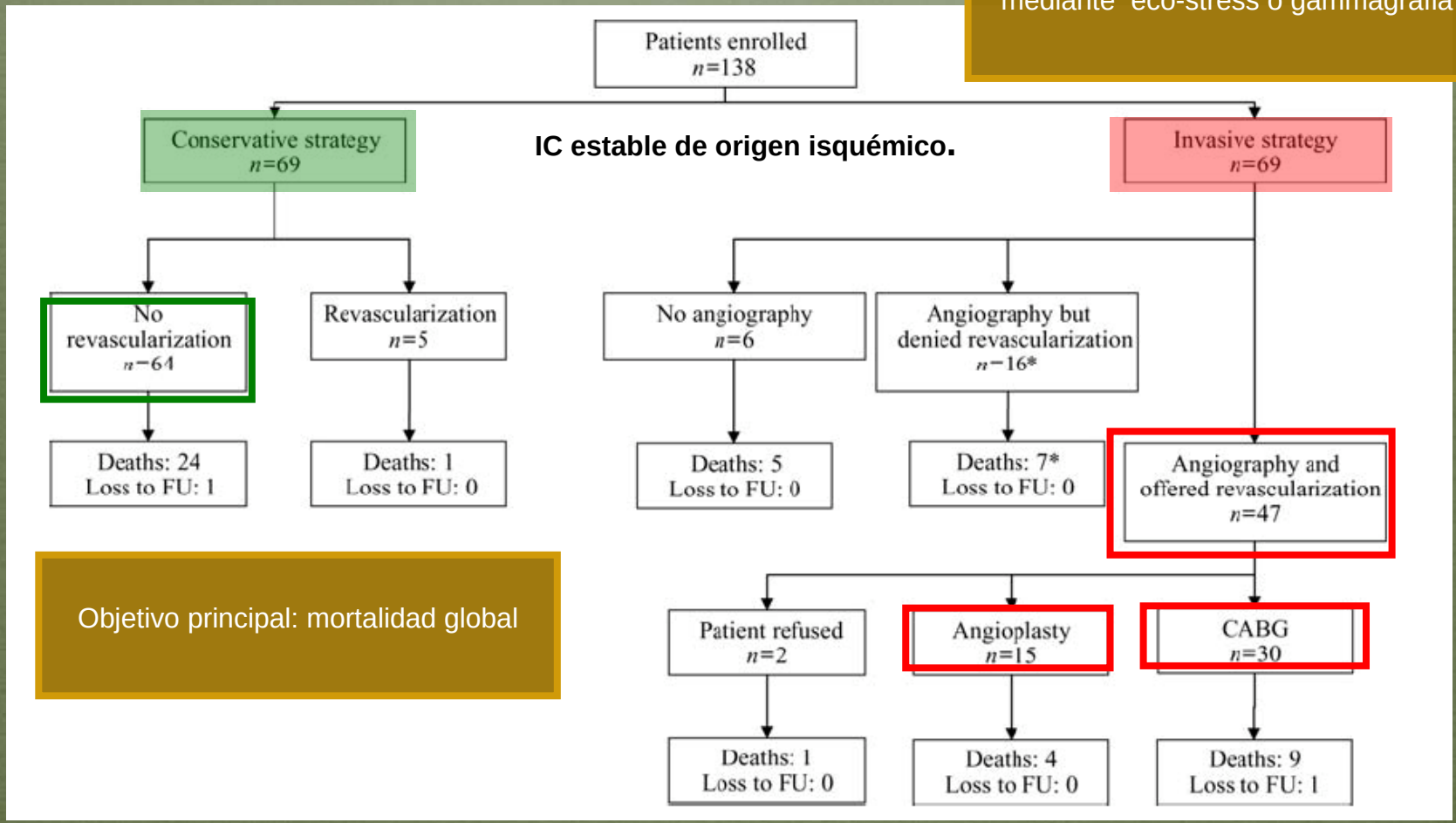
The Heart Failure Revascularisation Trial (HEART)

¿ Y si a pesar de miocardio viable optamos por el tratamiento farmacológico ?

Eur J Heart Fail (2011) 13, 227–233

The Heart Failure Revascularisation Trial (HEART)

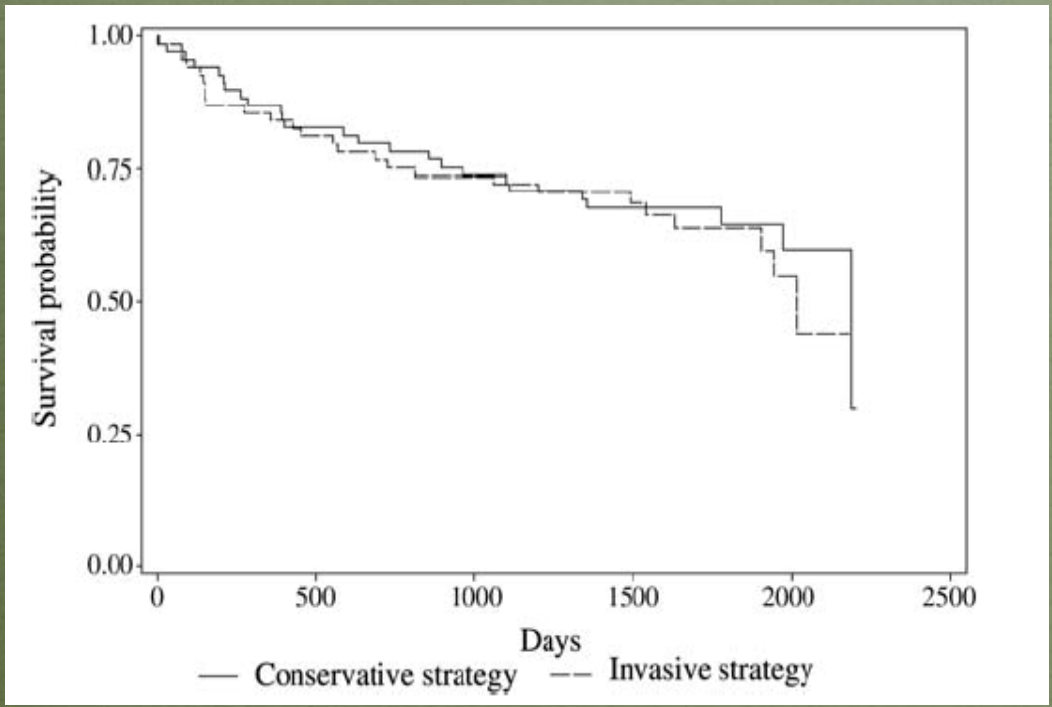
Viabilidad miocardica demostrada mediante eco-stress o gammagrafia



Objetivo principal: mortalidad global

Eur J Heart Fail (2011) 13, 227–233

The Heart Failure Revascularisation Trial (HEART)



-Mortalidad global sin diferencias.

Estrategia Invasiva- 38%
Estrategia conservadora- 36%

- Calidad de vida 6 meses (Minessota) sin diferencias.

Eur J Heart Fail (2011) 13, 227–233

ORIGINAL ARTICLE

Coronary-Artery Bypass Surgery in Patients with Left Ventricular Dysfunction

CABG + medical vs Medical

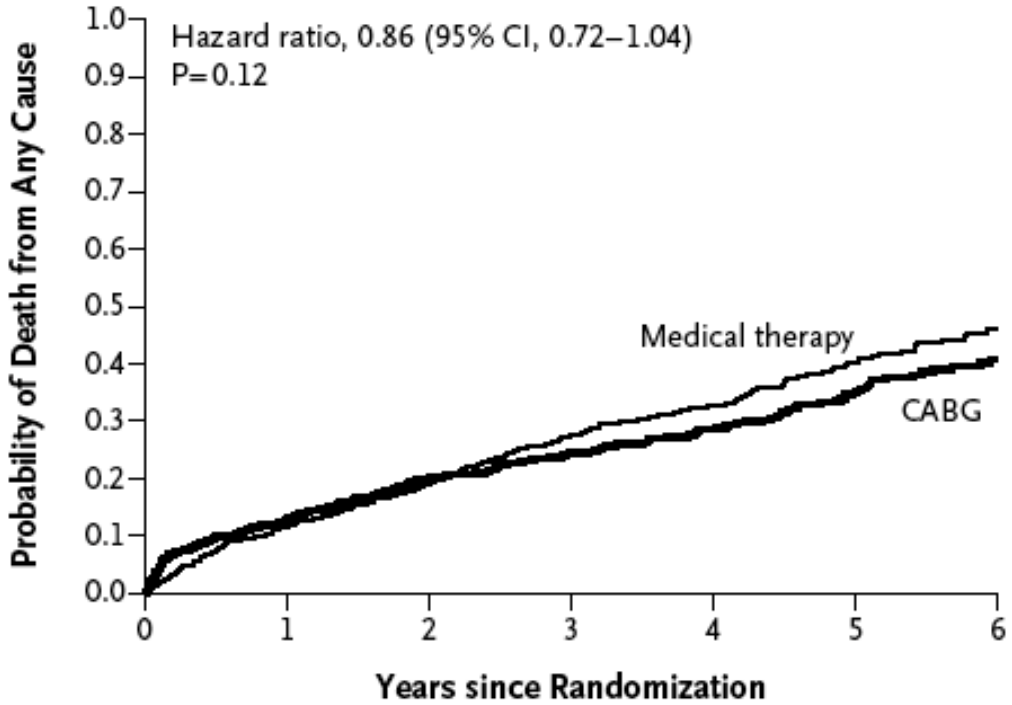
BACKGROUND

The role of coronary-artery bypass grafting (CABG) in the treatment of patients with coronary artery disease and heart failure has not been clearly established.

METHODS

Between July 2002 and May 2007, a total of 1212 patients with an ejection fraction of 35% or less and coronary artery disease amenable to CABG were randomly assigned to medical therapy alone (602 patients) or medical therapy plus CABG (610 patients). The primary outcome was the rate of death from any cause. Major secondary outcomes included the rates of death from cardiovascular causes and of death from any cause or hospitalization for cardiovascular causes.

N Engl J Med 2011;364:1607-16.



No. at Risk

Medical therapy	602	532	487	435	312	154	80
CABG	610	532	486	459	340	174	91

Figure 1. Kaplan–Meier Curves for the Probability of Death from Any Cause.

CABG denotes coronary-artery bypass grafting.

N Engl J Med 2011;364:1607-16.

ORIGINAL ARTICLE

Coronary-Artery Bypass Surgery in Patients with Left Ventricular Dysfunction

Outcome	Medical Therapy (N=602)	CABG (N=610)	Hazard Ratio with CABG (95% CI)	P Value†
	no. (%)			
Primary outcome: rate of death from any cause	244 (41)	218 (36)	0.86 (0.72–1.04)	0.12
Secondary outcomes				
Death from any cause within 30 days after randomization				
Logistic-regression model	7 (1)	22 (4)	3.19 (1.35–7.52)‡	0.008
Cox proportional-hazards model	7 (1)	22 (4)	3.12 (1.33–7.31)	0.006
Death from cardiovascular causes	201 (33)	168 (28)	0.81 (0.66–1.00)	0.05
Death from any cause or hospitalization for heart failure	324 (54)	290 (48)	0.84 (0.71–0.98)	0.03

N Engl J Med 2011;364:1607-16.

ORIGINAL ARTICLE

Myocardial Viability and Survival in Ischemic Left Ventricular Dysfunction

CABG + medical vs Medical

BACKGROUND

The assessment of myocardial viability has been used to identify patients with coronary artery disease and left ventricular dysfunction in whom coronary-artery bypass grafting (CABG) will provide a survival benefit. However, the efficacy of this approach is uncertain.

METHODS

In a substudy of patients with coronary artery disease and left ventricular dysfunction who were enrolled in a randomized trial of medical therapy with or without CABG, we used single-photon-emission computed tomography (SPECT), dobutamine echocardiography, or both to assess myocardial viability on the basis of prespecified thresholds.

N Engl J Med 2011;364:1617-25.

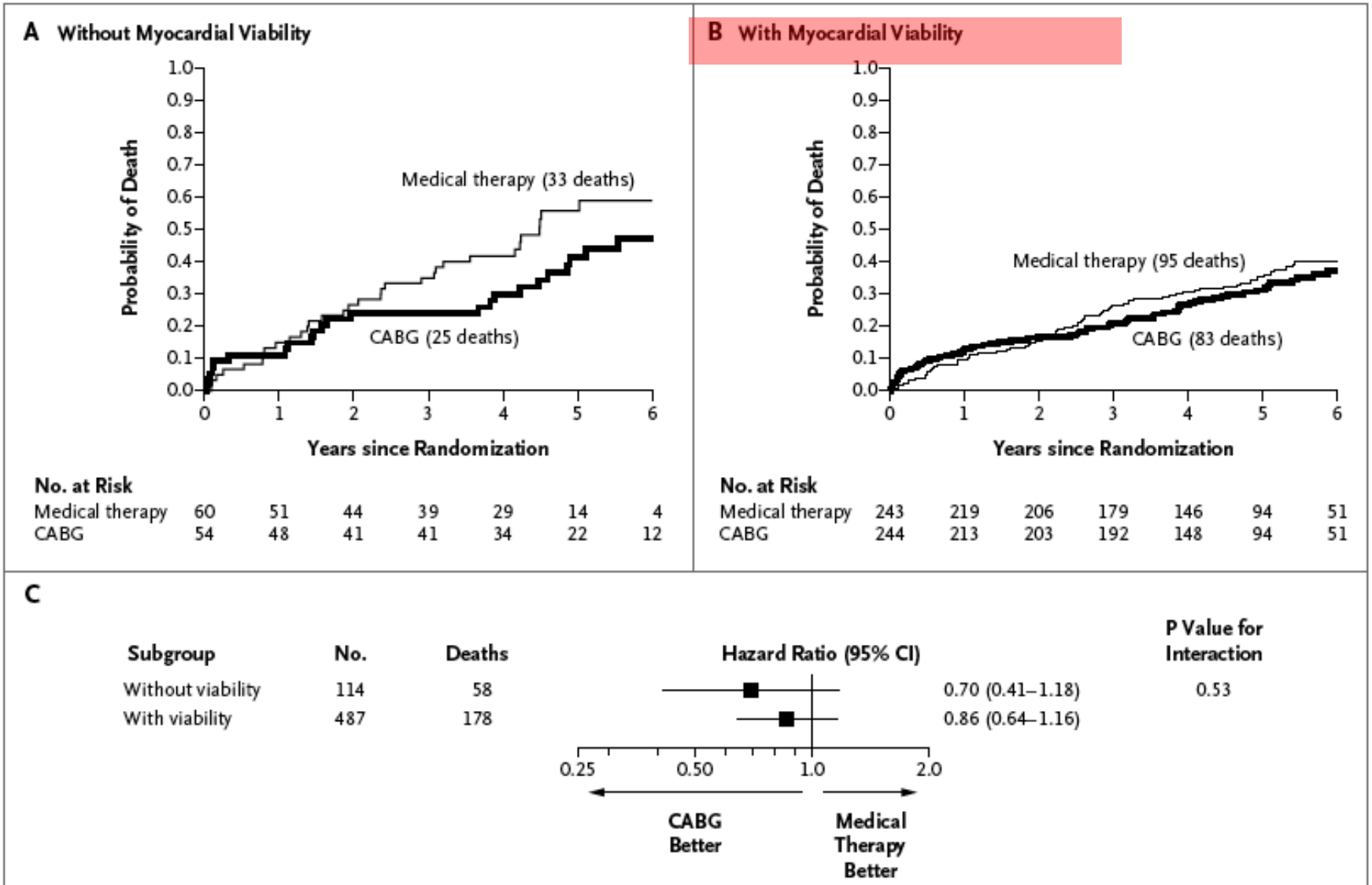


Figure 2. Kaplan–Meier Analysis of the Probability of Death According to Myocardial-Viability Status and Treatment.

At 5 years in the intention-to-treat analysis, the rates of death for patients without myocardial viability were 41.5% in the group assigned to undergo coronary-artery bypass grafting (CABG) and 55.8% in the group assigned to receive medical therapy (Panel A). Among patients with myocardial viability, the respective rates were 31.2% and 35.4% (Panel B). There was no significant interaction between viability status and treatment assignment with respect to mortality (P=0.53) (Panel C).

The Heart Failure Revascularisation Trial (HEART)

ORIGINAL ARTICLE

Myocardial Viability and Survival in Ischemic Left Ventricular Dysfunction

ORIGINAL ARTICLE

Coronary-Artery Bypass Surgery in Patients with Left Ventricular Dysfunction

Conclusiones:

- Estrategia de revascularización coronaria no es superior al tratamiento farmacológico óptimo en pacientes con insuficiencia cardiaca estable de etiología isquémica.

- No es superior en pacientes con viabilidad coronaria.

- Mortalidad precoz asociada al procedimiento es mayor.

- No mejoría en la calidad de vida

Muestra pequeña de pacientes con viabilidad estudiada (<50% STICH1)

Empleo de distintos métodos para evaluar viabilidad miocárdica

No se especifican complicaciones derivadas del procedimiento

CONCLUSIONES

Diuréticos	Dosis elevadas – seguridad y eficacia No superioridad de infusión continua
Betabloqueantes	Mantener en la fase aguda
Hierro intravenoso	Mejora capacidad funcional / calidad de vida
Antialdosteronicos	Menor mortalidad cardiovascular y reingresos por Insuficiencia Cardiaca
Ivabradina	Menor mortalidad cardiovascular y reingresos por Insuficiencia Cardiaca
Revascularización	Sin claros beneficios en ausencia de clínica anginosa a pesar de miocardio viable

Gracias por vuestra atención