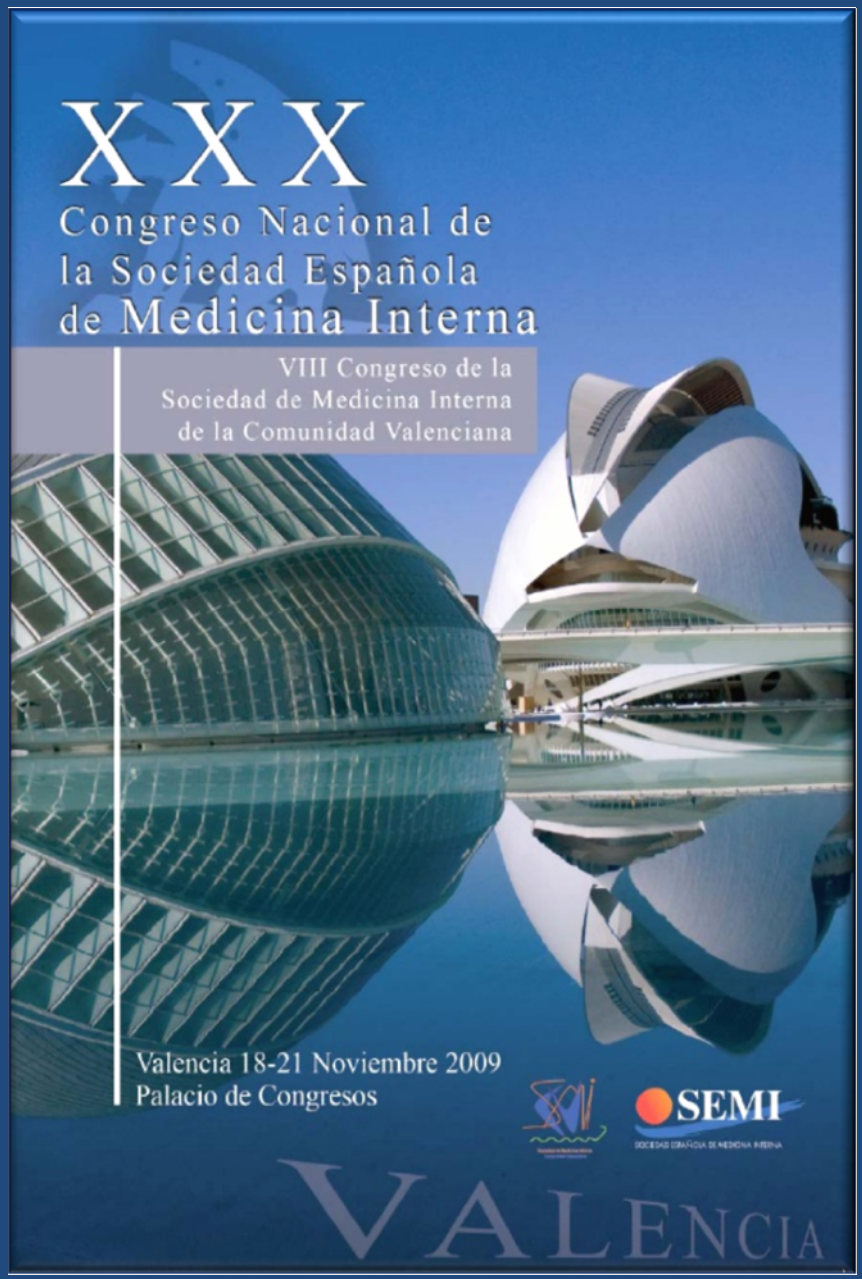
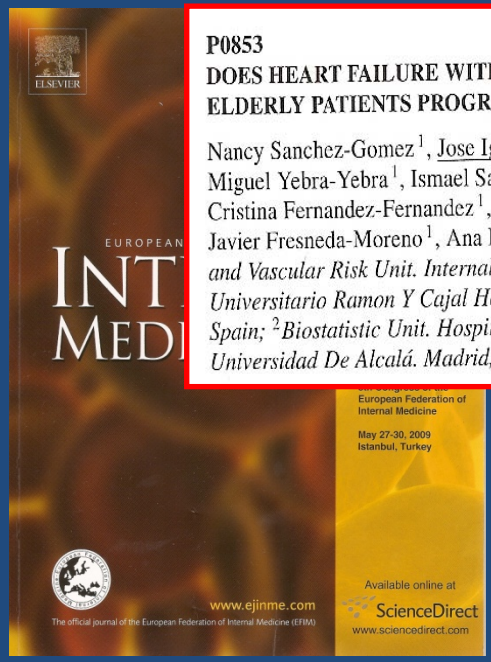


18/XI/200

¿Hemos de tratar con betabloqueantes a los pacientes con IC y Fracción de Eyección Preservada (ICFEP)?

N O

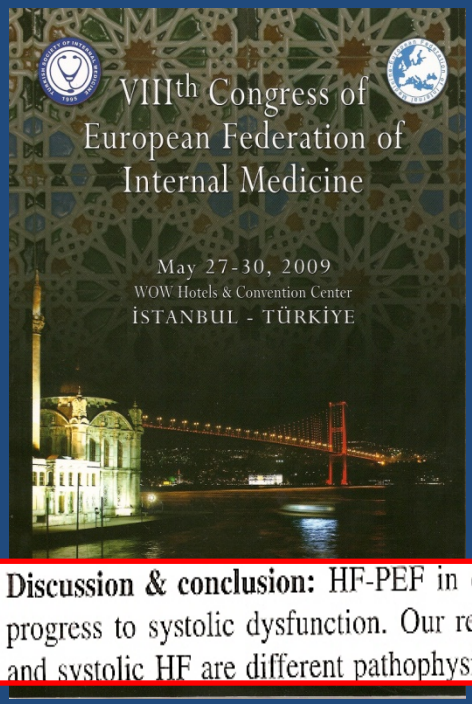
J. Montes Santiago
Complejo Hospitalario Universitario
VIGO



P0853

DOES HEART FAILURE WITH PRESERVED EJECTION FRACTION IN ELDERLY PATIENTS PROGRESS TO SYSTOLIC DYSFUNCTION?

Nancy Sanchez-Gomez [1], Jose Ignacio Garcia-Sanchez [1], Miguel Yebra-Yebra [1], Ismael Said-Criado [1], Jose Luis Santiago-Ruiz [1], Cristina Fernandez-Fernandez [1], Miriam Moralejo-Martin [1], Javier Fresneda-Moreno [1], Ana Royuela [2], Luis Manzano [1]. [1] *Heart Failure and Vascular Risk Unit. Internal Medicine Department. Hospital Universitario Ramon Y Cajal Hospital. Universidad De Alcalá. Madrid, Spain;* [2] *Biostatistic Unit. Hospital Universitario Ramon Y Cajal Hospital. Universidad De Alcalá. Madrid, Spain*



Journal of Internal Medicine 20S (2009), S1–S283

Abstracts from 8th Congress of the European Federation of Internal Me

P0855

PREVALENCE OF NONCARDIAC COMORBIDITIES IN PATIENTS HOSPITALIZED FOR HEART FAILURE IN SPAIN

Julio Montes-Santiago [1], Catalina Fernández [1], Ricardo Guijarro-Merino [2], Carlos San Román-Terán [3], Manuel Monreal [4]. [1] *Complejo Hospitalario Univesitario, Vigo, Pontevedra, Spain;* [2] *Complejo Hospitalario Carlos Haya, Málaga, Spain;* [3] *Hospital Comarcal De La Axarquía, Vélez-málaga, Spain;* [4] *Hospital Universitario Germans Trias i Pujol, Badalona, Barcelona, Spain*

without AH.

more relevant possibilities to develop CAD than diabetics without AH.

hypertension in the sample was 24.9%, 20.4% of these had isolated systolic hypertension and 27.4% high normal blood pressure. In males, 43.9% had hypertension, while in females only 10.5%. High hypertension prevalence in overweight (50.8%) and obese persons (50.0%) was detected. 27.2% of the individuals under stress had isolated systolic hypertension. A tendency towards hypertension was found in females under oral contraceptive therapy and in young people with 1st degree relatives with hypertension.

Discussion and conclusion: Hypertension and high normal blood pressure prevalence's in the population studied of university students were rise. A statistical significance relation was showed between blood pressure values and gender, BMI and between stress and isolated systolic hypertension.

Keywords: Hypertension, university students, gender, body mass index, stress. .

P0853

DOES HEART FAILURE WITH PRESERVED E ELDERLY PATIENTS PROGRESS TO SYSTOL

Nancy Sanchez-Gomez [1], Jose Ignacio Garcia-San Miguel Yebra-Yebra [1], Ismael Said-Criado [1], Jose Cristina Fernandez-Fernandez [1], Miriam Moralejo Javier Fresneda-Moreno [1], Ana Royuela [2], Luis M *and Vascular Risk Unit. Internal Medicine Depart Universitario Ramon Y Cajal Hospital. Universid Spain;* [2] *Biostatistic Unit. Hospital Universitario R Universidad De Alcalá. Madrid, Spain*

Introduction: Heart failure with preserved ejec count for around 50% of HF cases in populatior suggested that HF-PEF may be an earlier stage o tion. However, there are no consistent data abou clinical syndrome.

Objectives: We have studied the progression of E HF-PEF followed by echocardiography.

Materials & methods: Setting: all outpatients re nal medicine unit offering integrated care to elderl and standardized diagnostic assessment was per echocardiography. In addition to clinical evaluat PEF, patients had to have an EF >50% and eith BNP ≥100 pg/ml. We excluded patients with sev pericardial disease. Patients with a follow up dopp were included. Changes in EF were assessed by V

Results: 54 consecutive patients with at least tw were evaluated. Their mean age was 79 (SD 6.2 more than 95% had hypertension, left ventricu diabetes, and 24% confirmed coronary heart di were in NYHA II or III functional class. The me up was 24 months. Mean basal and follow-up EF (SD 8.9), respectively (p=0.24). Only one patier levels below 50%.

Discussion & conclusion: HF-PEF in elderly p progress to systolic dysfunction. Our results su and systolic HF are different pathophysiologic r investigation of the HF-PEF pathogenesis are u design specific trials for this syndrome.

Keywords: Heart failure, preserved ejection frac

P0854

BLOOD PRESSURE IN YOUNG ADULTS

Helder Dores [1], Fernando Salvador [2], Pedro Sant Liliana Paixão [2], Rui Pereira [2], Nídia Gonçalves [2] Cândida Fonseca [3], Fátima Ceia [3]. [1] *Departament Faculdade De Ciências Médicas Da Universida Universitário De Medicina I Do Hospital De Sã* [2] *Departamento De Saúde Pública Da Faculdade*

P0853

DOES HEART FAILURE WITH PRESERVED EJECTION FRACTION IN ELDERLY PATIENTS PROGRESS TO SYSTOLIC DYSFUNCTION?

Nancy Sanchez-Gomez [1], Jose Ignacio Garcia-Sanchez [1], Miguel Yebra-Yebra [1], Ismael Said-Criado [1], Jose Luis Santiago-Ruiz [1], Cristina Fernandez-Fernandez [1], Miriam Moralejo-Martin [1], Javier Fresneda-Moreno [1], Ana Royuela [2], Luis Manzano [1]. [1] *Heart Failure and Vascular Risk Unit. Internal Medicine Department. Hospital Universitario Ramon Y Cajal Hospital. Universidad De Alcalá. Madrid, Spain;* [2] *Biostatistic Unit. Hospital Universitario Ramon Y Cajal Hospital. Universidad De Alcalá. Madrid, Spain*

Introduction: Heart failure with preserved ejection fraction (HF-PEF) account for around 50% of HF cases in population-based studies. It has been suggested that HF-PEF may be an earlier stage of HF with systolic dysfunction. However, there are no consistent data about the natural history of this clinical syndrome.

Objectives: We have studied the progression of EF in a cohort of patient with HF-PEF followed by echocardiography.

Materials & methods: Setting: all outpatients referred to a specialized internal medicine unit offering integrated care to elderly patients with HF. Rigorous and standardized diagnostic assessment was performed, including BNP and echocardiography. In addition to clinical evaluation, for a diagnosis of HF-PEF, patients had to have an EF >50% and either left atrial enlargement or BNP ≥100 pg/ml. We excluded patients with severe valvulopathy or relevant pericardial disease. Patients with a follow up doppler-echocardiographic study were included. Changes in EF were assessed by Wilcoxon test.

Results: 54 consecutive patients with at least two echocardiographic studies were evaluated. Their mean age was 79 (SD 6.2) years, 82% were women, more than 95% had hypertension, left ventricular hypertrophy 72%, 44% diabetes, and 24% confirmed coronary heart disease. Most of them (74%) were in NYHA II or III functional class. The mean echocardiographic follow up was 24 months. Mean basal and follow-up EF were 67% (SD 7.5) and 68% (SD 8.9), respectively (p=0.24). Only one patient exhibited decline in EF to levels below 50%.

Discussion & conclusion: HF-PEF in elderly patients apparently does not progress to systolic dysfunction. Our results support the view that HF-PEF and systolic HF are different pathophysiologic models. Further research and investigation of the HF-PEF pathogenesis are urgently required in order to design specific trials for this syndrome.

Keywords: Heart failure, preserved ejection fraction, echocardiography.

P0854

BLOOD PRESSURE IN YOU

Helder Dores [1], Fernando Salv Liliana Paixão [2], Rui Pereira [2], Cândida Fonseca [3], Fátima Cei *Faculdade De Ciências Médic Universitário De Medicina I D Saúde Púb De Lisboa; ancisco Xa rial hyperte*

P0855

PREVALENCE OF NONCARDIAC COMORBIDITIES IN PATIENTS HOSPITALIZED FOR HEART FAILURE IN SPAIN

Julio Montes-Santiago [1], Catalina Fernández [1], Ricardo Guijarro-Merino [2], Carlos San Román-Terán [3], Manuel Monreal [4]. [1] *Complejo Hospitalario Univesitario, Vigo, Pontevedra, Spain;* [2] *Complejo Hospitalario Carlos Haya, Málaga, Spain;* [3] *Hospital Comarcal De La Axarquía, Vélez-málaga, Spain;* [4] *Hospital Universitario Germans Trias i Pujol, Badalona, Barcelona, Spain*

Introduction: Patients hospitalized for heart failure are elderly and with extensive noncardiac comorbidities. However, there are few studies adressed the prevalence of these comorbid conditions affecting the care of these patients.

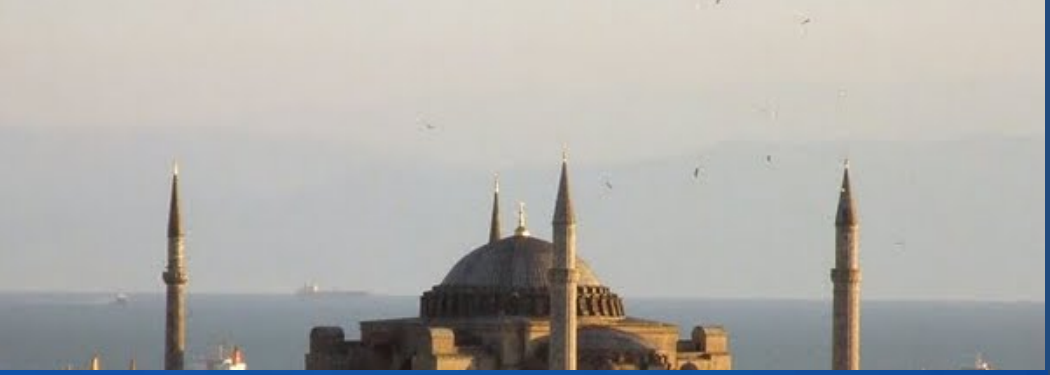
Objectives: To determine the prevalence of important comorbidities in hospitalized patients with heart failure (HF) in Spain and the costs of hospitalizations.

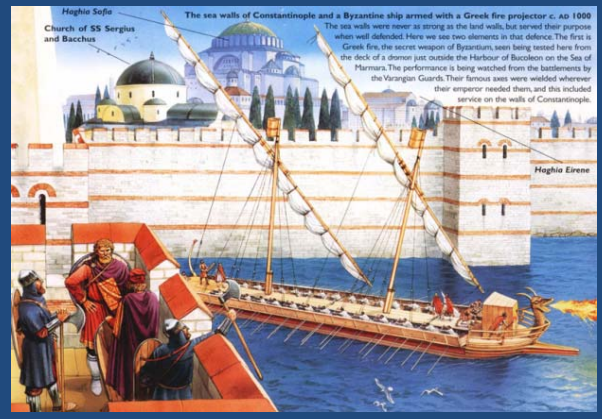
Materials & methods: Heart failure specifically Diagnosis-Related Groups (DRG) from the National Health System (NHS) Minimum Basic Data Set were analyzed: DRG 127 (Heart failure and shock) and DRG 544 (Congestive heart failure and cardiac arrythmia with major complications) in 2006. In these DRG secondary diagnoses for selected important comorbidities were analyzed. Costs of heart failures hospitalizations were calculated according the the standars by Spanish Ministy of Health.

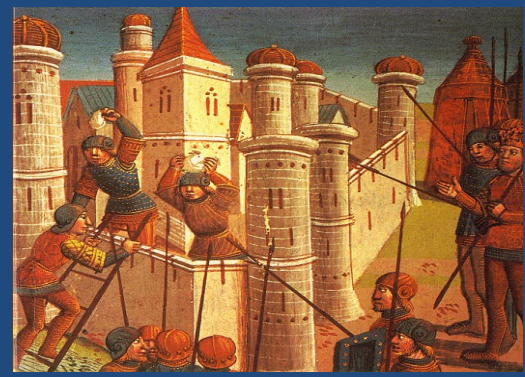
Results: In 2006 there were 86148 discharges in patients 35 years older with a main diagnosis of HF in the Spanish NHS. Of these, 56% were women, mean age was 78(SD:11) years, mean hospital stay was 9,2 days and inhospital mortality was 10,4%. There was no differences in main hospital stay between discharged alive and death patients. However, death patiens were older (mean age: 81,SD±10) and 80% of deaths were in patients 75 years older). Table show the prevalence of various important noncardiac comorbidities in patients with HF. Costs of hospitalizatios for HF were calculated in 424,4 millions (1,7% of global hospitalary budget).

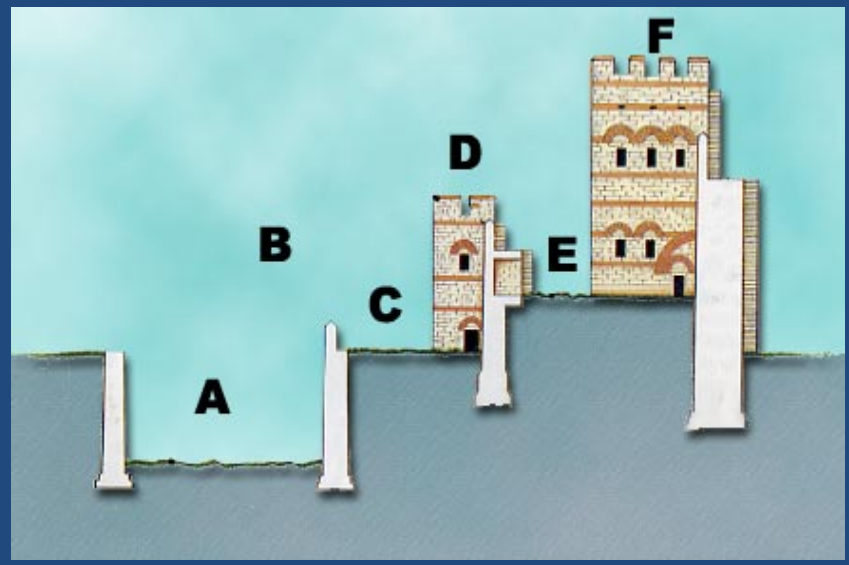
Chonic pulmonary disease	35,0%
Cerebrovascular disease	5,5%
Dementia	3,6%
Peripheral vascular disease	7,7%
Diabetes	38,0%
Renal disease	12,9%
Atrial fibrillation	47,5%
Age-adjusted Charlson comorbidity index	5,9
Mortality	10,4%

Discussion & conclusion: HF-PEF in elderly patients apparently does not progress to systolic dysfunction. Our results support the view that HF-PEF and systolic HF are different pathophysiologic models. Further research and




Haghia Sofia
Church of SS Sergius and Bacchus
The sea walls of Constantinople and a Byzantine ship armed with a Greek fire projector c. AD 1000
The sea walls were never as strong as the land walls, but served their purpose when well defended. Here we see two elements in that defence. The first is Greek fire, the secret weapon of Byzantium, seen being tested here from the deck of a dromon just outside the Harbour of Bucoleon on the Sea of Marmara. The performance is being watched from the battlements by the Varangian Guards. Their famous axes were wielded wherever their emperor needed them, and this included service on the walls of Constantinople.
Haghia Eirene

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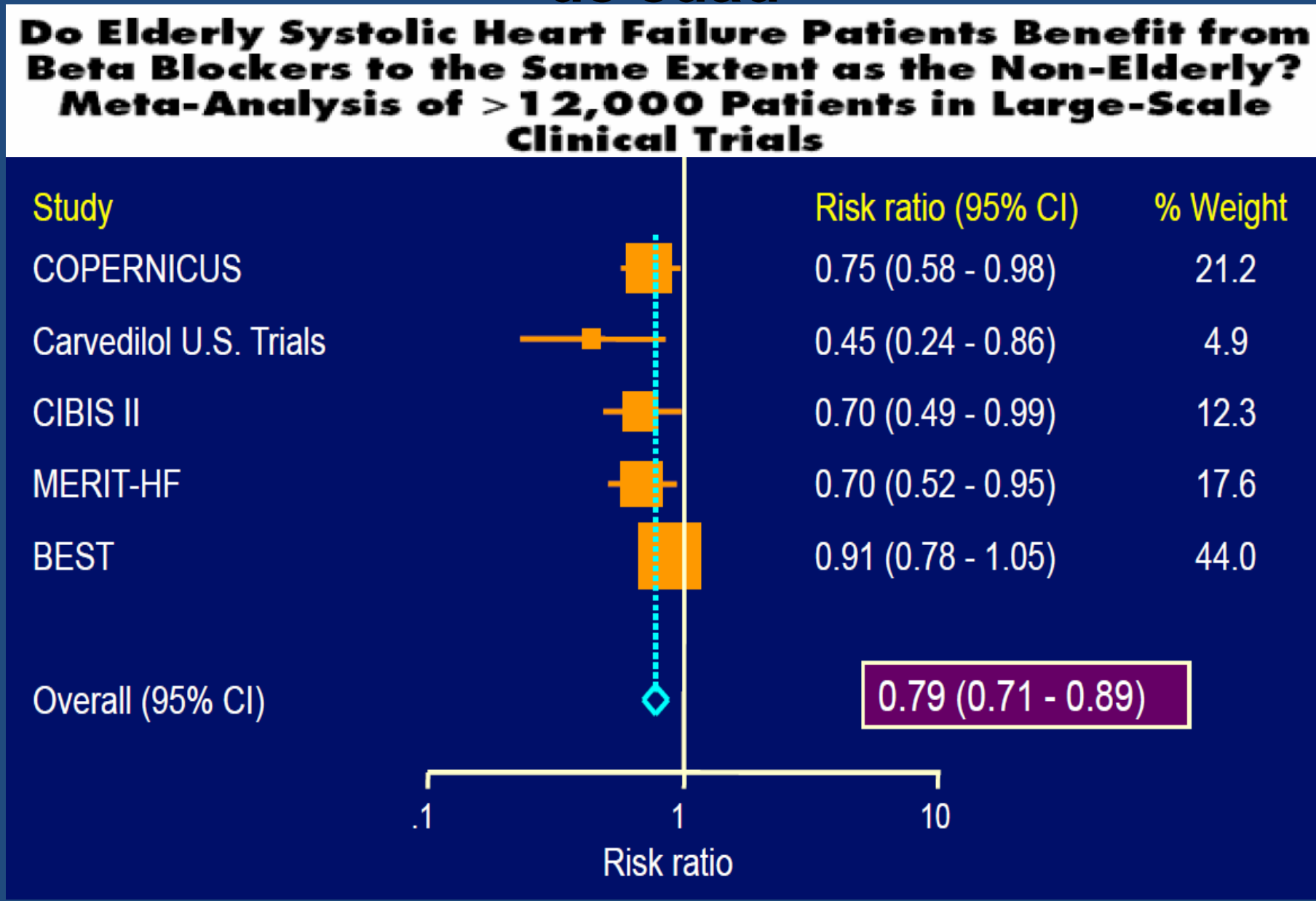
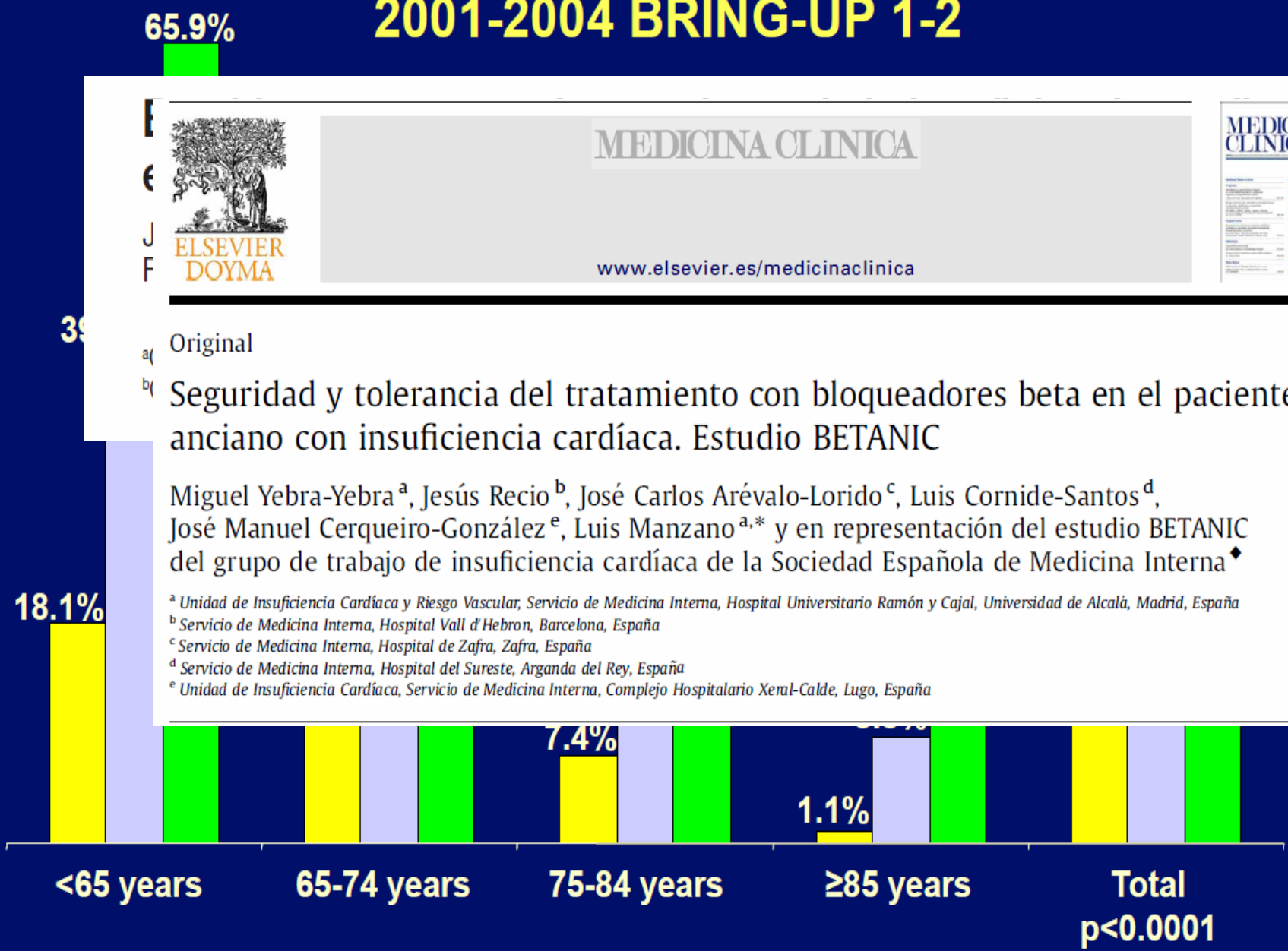
BBloqueantes: efectivos con independencia de edad



Dulin et al. Am J Cardiol 2005; 95: 896-8.

Betablocker prescriptions by age from 1995 to 2004

2001-2004 BRING-UP 1-2



ELSEVIER DOYMA

MEDICINA CLINICA

www.elsevier.es/medicinaclinica

Original

Seguridad y tolerancia del tratamiento con bloqueadores beta en el paciente anciano con insuficiencia cardíaca. Estudio BETANIC

Miguel Yebra-Yebra [a], Jesús Recio [b], José Carlos Arévalo-Lorido [c], Luis Cornide-Santos [d], José Manuel Cerqueiro-González [e], Luis Manzano [a,*] y en representación del estudio BETANIC del grupo de trabajo de insuficiencia cardíaca de la Sociedad Española de Medicina Interna ◆

[a] *Unidad de Insuficiencia Cardíaca y Riesgo Vascular, Servicio de Medicina Interna, Hospital Universitario Ramón y Cajal, Universidad de Alcalá, Madrid, España*
[b] *Servicio de Medicina Interna, Hospital Vall d'Hebron, Barcelona, España*
[c] *Servicio de Medicina Interna, Hospital de Zafra, Zafra, España*
[d] *Servicio de Medicina Interna, Hospital del Sureste, Arganda del Rey, España*
[e] *Unidad de Insuficiencia Cardíaca, Servicio de Medicina Interna, Complejo Hospitalario Xeral-Calde, Lugo, España*

Mehmet II ante Constantinopla 1453

Argumentos

- I) Guías de práctica clínica
- II) Estudios clínicos randomizados/Metanálisis
- III) Estudios observacionales
- IV) Experiencia
- V) Expertos

Argumentos de grueso calibre

La Gran Bombarda (9 m)

ecientes Guías y Betabloqueantes

ESC (Europa,

doi:10.1093/eurheartj/ehn309
European Journal of Heart Failure
doi:10.1016/j.ejheart.2008.08.005
ESC GUIDELINES

ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2008

The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2008 of the European Society of Cardiology. Developed in collaboration with the Heart Failure Association of the ESC (HFA) and endorsed by the European Society of Intensive Care Medicine (ESICM)

Authors/Task Force Members: Kenneth Dickstein (Chairperson) (Norway)*, Alain Cohen-Solal (France), Gerasimos Filippatos (Greece), John J.V. McMurray (UK), Piotr Ponikowski (Poland), Philip Alexander Poole-Wilson (UK), Anna Strömberg (Sweden), Dirk J. van Veldhuisen (The Netherlands), Dan Atar (Norway), Arno W. Hoes (The Netherlands), Andre Keren (Israel), Alexandre Mebazaa (France), Markku Nieminen (Finland), Silvia Giuliana Priori (Italy), Karl Swedberg (Sweden)

ESC Committee for Practice Guidelines (CPG): Alec Vahanian (Chairperson) (France), John Camm (UK), Raffaele De Caterina (Italy), Veronica Dean (France), Kenneth Dickstein (Norway), Gerasimos Filippatos (Greece), Christian Funck-Brentano (France), Irene Hellemans (The Netherlands), Steen Dalby Kristensen (Denmark), Keith McGregor (France), Udo Sechtem (Germany), Sigmund Silber (Germany), Michal Tendera (Poland), Petr Widimsky (Czech Republic), Jose Luis Zamorano (Spain)

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Management of patients with heart failure and preserved left ventricular ejection fraction (HFPEF)

- No treatment has yet been shown, convincingly, to reduce morbidity and mortality in patients with HFPEF. Diuretics are used to control sodium and water retention and relieve breathlessness and oedema. Adequate treatment of hypertension and myocardial ischaemia is also considered to be important, as is control of the ventricular rate in patients with AF. Two very small studies (<30 patients each) have shown that the heart rate-limiting calcium channel blocker verapamil may improve exercise capacity and symptoms in these patients.[128,129]
- The 3023 patient Candesartan in Heart Failure: Assessment of Reduction in Mortality and Morbidity (CHARM)-Preserved trial did not show a significant reduction in the risk of the primary composite end-point (adjudicated death from cardiovascular causes or admission with HF) but did show a significant reduction in the risk of investigator-reported admissions for HF.[130] The 850 patient Perindopril for Elderly People with Chronic Heart failure (PEP-CHF) study failed to show a reduction in this composite primary end-point over the total duration of the trial, but showed a significant reduction in cardiovascular death and HF hospitalization at 1 year.[131]

No mención

ACC/AHA (EEUU,

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION
American Heart Association.
Learn and Live.

2009 Focused Update Incorporated Into the ACC/AHA 2005 Guidelines for the Diagnosis and Management of Heart Failure in Adults. A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines

Sharon Ann Hunt, William T. Abraham, Marshall H. Chin, Arthur M. Feldman, Gary S. Francis, Theodore G. Ganiats, Mariell Jessup, Marvin A. Konstam, Donna M. Mancini, Keith Michl, John A. Oates, Peter S. Rahko, Marc A. Silver, Lynne Warner Stevenson and Clyde W. Yancy

Circulation published online Mar 26, 2009;
DOI: 10.1161/CIRCULATIONAHA.109.192065
Circulation is published by the American Heart Association. 7272 Greenville Avenue, Dallas, TX 72514
 Print ISSN: 0009-7322. Online ISSN: 1524-4539

Class IIb

1. Restoration and maintenance of sinus rhythm in patients with atrial fibrillation and HF and normal LVEF might be useful to improve symptoms. (*Level of Evidence: C*)
2. The use of beta-adrenergic blocking agents, ACEIs, ARBs, or calcium antagonists in patients with HF and normal LVEF and controlled hypertension might be effective to minimize symptoms of HF. (*Level of Evidence: C*)
3. The usefulness of digitalis to minimize symptoms of HF in patients with HF and normal LVEF is not well established. (*Level of Evidence: C*)

Útiles para control síntomas (evid. C)

Más Guías

ELSEVIER SAUNDERS

Cardiol Clin 25 (2007) 497–506

CARDIOLOGY CLINICS

Guidelines for the Management of Heart Failure: Differences in Guideline Perspectives

Mariell Jessup, MD*, Susan C. Brozena, MD

Hospital of the University of Pennsylvania, Philadelphia, PA, USA

Table 3
Comparison of recommendations from international guidelines for treatment of chronic heart failure with preserved left ventricular ejection fraction

Topic discussed	Scottish Intercollegiate Guidelines Network 2007	Canadian Cardiovascular Society 2006	Heart Failure Society of America 2006	European Society of Cardiology 2005	American College of Cardiology/ American Heart Association 2005
ACE inhibitors	No good evidence	For most patients	All patients with other risk factors such as atherosclerotic disease or	May improve relaxation	Might be effective to control HF
Beta-blockers	No good evidence	For most patients	For symptomatic patients who have prior MI, hypertension, or atrial fibrillation	Use to lower heart rate and increase diastolic filling time	Might be effective to control HF
ARBs	No good evidence	Consider to reduce HF hospitalization	All patients with LVDD	High dose may decrease hospitalizations	Might be effective to control HF
Digoxin		May be considered to minimize symptoms			Use is not well established
Diuretics	No good evidence	Use to control pulmonary congestion and edema	Necessary with fluid overload, but use cautiously to avoid lowering preload	Necessary with fluid overload, but use cautiously to avoid lowering preload	Necessary with fluid overload, but use cautiously to avoid lowering preload
Calcium antagonists	No good evidence	May be considered to minimize symptoms	For control of rate in atrial fibrillation, angina, hypertension	Verapamil-type drugs may be used	Might be effective to minimize symptoms

Abbreviations: HF, heart failure; LVDD, left ventricular diastolic dysfunction; MI, myocardial infarction.

Clases de recomendación/Niveles de evidencia

Table I Classes of recommendations

Classes of Recommendations	Definition
Class I	Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.
Class II	Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure.
Class IIa	Weight of evidence/opinion is in favour of usefulness/efficacy.
Class IIb	Usefulness/efficacy is less well established by evidence/opinion.
Class III	Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful.

Table 2 Levels of evidence

Level of Evidence A	Date derived from multiple randomized clinical trials or meta-analyses.
Level of Evidence B	Date derived from a single randomized clinical trial or large non-randomized studies.
Level of Evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

Guías ACC/AHA (2005 y 2009)

Recomendaciones	Clase	Niveles de evidencia
Control TAS y TAD	I	A
Control Fc en FA	I	C
Diuréticos para control volemia	I	C
Revascularización para isquemia	IIa	C
Restaurar ritmo sinusal	IIb	C
Bbloqueantes, IECA, ARA II, CA	IIb	C
Digital para minimizar síntomas	IIb	C

Jessup M, Abraham WT, Casey DE, et al. 2009 Focused Update: **ACCF/AHA Guidelines for the Diagnosis and Management of Heart Failure in Adults.** 2009 WRITING GROUP TO REVIEW NEW EVIDENCE AND UPDATE THE 2005 GUIDELINE FOR THE MANAGEMENT OF PATIENTS WITH CHRONIC HEART FAILURE WRITING ON BEHALF OF THE 2005 HEART FAILURE WRITING CONMITTEE. *Circulation 2009;119;1977-2016;*

Un poco de humo..

Cómo diagnosticar IC con FEVI preservada

ESC, 2007

ESC, 2008

Síntomas y signos de IC

FEVI Normal o moderadamente deprimida (>50%) ó IVTDVI <97 ml/m²

Evidencia de relajación, llenado y distensibilidad anómala de VI. Rigidez diastólica

EF>45-50%

Hemodinámica

PECPm >12 mmHg PTDVI > 16 mmHg

τ >48 ms ó **b** > 0.27

Doppler Tisular

E/E'>15

15>E/E'>8

Biomarcadores

NT-proBNP> 220 pg/ml BNP > 200 pg/ml

Biomarcadores

NT-proBNP> 220 pg/ml BNP > 200 pg/ml

Doppler T

E/E'>8

Ecocardiografia Doppler

>50 a E/A:<0.5 y TRIV >280ms Ard-Ad >30ms, IVAI >40 ml/m², IMVI (o+) 122g/m² (o→) 149g/m², ó Fibrilación auricular

ICFEP

Paulus WJ et al. Eur Heart J 2007; 28: 2539-50.

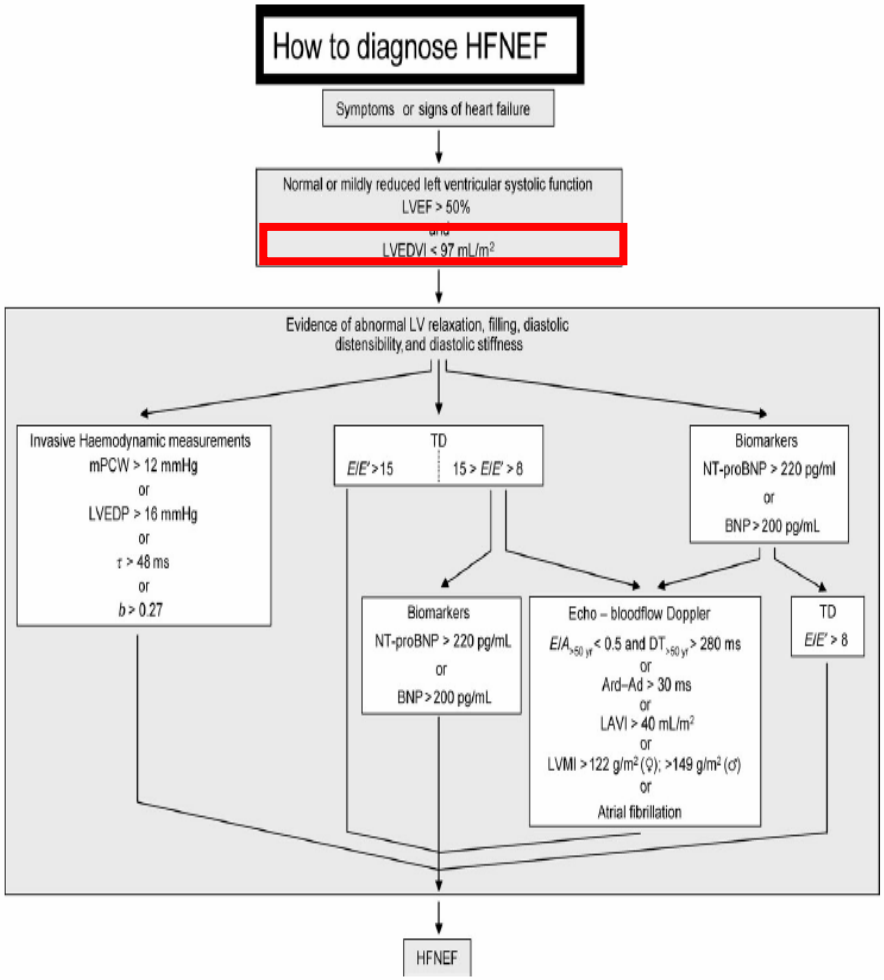
European Heart Journal (2007) 28, 2539–2550
doi:10.1093/eurheartj/ehm037

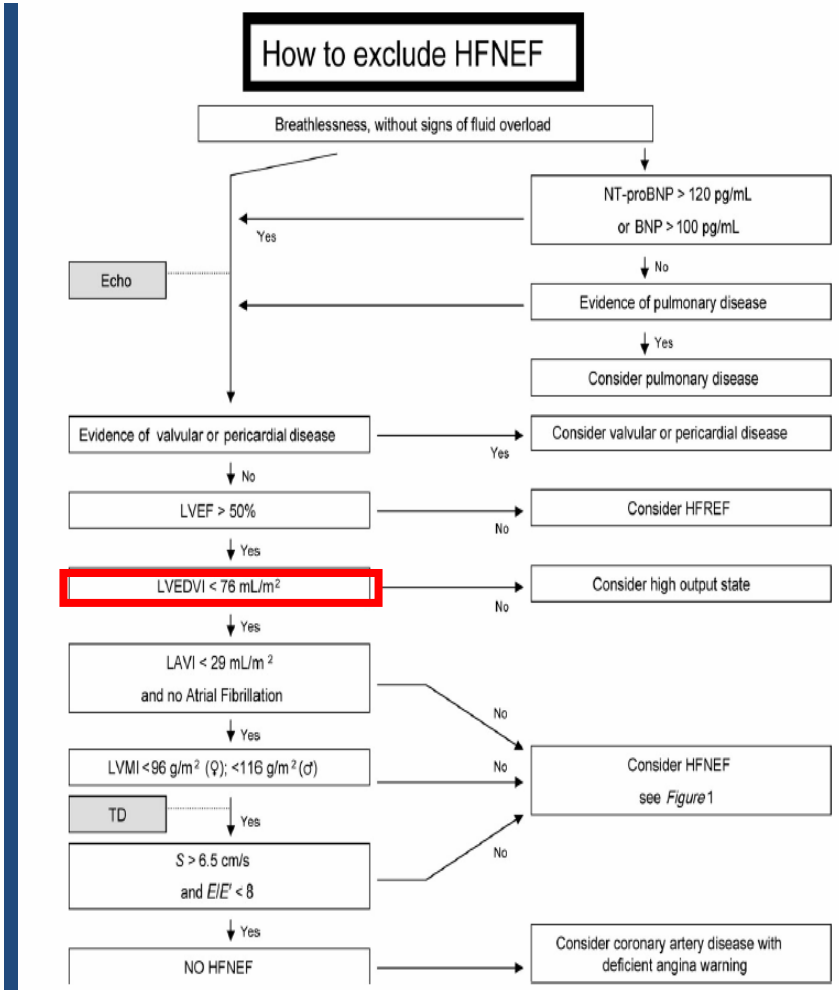
ESC, 2007

Special article

How to diagnose diastolic heart failure: a consensus statement on the diagnosis of heart failure with normal left ventricular ejection fraction by the Heart Failure and Echocardiography Associations of the European Society of Cardiology

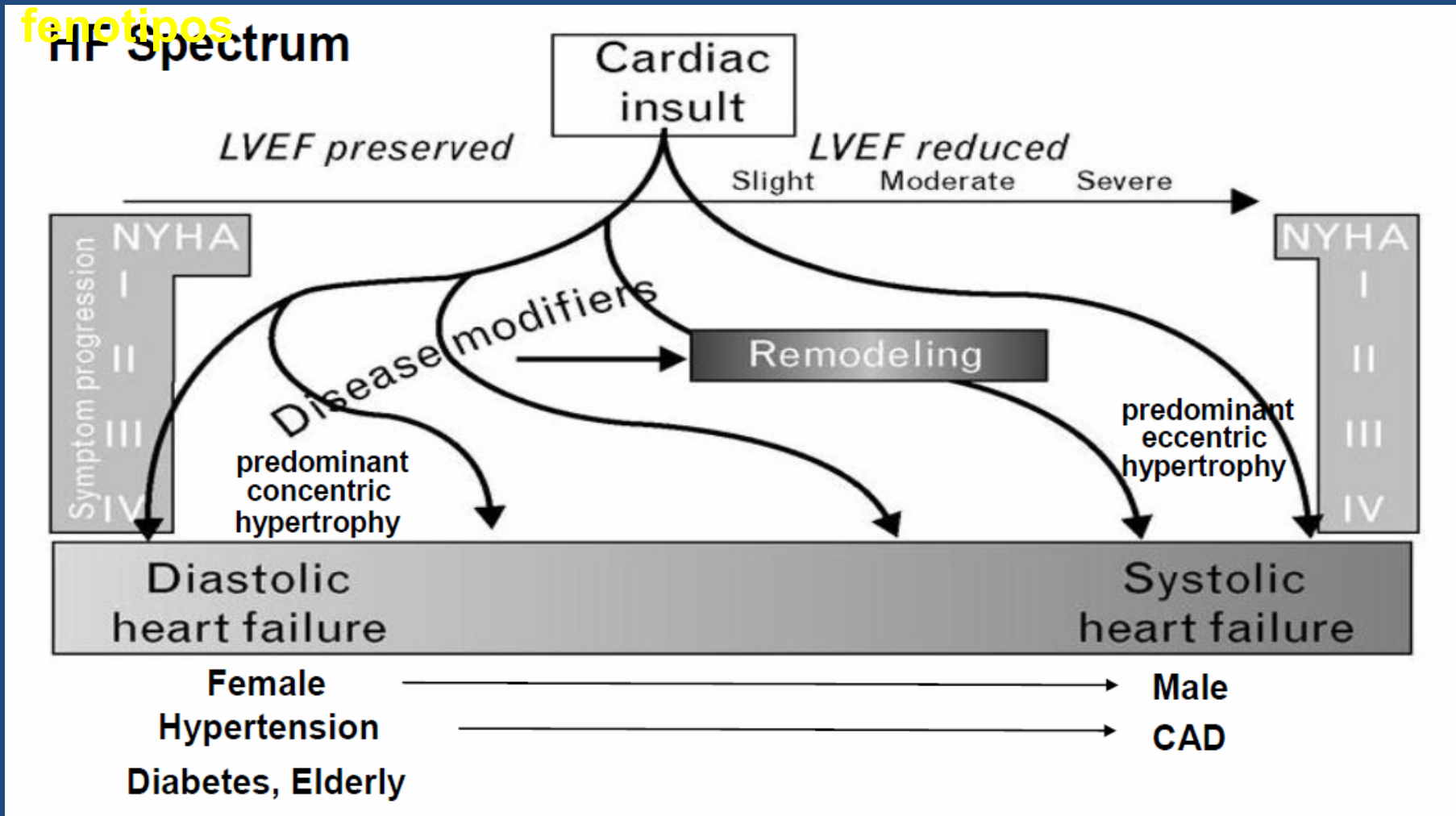
Walter J. Paulus[1]*, Carsten Tschöpe[2], John E. Sanderson[3], Cesare Rusconi[4], Frank A. Flachskampf[5], Frank E. Rademakers[6], Paolo Marino[7], Otto A. Smiseth[8], Gilles De Keulenaer[9], Adelino F. Leite-Moreira[10], Attila Borbély[11], István Édes[11], Martin Louis Handoko[1], Stephane Heymans[12], Natalia Pezzali[4], Burkert Pieske[13], Kenneth Dickstein[14], Alan G. Fraser[15], and Dirk L. Brutsaert[9]





enfermedad?

La ICC es un solo proceso, pero con múltiples y divergentes trayectorias temporales, resultando en un amplio espectro de fenotipos



De Keulenaer GW, Brutsaeert D. The heart failure spectrum. Time to a phenotype-oriented approach. Circulation 209; 119: 3044-6.

ICFEP: ¿síndrome único o doble?

Único

ESC-2008

IC: presentación/evolución como síndrome único, ICFED precede a ICFED

- Distribución unimodal de FE en ensayos clínicos de IC
- Continuo declinar del acortamiento de la velocidad del eje largo desde ICFEP hasta ICFED
- Progresión a remodelado VI en hipertensos, especialemente africanos y asiáticos.
- Progresión a remodelado VI excéntrico en estado final de la miocardiopatía hipertrófica.

Doble

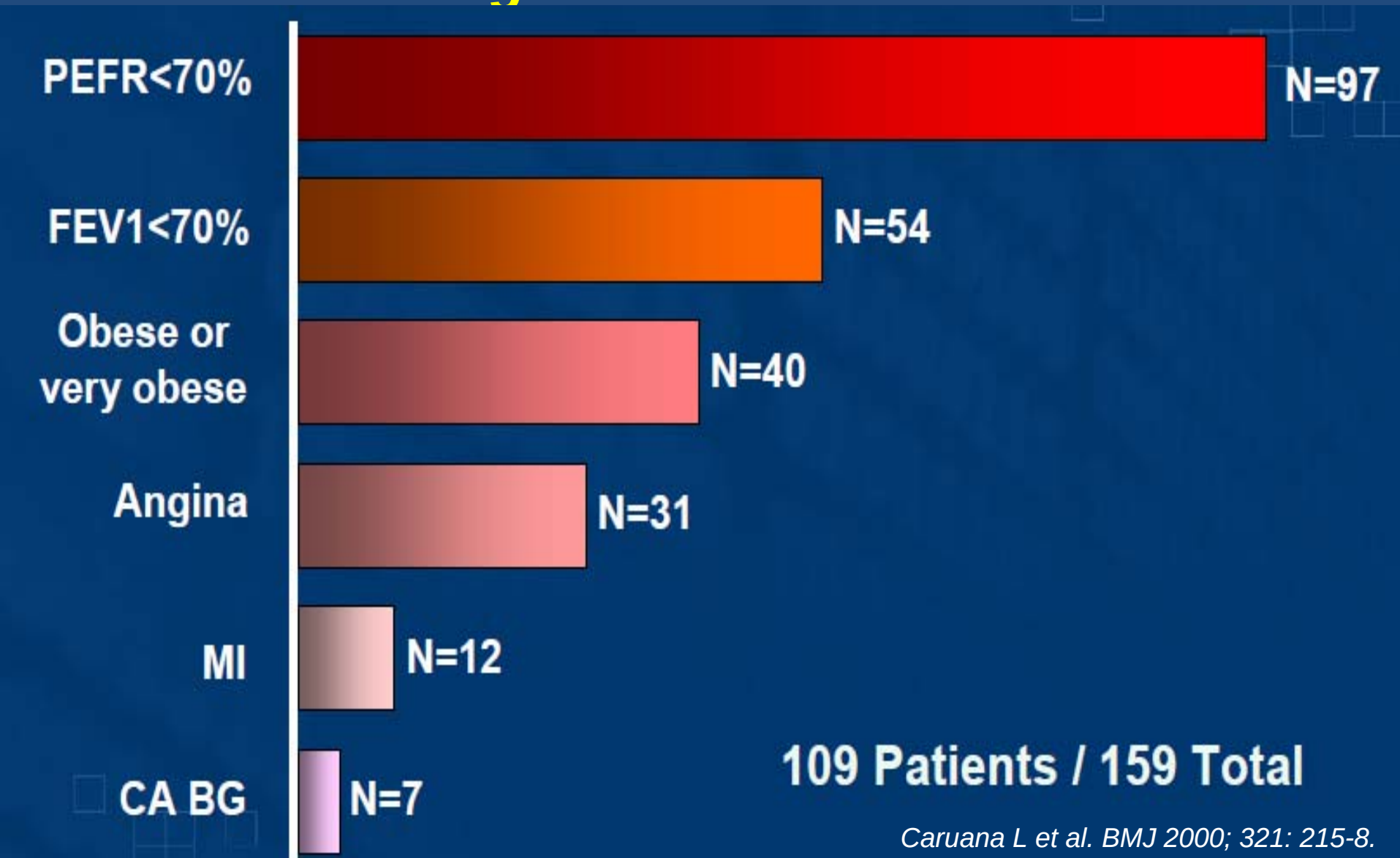
ESC-2007

IC: presentación/evolución como 2 síndromes con remodelado concéntrico y principal disfunción diastólica VI (ICD) y otros con remodelado excéntrico y disfunción sistó-diastólica combinada (ICS)

- Remodelado concéntrico VI en ICD y excéntrico en ICS
- Diferente ultraestructura miocárdia e hipertrofia de cardiomiocitos en ICD y ↓densidad miofilamentosa en ICS.
- ↑ tensión de reposo de miocitos en ICS *in vitro*
- Isoformas distintas de proteína titina
- Distintas formas de metaloproteinasas (MP)de matriz y de inhb. tisulares de MP
- No down -regulation de recep. de BB en ICD

Paulus WJ et al. Eur Heart J 2007; 28: 2539-50.

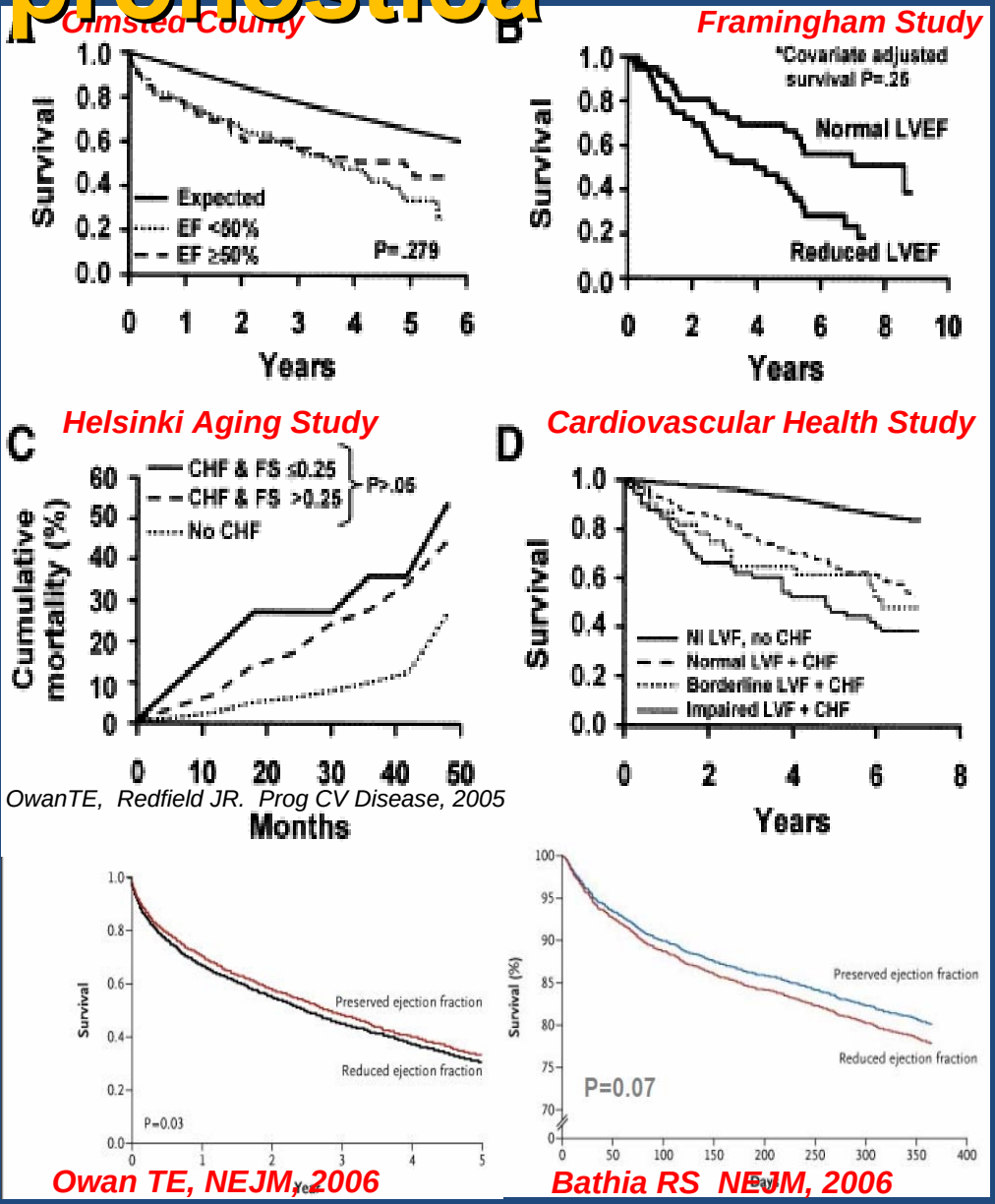
¿Sufren los pacientes con sospecha de IC y FEP *insuficiencia cardiaca diastólica* o *diagnóstico erróneo?*



Caruana L et al. BMJ 2000; 321: 215-8.

"Inestabilidad" pronóstica

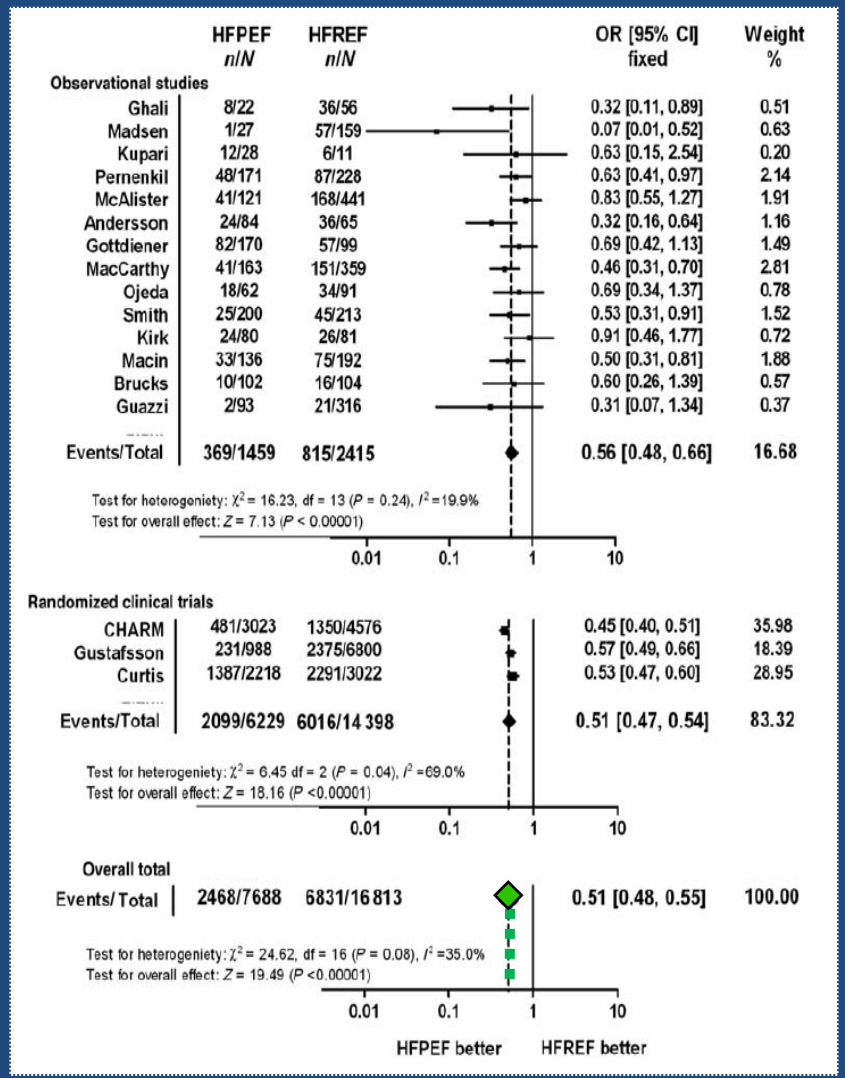
†ICFEP ≈ ICFED



OwanTE, Redfield JR. Prog CV Disease, 2005

Owan TE, NEJM, 2006 **Bathia RS NEJM, 2006**

†ICFEP ≈ ½ ICFED



Somaratne JB et al. Eur J Heart Fail 2009; 11: 855-62.

FE: siguen las dudas

Heart ONLINE

Ejection fraction: a measure of desperation?

Charlotte H Manisty and Darrel P Francis

Heart 2008;94;400-401
doi:10.1136/hrt.2007.118976

Heart ONLINE

Left ventricular ejection fraction: are the revised cut-off points for defining systolic dysfunction sufficiently evidence based?

G Mahadevan, R C Davis, M P Frenneaux, F D R Hobbs, G Y H Lip, J E Sanderson and M K Davies

Heart 2008;94;426-428
doi:10.1136/hrt.2007.123877

Rev Clin Esp. 2009;209 Supl 2:3-10

ELSEVIER DOYMA

Revista Clínica Española

www.elsevier.es/rce

Insuficiencia cardíaca con función sistólica conservada. Definición y epidemiología

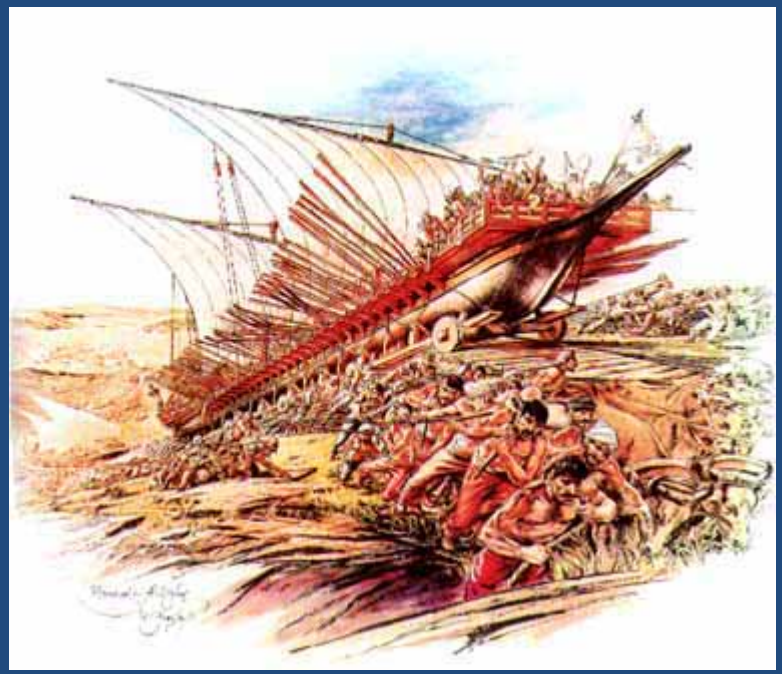
J. Montes-Santiago*

Servicio de Medicina Interna. Complejo Hospitalario Universitario de Vigo. Vigo. Pontevedra. España.

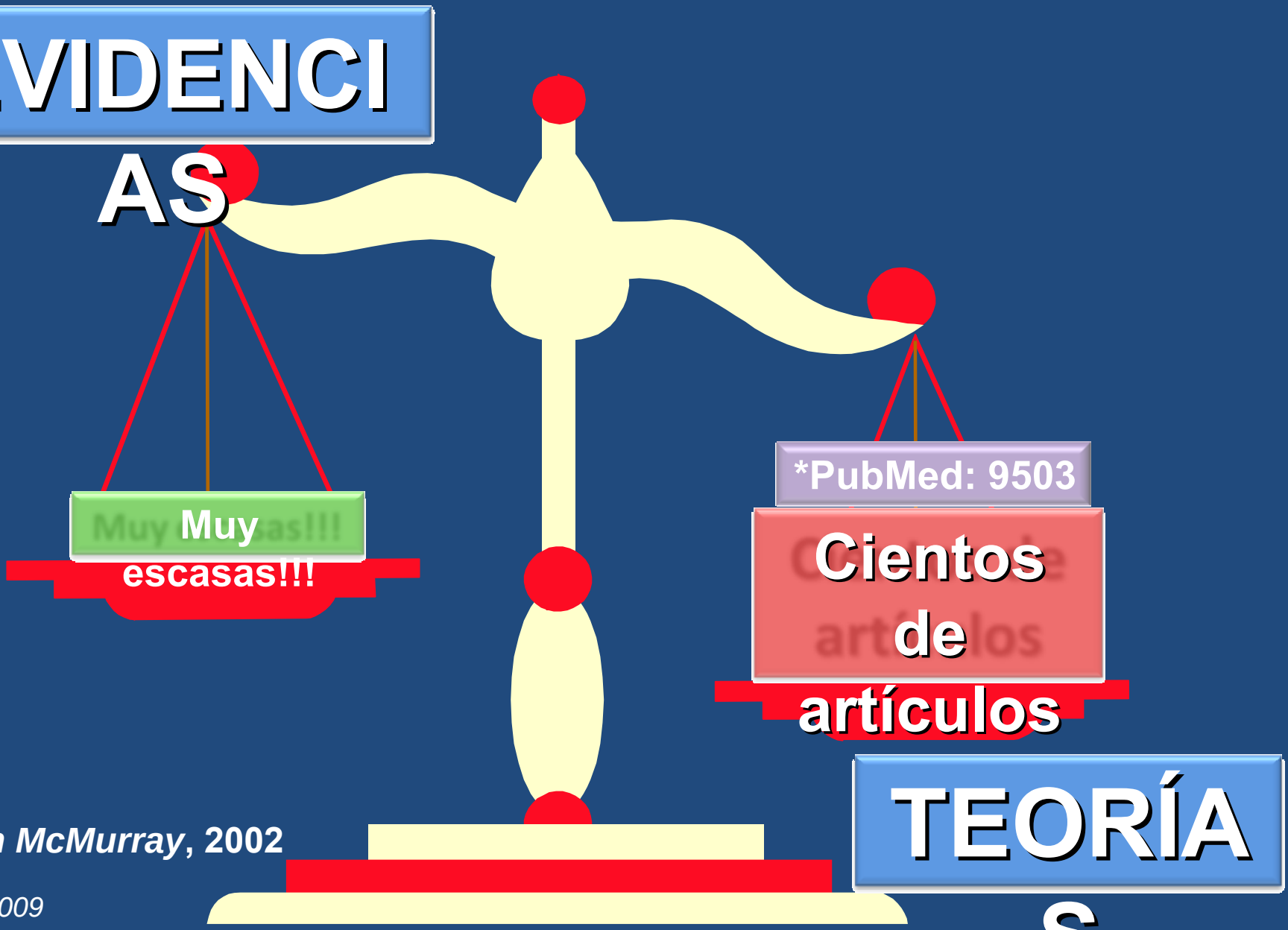
Insuficiencia cardíaca con fracción de eyección preservada: problemas históricos de una definición

como contrapuesta a la IC con fracción de eyección deprimida [ICFED], etc.). Aquí se seguirá la nomenclatura de las Guías ESC-2008 sobre IC y se denominará preferentemente como ICFEP. Como fruto de tales controversias, se ha deri-

El traslado de las naves al Cuerno de Oro



Tratamiento óptimo de la ICFEP



John McMurray, 2002

*8/11/2009

Ensayos clínicos

08/11/2009

- **HEART FAILURE:** 1510
  intervencionales
  1923 estudios 410 observacionales

- **DIASTOLIC HEART FAILURE:** 141
  intervencionales
  166 estudios 25 observacionales

ICFEP (Ensayos clínicos randomizados)

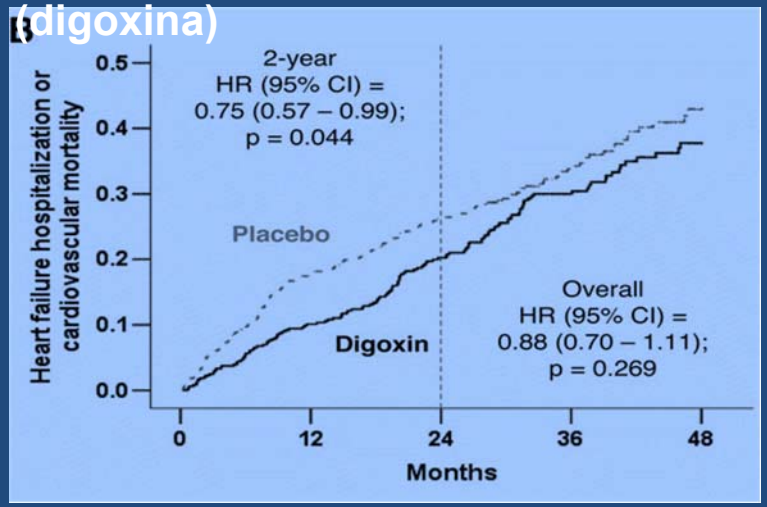
Características

	DIG-PEF (N=988)	CHARM-Pr (N=3025)	PEP-CHF (N=850)	I-Presereve (N=4128)
Mean age (yrs)	67	67	75	72
Women (%)	41	40	56	60
Mean LVEF (%)	55	54	64	59
Hypertension	60	64	79	63
MI	50	44	27	23
A Fibrillation	Excluded	29	21	29
DM	29	28	21	27
Treatment (%)				
ACE inhibitor	86	19	Excluded	25
Digoxin	Excluded	28	12	14
CCB	-	31	33	40
Beta blocker	-	56	55	59
Nitrates	39	33	51	-
Diuretics	76	75	100	83
Loop	-	-	46	-
Thiazide	-	14	55	-
Sprironolactone	8	12	10	15

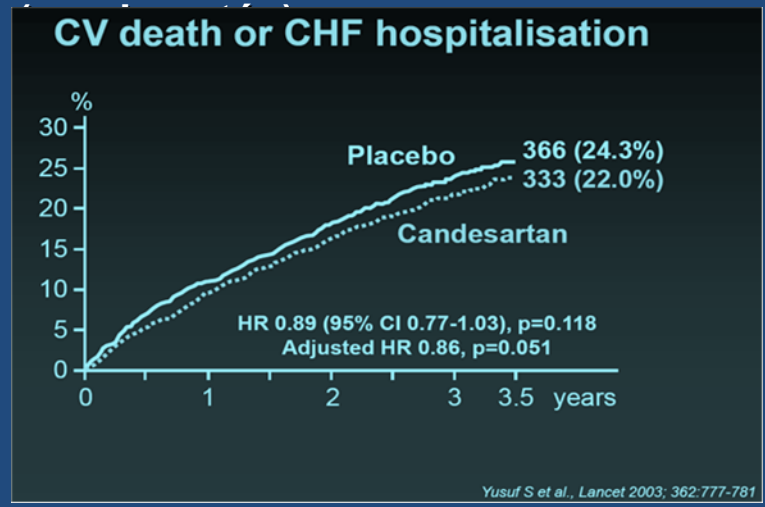
ICFEP (Ensayos clínicos randomizados)

Resultados

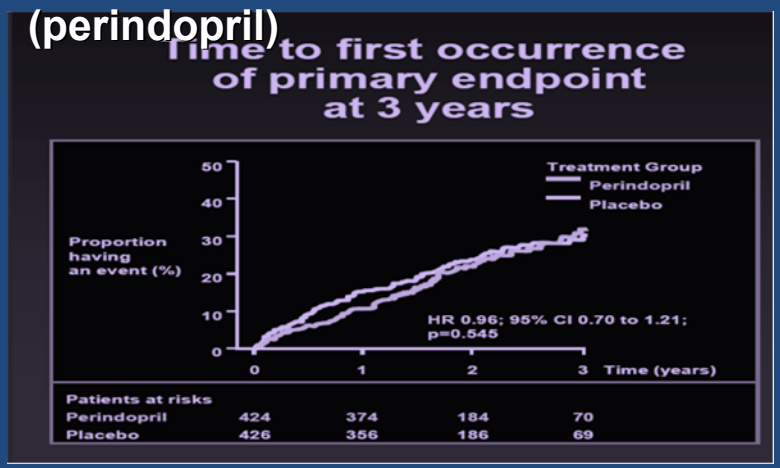
Ancillary-DIG (digoxina)



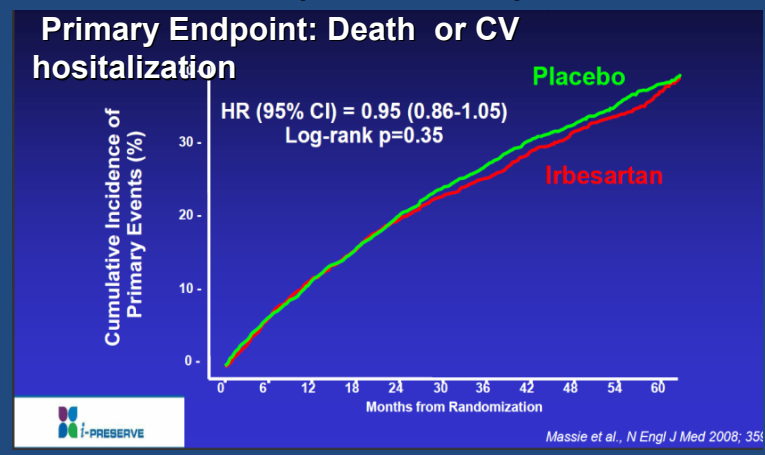
CHARM-Preserved



PEP-CHF (perindopril)



I-PRESERVE (irbesartán)



Estudios randomizados de Bbloqueantes en IC con disfunción diastólica

- Pocos estudios pequeños
- SWEDIC
- SENIORS (Subestudio de Eco)
- SENIORS

Estudios Eco-doppler en ICFEP

SWEDIC Eco-doppler (N=97)(6 meses)

	Placebo (N=50)		Carvedilol(N=47)		P-Value
	Baseline	6Months	Baseline	6Months	
E/A ratio	0.71	0.76	0.72	0.83	0.046
IVRT (ms)	106	99	101	100	0.53
DT (ms)	215	223	224	234	0.71
Pul V S/D ratio	1.55	1.62	1.56	1.52	0.87

Bergström A et al. Eur J Heart Fail 2004; 6: 435-61.

SENIORS Eco-doppler subestudio (N=61)(12 meses)

	Nebivolol (N=27)		Placebo (N=34)		P-Value
	Baseline	1 YR	Baseline	1YR	
LVEF (%)	54.5	55.5	49.0	50.2	0.988
E/A	0.9	0.9	0.9	1.0	0.956
EDT (ms)	200	207	192	202	0.500
TAPSE (mm)	2.2	2.3	2.0	2.1	0.098
LVEDV (mL)	118	112	145	137	0.750
LVESV (mL)	56	54	77	71	0.768

Ghio et al. Eur Heart J 2006; 27: 562-8.

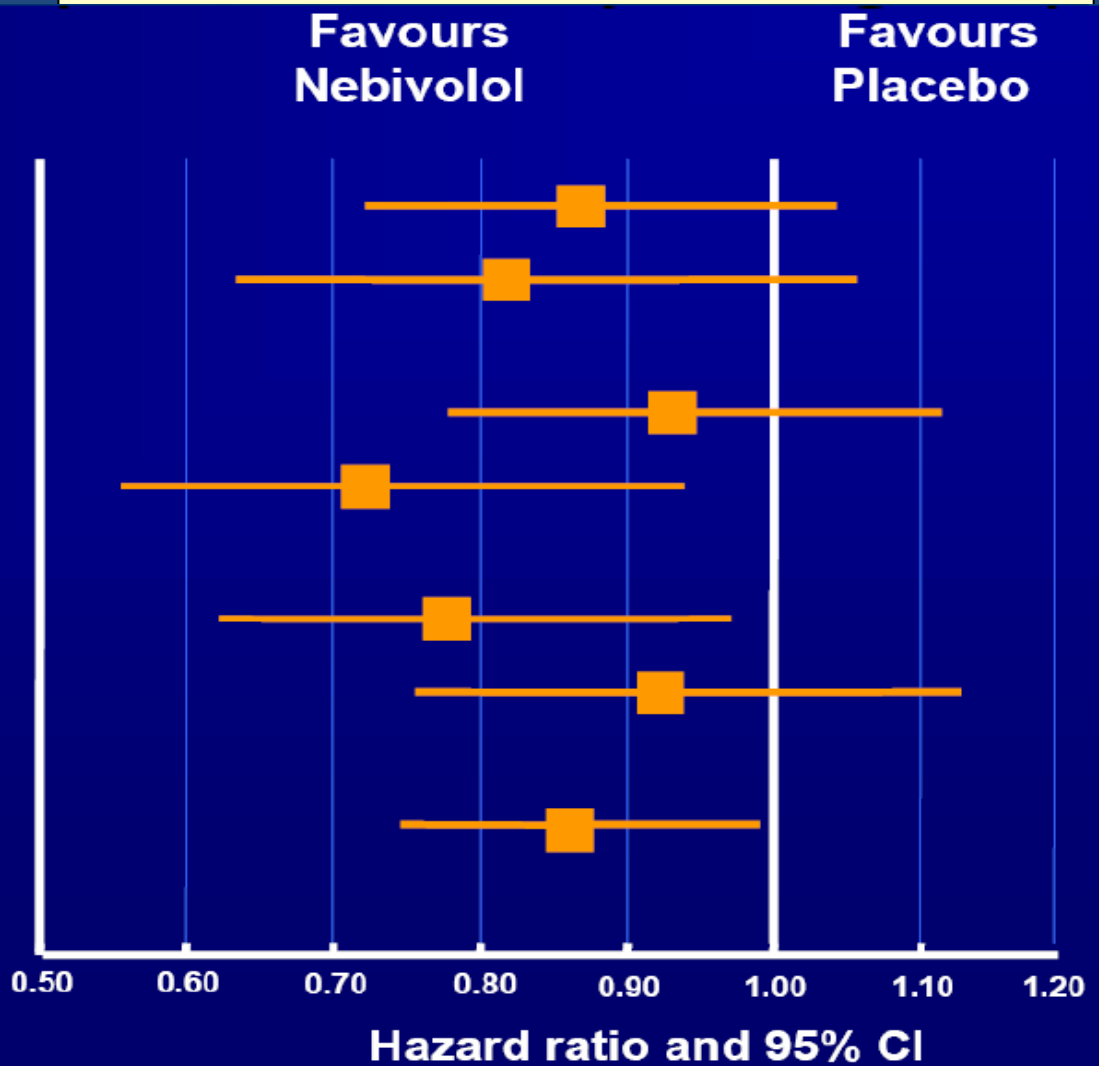
Estudio SENIORS

FASTTRACK Randomized trial to determine the effect of nebivolol on mortality and cardiovascular hospital admission in elderly patients with heart failure

SENIORS

Muerte u hospitalizacion CV por

	Nebivolol	Placebo
LVEF		
≤ 35 %	219 (32.1%)	249 (36.3%)
> 35 %	110 (28.9%)	125 (33.6%)
Sex		
Male	231 (35.2%)	250 (36.4%)
Female	101 (24.6%)	125 (33.3%)
Age		
≤ 75 y	148 (27.5%)	176 (33.5%)
> 75 y	184 (34.8%)	199 (37.1%)
Total	332 (31.1%)	375 (35.3%)



FE ¿Qué límite?
No diferencias

SENIORS

Beta-Blockade With Nebivolol in Elderly Heart Failure Patients With Impaired and Preserved Left Ventricular Ejection Fraction

LVEF ≤0.30,	HR 0.81 (95%CI 0.64-1.03)
LVEF 0.31-0.35,	HR 0.92 (95%CI 0.69-1.22)
LVEF 0.36-0.46,	HR 0.84 (95%CI 0.59-1.20)
LVEF >0.46,	HR 0.76 (95%CI 0.52-1.11)

Objetivo primario

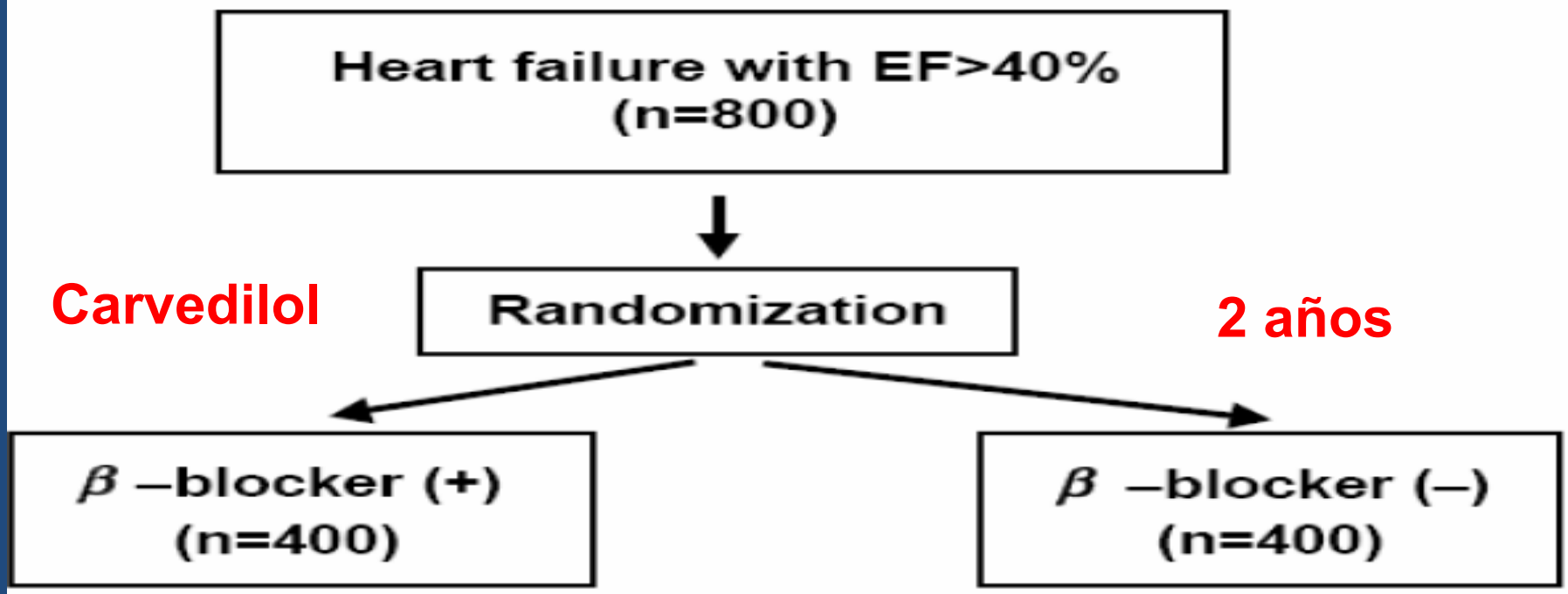
LVEF <0.40 HR 0,86
95%CI **0,73-1.03**

LVEF >0.40 HR 0,83
95%CI **0,62-1,11**

Van Veldhuisen DJ et al. ***JACC 2009****; 53: 2150-8.*

Rationale and Design of a Randomized Trial to Assess the Effects of β-blocker in Diastolic Heart Failure; Japanese Diastolic Heart Failure Study (J-DHF)

Journal of Cardiac Failure Vol. 11 No. 7 2005



■ J-DHF （Japanese Diastolic Heart Failure Study）■
拡張期心不全の治療法確立のための大規模臨床試験　試験ポータルサイト

IC FEP: Lo conocido y lo desconocido

REVIEW

Circ J 2009; **73:** 404–410

Heart Failure With Preserved Ejection Fraction
— What is Known and Unknown —

Kazuhiro Yamamoto, MD*,**; Yasushi Sakata, MD**; Tomohito Ohtani, MD*,**; Yasunaru Takeda, MD*,**; Toshiaki Mano, MD**

There is an emerging interest in heart failure with preserved ejection fraction (HFPEF) because of its high prevalence in the community and several specific characteristics compared with "classic" heart failure with reduced ejection fraction. HFPEF patients are older and more often female, and lack left ventricular dilatation. A likely principal cause of HFPEF is diastolic dysfunction, particularly ventricular stiffening; however, the clinical phenotype of HFPEF is also modulated by dysfunction of other organs such as kidney, vasculature, etc. Despite its social burden, the diagnostic criteria and therapeutic strategies remain to be established. In particular, the lack of established diagnostic criteria has resulted in conceptual confusions about HFPEF in clinical practice. In this review, what is known and unknown about HFPEF is discussed, and several challenging proposals about its diagnosis and therapy are raised. (*Circ J* 2009; **73:** 404–410)

Key Words: Diastole; Heart failure; Ventricular function

Left ventricular (LV) ejection fraction (EF) is preserved or only minimally depressed in 40% of patients with heart failure (HF)[1] Diastolic dysfunction is one of the principal causes for this phenotype of HF[2] and is termed "diastolic heart failure" (DHF). In contrast to HF with reduced EF, that is, systolic heart failure (SHF), the prevalence of DHF has been increasing.[3] DHF patients are older and more often female compared with cases of SHF, and its principal underlying disease is hypertension.[4] Previous reports demonstrated that the survival rate of DHF and SHF patients did not different from each other and that the difference was small even if statistically significant.[3,5] In the past 2 decades, the prognosis has improved for SHF, but not DHF.[3] In this review, we will discuss what is known and unknown about DHF.

Despite the social burden of DHF, conceptual confusion still exists. LV diastolic dysfunction is not specific to DHF (**Figure 1**).[6] LV systolic dysfunction occurs in some DHF

Pathophysiology of HFPEF

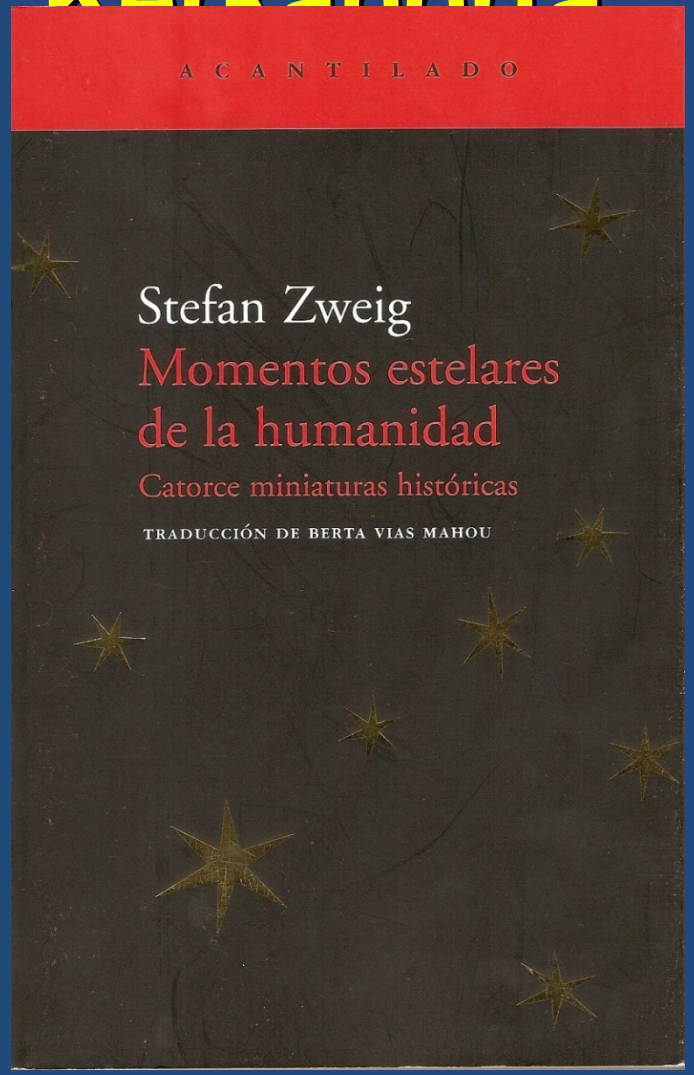
Cardiac Dysfunction

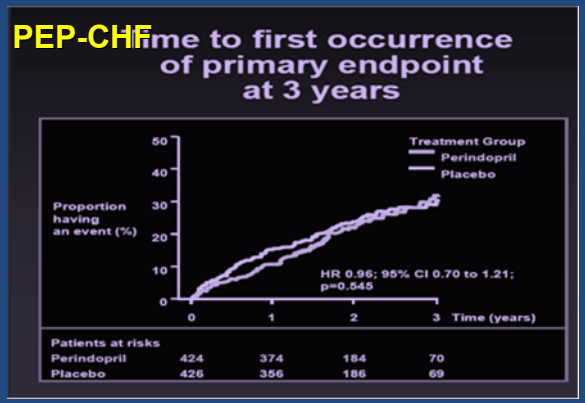
The abnormality of LV relaxation and stiffness is present in HFPEF patients.[2,10] Kawaguchi et al showed that the abnormality of the index for LV stiffness is present in HFPEF patients.[11] Our experimental study in an HFPEF rat model of hypertension showed that the LV relaxation abnormality occurs at the compensatory hypertrophic stage, but that myocardial stiffening leads to overt HF without further progression of the relaxation abnormality.[12] That result indicated that LV relaxation abnormality is an early sign of diastolic dysfunction, and that LV stiffening plays a crucial role in the transition from asymptomatic diastolic dysfunction to HFPEF.

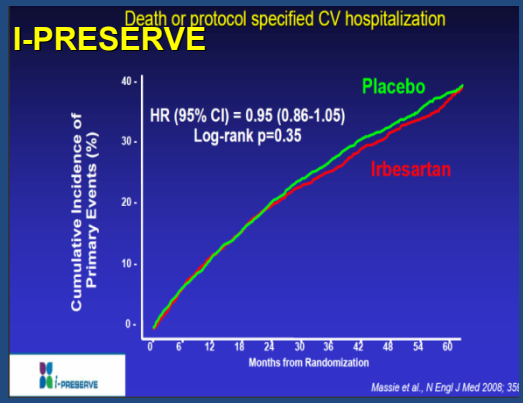
One of the causes of LV stiffening is interstitial fibrosis.[13] Exaggerated accumulation of collage is associated with enhanced cross-linking and an increased ratio of col-

Estudios observacionales en ICFEP

La Kerkaporta







Falta de Datos

Br J Pharmacol 2007; 64: 406-14.

The contribution of observational studies to the knowledge of drug effectiveness in heart failure

Daniela Dobre, Dirk J. van Veldhuisen,[1] Mike J. L. deJongste,[1] Eric van Sonderen, Olaf H. Klungel,[2] Robbert Sanderman, Adelita V. Ranchor & Flora M. Haaijer-Ruskamp[3]

Northern Centre for Healthcare Research and [1]Department of Cardiology, Thoraxcentre, University Medical Centre Groningen, University of Groningen,Groningen, [2]Department of Pharmacoepidemiology and Pharmacotherapy, Utrecht Institute of Pharmaceutical Sciences (UIPS), Utrecht University, Utrecht and [3]Department of Clinical Pharmacology, University Medical Centre Groningen, University of Groningen, the Netherlands

Aunque varios estudios evaluaron la efectividad de BB en ancianos con IC, ha de notarse que ningún estudio hasta ahora ha explorado la efectividad de BB en ICFEP.

Registro ADHERE

Clinical Presentation, Management, and In-Hospital Outcomes of Patients Admitted With Acute Decompensated Heart Failure With Preserved Systolic Function

A Report From the Acute Decompensated Heart Failure National Registry (ADHERE) Database

Table 7. Multivariate* Odds Ratios and 95% Confidence Intervals for Identified Mortality Risk Factors

Mortality Risk Factors	All Patient Episodes with Quantitative LVEF Assessment	Systolic Function		No LVEF Assessment
		Preserved	Reduced	
Systolic BP ≤125 mm Hg	2.58 (2.33–2.86)	2.66 (2.28–3.11)	2.33 (2.03–2.68)	2.23 (2.03–2.44)
BUN >37 mg/dl	2.53 (2.22–2.87)	2.57 (2.11–3.14)	2.51 (2.12–2.97)	2.03 (1.81–2.28)
Sodium ≤132 mmol/l	1.99 (1.76–2.26)	1.72 (1.40–2.12)	2.15 (1.83–2.52)	1.97 (1.76–2.21)
Age >73 yrs	1.76 (1.58–1.96)	2.08 (1.74–2.48)	1.62 (1.41–1.85)	2.13 (1.92–2.36)
Dyspnea at rest	1.55 (1.40–1.72)	1.56 (1.34–1.82)	1.55 (1.35–1.77)	1.56 (1.42–1.71)
Cr >1.5 mg/dl	1.39 (1.22–1.58)	1.24 (1.02–1.52)†	1.50 (1.27–1.77)	1.37 (1.22–1.54)
No chronic beta-blocker	1.37 (1.23–1.51)	1.51 (1.29–1.77)	1.28 (1.17–1.46)	1.60 (1.46–1.76)
Heart rate >78 beats/min	1.34 (1.20–1.49)	1.55 (1.32–1.84)	1.14 (0.98–1.32)‡	1.40 (1.27–1.54)

$p < 0.0001$ unless noted otherwise. *Adjusted for all variables shown in the table. †$p = 0.03$. ‡$p = 0.08$.
BP = blood pressure; BUN = blood urea nitrogen; Cr = creatinine; LVEF = left ventricular ejection fraction.

Yancy CW et al. JACC 2006; 47:76-84.

Estudio de Cádiz

Mortality and morbidity of newly diagnosed heart failure with preserved systolic function treated with beta-blockers: A propensity-adjusted case-control populational study

1085 adultos con 1º dco. de ICFEP

5 años. 378 en BB

Mortalidad total. RR: 0.37 [0.21-0.50]

Mortalidad CV: RR: 0.31 [0.18-0.45]

Hospitalización: 13.6 vs. 19.2 (p<0,001)

CONCLUSIONES

El inicio de tto. con bisoprolol o carvedilol se asocia con menor morbimortalidad en pacientes con nuevo diagnóstico de ICFEP

Gómez Soto FM et al. Int J Cardiol 2009; Jun 30 (Epub ahead of print)

Estudio en pacientes MEDICARE

Shah et al. Am J Cardiol 2008; 101: 207-22.

13300 pacientes >65 años (Medicare) hospitalizados con IC + EF>45%

ACE y B-bloqueantes *al alta*

Effect of angiotensin-converting enzyme (ACE) inhibitors and β blocker on 1- and 3-years mortality*

Medications	1 Year		3 Year	
	Risk Ratio	95% CI	Risk Ratio	95% CI
ACE inhibitors	0.88	0.82–0.95	0.93	0.89–0.98
β Blocker	0.93	0.87–1.10	0.92	0.87–0.97

¿¿Los toman??

Registro EFFECT (Canadá)

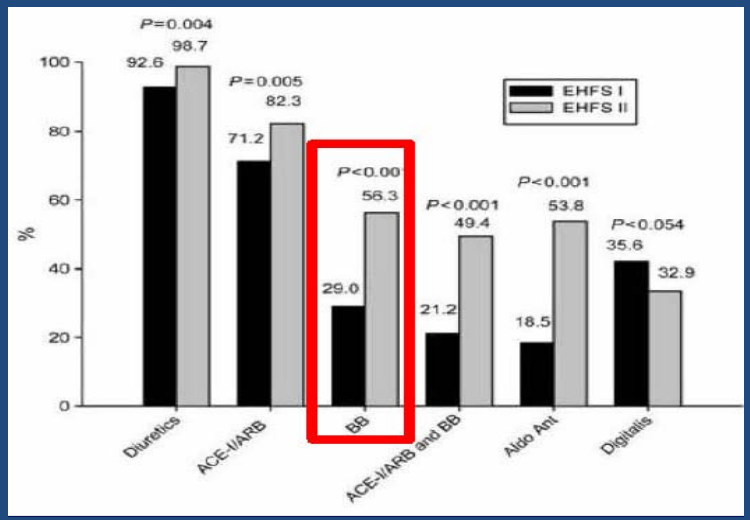
9943 pacientes. 1026 p. con FE>50%: ningún beneficio en mortalidad

Ezekowitz JA et al. Am J Cardiol 2008; 102: 79-83.

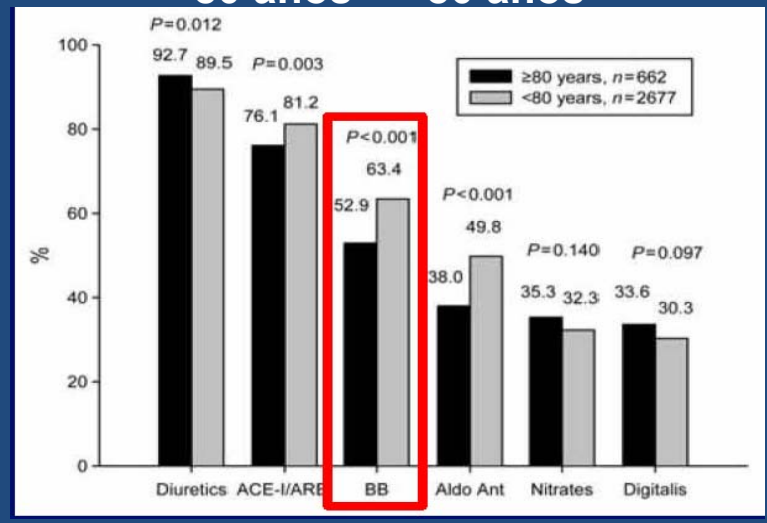
EURO Heart Failure Survey II

Manejo contemporáneo de octogenarios hospitalizados por IC

EuroHF II >> EuroHF I



<80 años >> 80 años



Predictores de mortalidad en el seguimiento tras el alta en octogenarios

Variable	Crude hazard ratio (95% CI)[a]	Adjusted hazard ratio (95% CI)[b]
Age (per 5 year increase)	1.55 (1.29–1.87)	1.51 (1.24–1.84)
SBP (per 10 mmHg decrease)	1.05 (1.00–1.10)	1.04 (0.99–1.09)
Diabetes mellitus	1.36 (0.98–1.89)	1.56 (1.12–2.18)
Self-care problems	1.82 (1.21–2.75)	1.60 (1.03–2.49)
Creatinine (mg/dL)	1.51 (1.26–1.80)	1.48 (1.21–1.80)
ACE-inhibitors/ARB	0.48 (0.35–0.66)	0.56 (0.40–0.79)
Statins	0.59 (0.41–0.85)	0.67 (0.45–0.99)
Beta-blockers	0.72 (0.53–0.98)	0.87 (0.63–1.20)

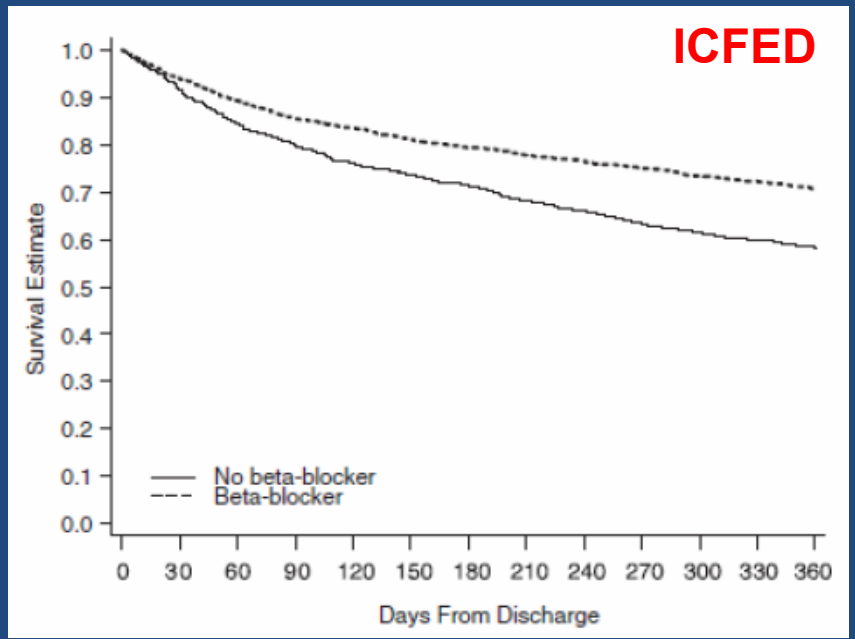
Komajda M et al. Eur Heart J 2009; 30:478-86.

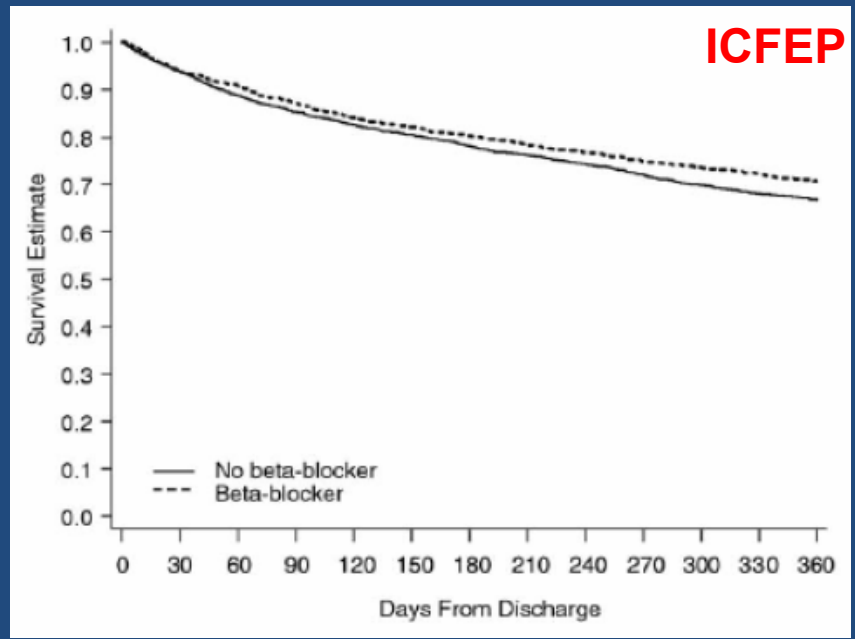
Registro OPTIMIZE-HF

Clinical Effectiveness of Beta-Blockers in Heart Failure

Findings From the OPTIMIZE-HF (Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients With Heart Failure) Registry

7154 p. >65 años elegibles para BB. Inicio en 3241 (49%)
Mortalidad 1 año: 33%, Hospitalización por todas causas: 64%.





Eventos finales	Disfunción sistólica VI n=3001	Función sistólica preservada VI n=4153
Mortalidad	0.77 (0.68–0.87)	0.94 (0.84–1.07)
Readmisión	0.89 (0.80–0.99)	0.98 (0.90–1.06)
Mortalitdad o readmisión	0.87 (0.79–0.96)	0.98 (0.91–1.06)

Hernández AF et al. JACC 2009; 53: 184-92.

La experiencia Estudio ATICA

586 p.

77 años

>50% IC FEP

6 meses: 282/544 (52%)

Mala adherencia: 38%

Ef 2º: 16%

IC-27

ADHERENCIA AL TRATAMIENTO FARMACOLÓGICO EN INSUFICIENCIA CARDIACA. ESTUDIO ATICA

J. Casado Cerrada[1], E. Visus[2], J. Recio Iglesias[3], M. Sánchez-Ledesma[4], M. Chimeno Viñas[5], B. Roca[6], P. Conthe Gutiérrez[2] y Grupo ATICA

[1]Medicina Interna. La Princesa. Madrid. [2]Medicina Interna. Gregorio Marañón. Madrid. [3]Medicina Interna. Valle Hebrón. Barcelona. [4]Medicina Interna. Cínico de Salamanca. Salamanca. [5]Medicina Interna. Virgen de la Concha. Zamora. [6]Medicina Interna. Hospital de Castellón. Castellón.

Objetivos. Evaluar el grado de cumplimiento del tto. en pacientes con ICC. También identificar los factores de riesgo de deficiente adherencia y valorar si los pacientes con deficiente adherencia presentan diferencias en reingresos.

Material y métodos. Seguimiento prospectivo iniciado con el ingreso en la planta de Medicina Interna con diagnóstico de ICC. Se realizarán visitas de seguimiento a los 3, 6, 9 y 12 meses, en las revisiones se realiza entrevista sobre el cumplimiento del tratamiento pautado. En el estudio se recogieron datos de un total de 586 pacientes, mostrando solo los de los que han completado la visita de los seis meses, al no estar completada la base de datos por el momento del total de las visitas.

Resultados. El 42% de los pacientes eran hombres y 58% mujeres La media de edad de los hombres fue 76 años y la de las mujeres 78. Más de la mitad de los pacientes tiene FE conservada. El número de pacientes que ha completado los seis meses de seguimiento es de 282. De ellos el 62% tenían buena adherencia al tratamiento frente al 38% que tenía mala. No existieron diferencias significativas entre buena y mala adherencia y apoyo familiar. En el grupo de mala adherencia había una mayor proporción de analfabetos con respecto al grupo de buena adherencia (12% vs 5%) y una menor proporción de universitarios (1% vs 4%), $p = 0,147$. Se objetivó una menor tasa de reingresos a los seis meses en el grupo de buena adherencia con respecto al de mala (10% vs 22%), $p < 0,005$. Entre las causas de mala adherencia la desmotivación apareció en un 22%, seguida de efectos secundarios: 16%.

Discusión. La mayoría de nuestros pacientes son mujeres con edad media avanzada y predomina la FE conservada, contrastando con la mayoría de los estudios que se han desarrollado clásicamente en pacientes con ICC. Una de las limitaciones fundamentales es la pérdida de pacientes, ya que solo cerca de la mitad de ellos completaron la visita de los seis meses, poniendo de manifiesto la complejidad y dificultades sociales de los pacientes que ingresan en los servicios de Medicina Interna que dificulta seguimientos en consultas externas.

Conclusiones. La adherencia al tratamiento es una pieza fundamental para una evolución satisfactoria de la enfermedad como demuestra este estudio al objetivarse una menor tasa de reingresos en aquellos pacientes que demostraron tener buena adherencia.

JACC 2009; 54: 1703-5.

Table 1 Rate and Cause of Hospitalizations in Relation to 1-Year Mortality in Patients With HF

	After Any HF Hospitalization	After the Initial HF Hospitalization	After the Second HF Hospitalization
% of patients hospitalized for any reason	30% in 2–3 months (13) 27% in 3 months (8) 38% in 6 months (14) 67% (3)	69% (4)	60% (4)
% of patients hospitalized for HF	22% in 2 yrs (15)	16% (EF <40%) (6) 14% (EF >50%) (6) 22% (4) 30%* (5)	36% (4)
% of patients hospitalized for cardiovascular reasons	43% (3) 42% (18)	44% (4) 50%* (5)	57% (4)
% of hospitalized patients with HF as the primary cause	—	32% (4)	60% (4)
% of hospitalized patients with cardiovascular diseases as the primary cause	64% (3)	49% (4)	95% (4)
	37% (3) 31% (14) 42% (16) 29% (EF ≥50%) (17) 32% (EF <50%) (17)	26% (EF <40%) (6) 22% (EF >50%) (6) 34% (4) 33% (18)	44% (4)

67% no CV

Hospitalizations in Patients With Heart Failure: Who and Why*

Soko Setoguchi, MD, DrPH,† Lynne Warner Stevenson, MD‡
Boston, Massachusetts

con una FE mayor o igual de 50% (insuficiencia cardiaca con fraccion de eyeccion preservada). Se recogieron las características clínicas así como las causas de muerte de cada paciente. Se definieron cuatro causas de muerte: 1) insuficiencia cardíaca; 2) Muerte súbita; 3) otras causas de muerte cardiovascular (ictus, infarto agudo de miocardio, o tromboembolismo pulmonar) y 4) otras causas no incluidas en las categorías anteriores.

Resultados. En el período de tiempo definido se siguieron a 289 pacientes con el diagnóstico de insuficiencia cardíaca. Se incluyeron en el grupo de insuficiencia cardíaca con FE conservada 199 pacientes y 88 en el de FE disminuida. Ocurrieron 30 muertes, de las cuales 18 correspondieron a pacientes con FE preservada (FE media 63,4%) y 12 con FE reducida (FE media de 36,5%). La edad media fue de 80 en ambos grupos. El tiempo medio del fallecimiento tras el diagnóstico fue de 26 y 28 meses. Los pacientes con FE conservada tuvieron una mayor prevalencia de hipertensión arterial (96,2% vs. 66,6%, p = 0,011) y menor de cardiopatía isquémica (18% vs. 50% p = 0,044). La mortalidad causada por insuficiencia cardíaca fue significativa-

Grupo R y C

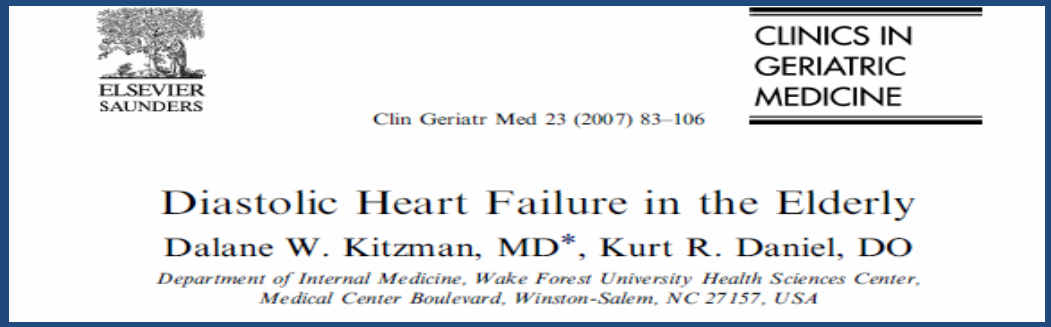
Conclusiones. Los pacientes ancianos con insuficiencia cardíaca con FE conservada fallecen principalmente por causas no cardiovasculares.

(Sitges, noviembre 2007)

Comunicaciones Orales

Los "expertos"

Levy D. (Director, Framingham Heart Study). We know ***so little*** about the optimal treatment of heart-failure patients with preserved ejection fractions… (09/2009).


ELSEVIER SAUNDERS

Clin Geriatr Med 23 (2007) 83–106

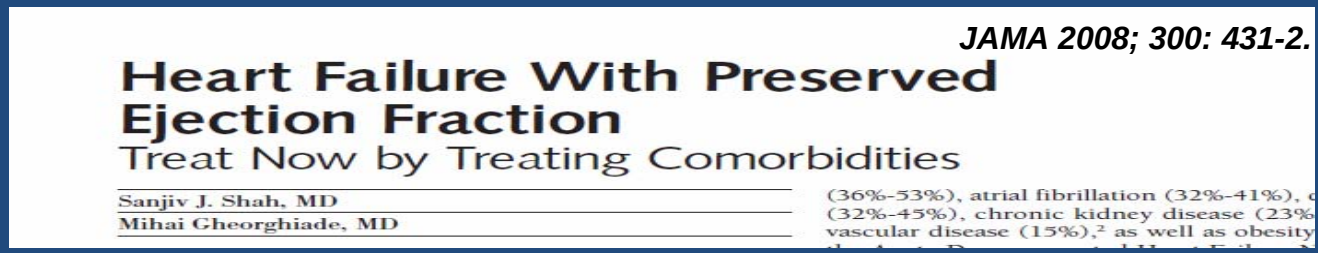
CLINICS IN GERIATRIC MEDICINE

Diastolic Heart Failure in the Elderly

Dalane W. Kitzman, MD*, Kurt R. Daniel, DO

Department of Internal Medicine, Wake Forest University Health Sciences Center, Medical Center Boulevard, Winston-Salem, NC 27157, USA

Para delinear el papel de BB en ICD se requieren ensayos grandes, bien diseñados…


JAMA 2008; 300: 431-2.

Heart Failure With Preserved Ejection Fraction

Treat Now by Treating Comorbidities

Sanjiv J. Shah, MD

Mihai Gheorghiade, MD

(36%-53%), atrial fibrillation (32%-41%), c
(32%-45%), chronic kidney disease (23%
vascular disease (15%),[2] as well as obesity

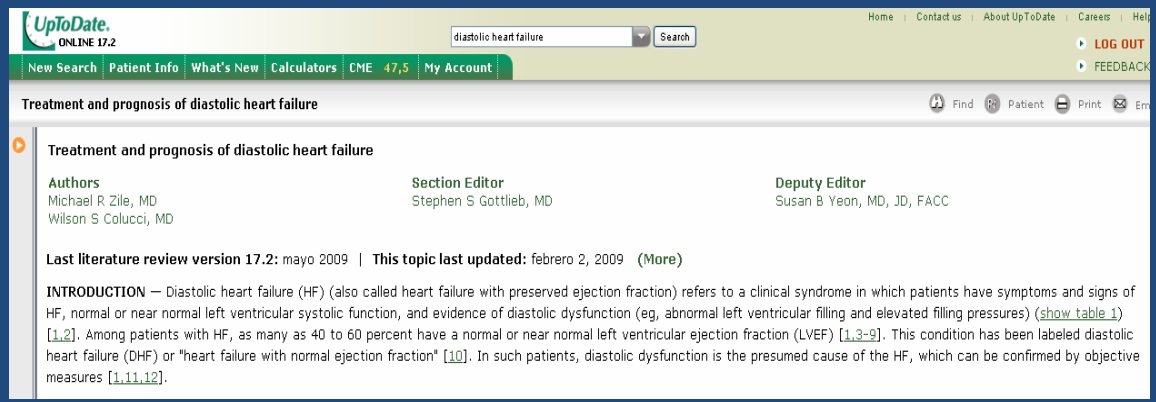
Pitt B.


ARCH INTERN MED/VOL 168 (NO. 22), DEC 8/22, 2008

2431

Los BB ***no*** han demostrado reducir ni mortalidad y hospitalizaciones en paciente con IC y EF normal.

Kaplan NM. **Beta-blockers in hypertension**. *JACC 2008;52:1490-1.* ***Taquiarritm, posIAM, ICFED***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Treatment and prognosis of diastolic heart failure

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Treatment and prognosis of diastolic heart failure

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Last literature review version 17.2: mayo 2009 | **This topic last updated:** febrero 2, 2009 (More)

INTRODUCTION — Diastolic heart failure (HF) (also called heart failure with preserved ejection fraction) refers to a clinical syndrome in which patients have symptoms and signs of HF, normal or near normal left ventricular systolic function, and evidence of diastolic dysfunction (eg, abnormal left ventricular filling and elevated filling pressures) (show table 1) [1,2]. Among patients with HF, as many as 40 to 60 percent have a normal or near normal left ventricular ejection fraction (LVEF) [1,3-9]. This condition has been labeled diastolic heart failure (DHF) or "heart failure with normal ejection fraction" [10]. In such patients, diastolic dysfunction is the presumed cause of the HF, which can be confirmed by objective measures [1,11,12].

At present, *there is no good demonstration* that beta blockade is beneficial for the treatment of HF with preserved ejection fraction.

Perspectivas futuras

¿¿Y los betabloqueantes??

STATE-OF-THE-ART PAPER

Heart Failure With Normal Left Ventricular Ejection Fraction

Micha T. Maeder, MD, David M. Kaye, MD, PhD
Melbourne, Australia

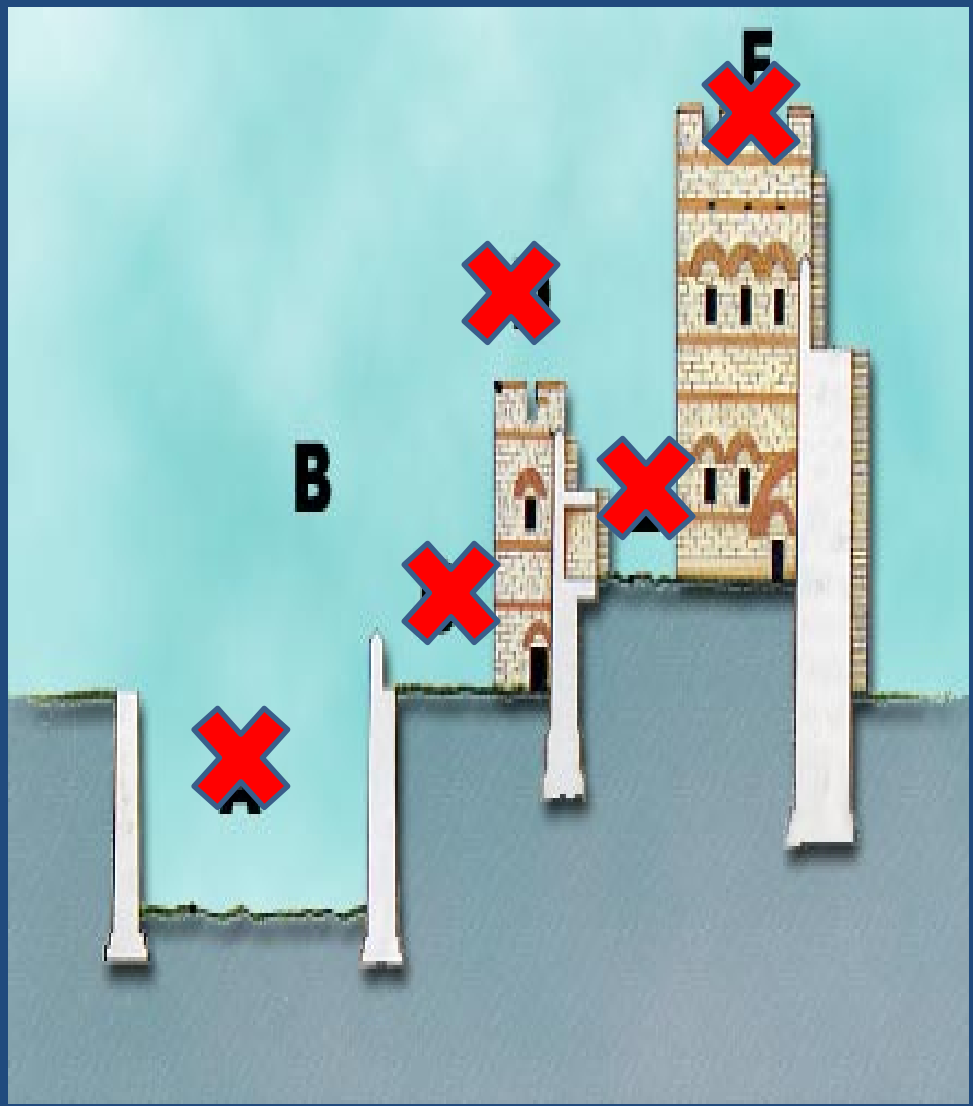
JACC 2009; 53:908-18.

Table 3 Substances Evaluated for the Treatment of Patients With HFNEF in Completed but Unpublished or Ongoing Clinical Studies (According to NIH Clinical Trials Registry*)

Substance	Drug Class	Postulated Targets
Valsartan	Angiotensin-receptor blocker	RAAS, blood pressure, LVH, LV relaxation
Aliskiren	Selective renin inhibitor	RAAS, blood pressure, LVH, LV relaxation
Spironolactone	Aldosterone antagonist	Collagen turnover, LV relaxation and stiffness
Eplerenone	Aldosterone antagonist	Collagen turnover, LV relaxation and stiffness, endothelial dysfunction
Sitaxsentan	Endothelin receptor A antagonist	Blood pressure, LVH
Alagebrium	Advanced glycation end products cross-links breaker	Advanced glycation end products, LV relaxation and stiffness
Atorvastatin	Statin	Collagen turnover, LV relaxation and stiffness, vascular function
Sildenafil	Phosphodiesterase-5 inhibitor	LVH, LV stiffness, vascular stiffness
Exenatide	Glucagon-like peptide-1 receptor antagonist	Aortic stiffness, LV stiffness
Ranolazine	Inhibitor of the slowly inactivating component of the cardiac Sodium current (late I_{Na} channel)	Intracellular calcium, LV relaxation
Ivabradine	Inhibitor of the "funny" channel (I_f channel)	Heart rate, duration of diastole

*National Institutes of Health (NIH) Clinical Trials Registry (78).
RAAS = renin-angiotensin-aldosterone system; other abbreviations as in Table 1.

¿Qué queda de los argumentos?



Guías clínicas

Ensayos clínicos randomizados
Seniors
J-DHF???

Estudios observacionales
Contradictorios
OPTIMIZE-HF: en contra

Experiencia
Bien tolerado pero efectivo???

Expertos
Contradictorios

Tratamiento de ICFEP: Lo esencial

- No tto. convincente ►↓morbimortalidad ICFEP (*Ponikowski P,* **ESC***(Barc-09).*

1) Control de TA (↓activación neurohumoral→Prevenir/Tto.)

- **IECA/ARA II >> CA**[1] **IECA/ARA II >> BB** (↓HVI)[2]

2) Control del ritmo (BB>>digoxina>>CA)

3) Diagnosticar y tratar la isquemia

4) Evitar desencadenantes

- **(AHA/2009: AINEs, *BB,* CA)(Alcohol, drogas ilegales)**
- **Neumonía, enf. Víricas (Vacunación: 27-37% hospitalización por IC)**[3]

5) Tratamiento de comorbilidades

- **EPOC** ¡Ojo! ►Bisoprolol →↓FEV_1 en IC + EPOC[4]
- Obesidad (SAOS), diabetes, anemia, TEP…

[1]*Verdecchia P et al. (Metanálisis) Eur Heart J 2009; 30: 679-88.* [2]*Fagard RA et al. Hypertension 2009,54:1084-91).*[3]*Nichol KL et al. NEJM 2003;348:1322.*
[4]*Hawkins NM et al. (McMurray group). Eur J Heart Fail 2009 ; 11(7):684-90. (**ERC:** **27 p. [bisoprolol -70 vs. +120 ml, p<0,001)] en 4 m.*

El Cid Campeador (Valencia, 1094)
1010 años de †

Betabloqueantes
IC con FED

La tarea es tu **Valencia**

Rev Clin Esp. 2005;205(4):147-8 EDITORIAL

¿Qué más evidencias se necesitan para extender el uso de bloqueadores beta en la insuficiencia cardíaca?

L. Manzano y R. Redondo
Unidad de Insuficiencia Cardíaca y Riesgo Vascular del Anciano. Servicio de Medicina Interna. Hospital Universitario Ramón y Cajal. Universidad de Alcalá. Madrid.

IC con FEP

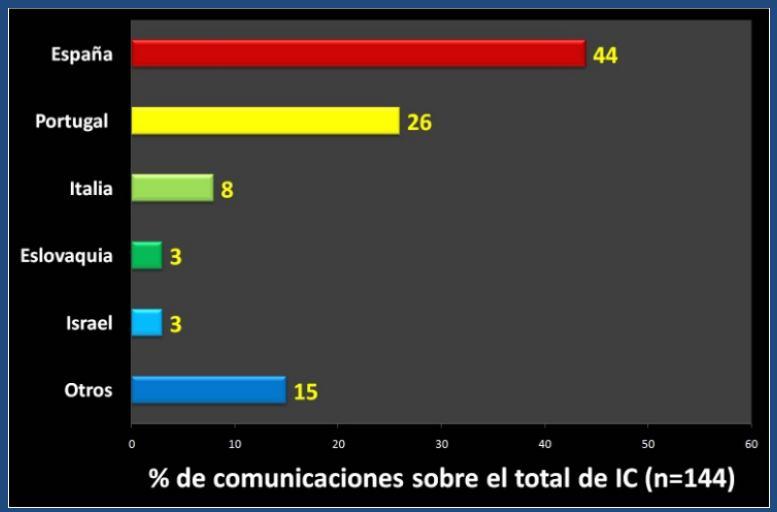
¡Dejemos de cazar dragones!

¡¡Dios, que buen cavallero si oviesse buen senyor!!

De Estambul…

…a Estocolmo

Comunicaciones sobre IC en Congresos Europeos (1997-2009)



Muchas