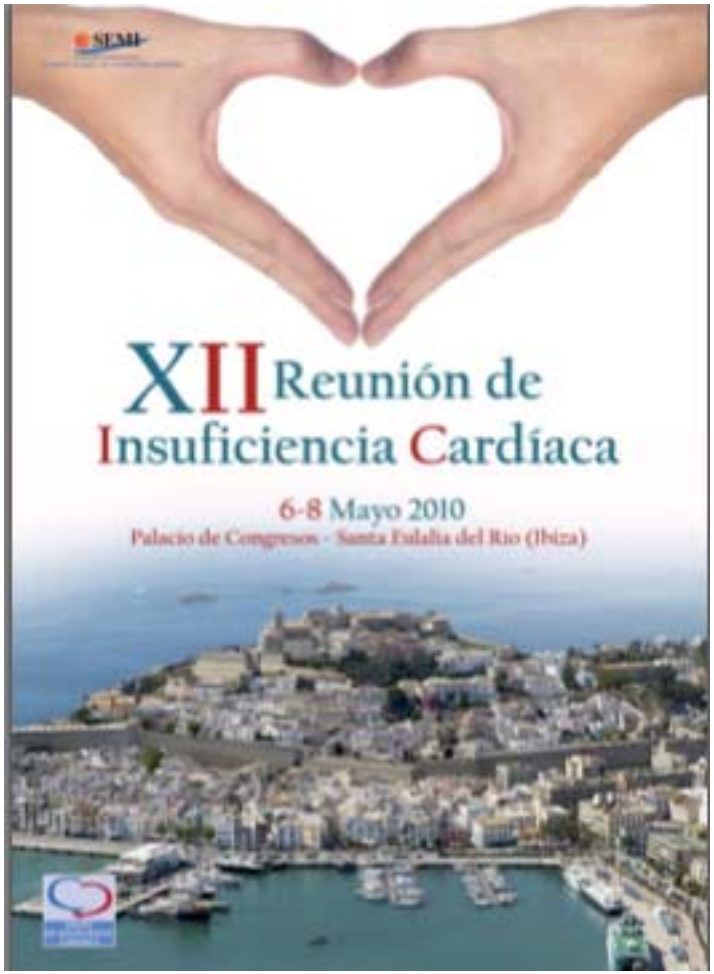


COMORBILIDAD EN INSUFICIENCIA CARDÍACA

Enfermedad Pulmonar Obstructiva Crónica

Ibiza 7 de mayo de 2010

Dr Jesús Recio Iglesias

Vall d'Hebron
Hospital
Medicina Interna

ACORVH
UNITAT D´INSUFICIÈNCIA CARDÍACA

Guía de práctica clínica de la Sociedad Europea de Cardiología (ESC) para el diagnóstico y tratamiento de la insuficiencia cardiaca aguda y crónica (2008)

Enfermedad pulmonar obstructiva crónica

En la práctica clínica, la evaluación diagnóstica de la IC en presencia de EPOC supone un desafío. Hay una importante superposición de los signos y síntomas, con una sensibilidad relativamente baja de las pruebas diagnósticas como radiografía de tórax, ECG, ecocardiografía y espirometría.
La evaluación de la concentración de péptidos natriuréticos (BNP o NT-proBNP) puede ser útil, aunque los resultados se suelen situar en valores intermedios. El valor predictivo negativo puede ser de más utilidad

Rev Esp Cardiol. 2008;61(12):1329.e1-1329.e70

GRUPO DE INSUFICIENCIA CARDIACA

XII Reunión de Insuficiencia Cardíaca

- ¿Es frecuente la coexistencia EPOC-IC?
- ¿Tiene relevancia en el pronóstico?
- ¿Existen implicaciones en el tratamiento?

GRUPO DE INSUFICIENCIA CARDIACA

XII Reunión de Insuficiencia Cardíaca

¿Es frecuente la coexistencia EPOC-IC?

ELSEVIER

European Journal of Heart Failure 8 (2006) 706 – 711

The European Journal of Heart Failure

www.elsevier.com/locate/ejheart

Review

Heart failure and chronic obstructive pulmonary disease: An ignored combination?

"the combination of heart failure and COPD is much more common than generally acknowledged. We could not find any report on prevalence of COPD in patients with LVSD or (a history of) heart failure

Table 1
Studies that assessed heart failure or left ventricular systolic dysfunction in COPD patients, *without* exclusion of patients with known coronary artery disease

First author	Steele [23]	Kline [21]	Berger [24]	MacNee [25]	Zema [22]	McCullough [4]
Year of publication	1975	1977	1978	1983	1984	2003
Sample size	120	27	36	45	37	417
Patient population	Severe COPD	COPD, suspected LV dysfunction	Stable ambulatory COPD	Hypoxemic COPD	Suspected for COPD	History of COPD or asthma, with acute dyspnoea[a]
Mean age	60	62	67	59	61	62
Reference test	RVG	RVG, echo	RVG	RVG	RVG	2 cardiologists[b]
All patients reference test?	No. Only in 30%	No. Only 74% with echo studied	Yes	Yes	Yes	No. Echo in 29%
Exclusion of overt coronary artery disease?	No. 17% had CAD	No, but none of the patients had a history of prior MI	No. 9% known with CAD	No	Partly[c]	No. 30% had CAD
LVSD	21% LVEF<40%	10% LVEF<40%	14% LVEF<40%	36% LVEF<50%	46% LVEF<50%	18% LVEF<45%
Heart failure	NA	NA	NA	NA	NA	21%
Remarks						33% cor pulmonale[d]

"many of the possible interactions between both syndromes are still unclear, and more extensive knowledge is important in view of the potential increasing prevalence of both diseases in the near future, the possibly common existence and the potential benefit of adequate treatment"

Bloqueo neurohormonal al alta en pacientes con insuficiencia cardiaca

J. M. CASADO, E. VISUS[1], J. P. RECIO[2], M. SÁNCHEZ-LEDESMA[3], M. CHIMENO[4], B. ROCA[5], P. CONTHE[1] Y EL GRUPO ATICA

TABLA I

ANTECENDENTES PERSONALES

Enfermedad	*% hombres (n)*	*% mujeres (n)*	*% total (n)*
Hipertensión	65% (157)	79% (257)	73% (414)
Diabetes	46% (111)	41% (131)	43% (242)
Dislipemia	41% (97)	35% (111)	37% (208)
Insuficiencia renal	27% (62)	20% (64)	23% (126)
EPOC	45% (107)	17% (53)	29% (160)
Ritmo sinusal	45% (109)	43% (139)	44% (248)
Fibrilación auricular	46% (110)	47% (151)	47% (261)
Otros ritmos	9,1% (22)	9,4% (30)	9,3% (52)

An Med Interna (Madrid) 2006; 23: 478-482.

Comorbilidad de los pacientes ingresados por insuficiencia cardiaca en los servicios de medicina interna

M. Montero Pérez-Barquero[a,*], P. Conthe Gutiérrez[b], P. Román Sánchez[c], J. García Alegría[d], J. Forteza-Rey[e] y Grupo de Trabajo de Insuficiencia Cardiaca de la Sociedad Española de Medicina Interna (estudio SEMI-IC)[*]

N= 2.127. Edad media fue de 77±11 a(57%, mujeres)
Las patologías más frecuentes asociadas a la IC fueron: diabetes mellitus (39%) EPOC (31%).

"La comorbilidad representa una mayor complejidad en los pacientes con IC……. necesidad de un tratamiento integral de todos los problemas del paciente y la utilidad de una atención multidisciplinaria en el manejo de esta enfermedad"

Rev Clin Esp. 2010;210(4):149–158

Estudio de las comorbilidades en pacientes hospitalizados por descompensación de la enfermedad pulmonar obstructiva crónica atendidos en los servicios de Medicina Interna. Estudio ECCO

P. Almagro[a,*], F. López García[b], F.J. Cabrera[c], L. Montero[d], D. Morchón[e], J. Díez[f], F. de la Iglesia[g], F.B. Roca[h], M. Fernández-Ruiz[i], J. Castiella[j], E. Zubillaga[k], J. Recio[l], J.B. Soriano[m] y Grupo EPOC de la Sociedad Española de Medicina Interna[♦]

Tabla 3 Frecuencia de comorbilidades (n=398)

Comorbilidad	Total
Incluidas en el índice Charlson	
Enfermedad coronaria	68 (17%)
Insuficiencia cardíaca	107 (27%)
Enfermedad vascular periférica	50 (13%)
Enfermedad cerebrovascular	38 (10%)
Demencia	15 (4,4%)
Enfermedad del tejido conectivo	7 (2%)
Úlcus péptico	49 (12%)
Hepatopatía leve	29 (7,3%)
Diabetes sin complicaciones	103 (26%)
Diabetes con daño orgánico	14 (3,5%)
Hemiplejía	4 (1%)
Insuficiencia renal moderada	26 (6,5%)
Tumor sólido sin metástasis	26 (6,5%)
Leucemia	6 (1,5%)
Linfoma	2 (0,5%)
Enfermedad hepática moderada o severa	9 (2,3%)
Tumor sólido con metástasis	7 (1,8%)
Síndrome de inmunodeficiencia adquirida	1 (0,3%)
Otras comorbilidades	
Infarto de miocardio	34 (9%)
Hipertensión arterial	218 (55%)
Alcoholismo	56 (14%)
Enfermedad tromboembólica	13 (3%)
Arritmia	108 (27%)
Edemas	132 (33%)
Osteoporosis	37 (9,7%)
Anemia	265 (33%)

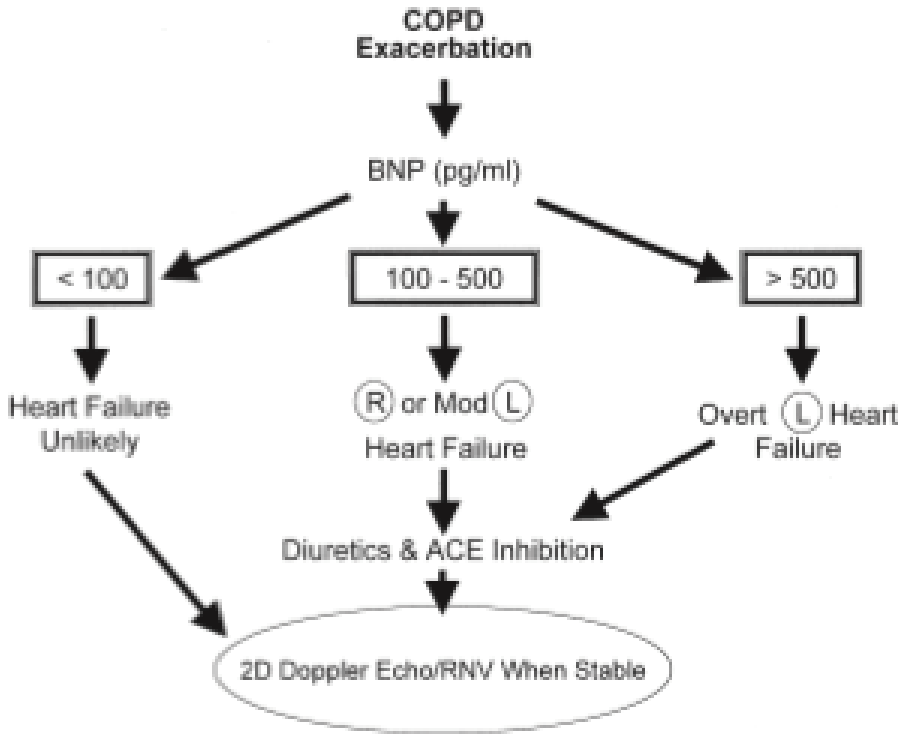
" La **alta prevalencia** de insuficiencia cardíaca en nuestro estudio **(27%)** es similar a la descrita en pacientes ambulatorios con EPOC grave en los que se practica un ecocardiograma.

Dado que el principal síntoma en la EPOC y la insuficiencia cardíaca es la **disnea** o la fatiga, puede ser **difícil precisar que componente predomina en una exacerbación en estos pacientes**"

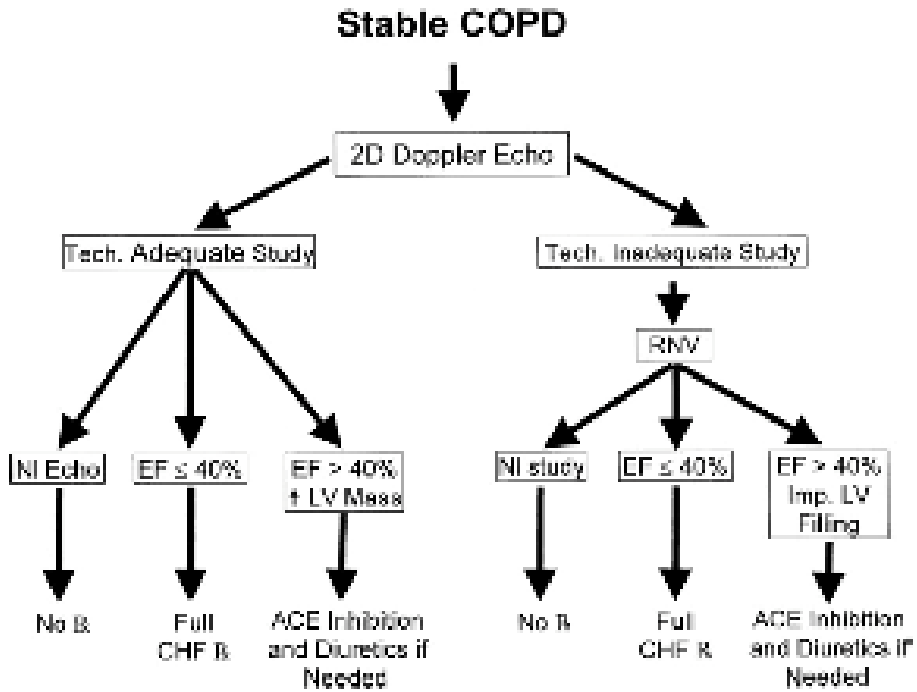
Journal of the American College of Cardiology

Published by Elsevier Inc.

Diagnostic and Therapeutic Challenges in Patients With Coexistent Chronic Obstructive Pulmonary Disease and Chronic Heart Failure



Evaluation of Heart Failure During COPD Exacerbation



Evaluation of Heart Failure in Stable COPD Patients

J Am Coll Cardiol 2007;49:171–80

Chronic obstructive pulmonary disease in patients admitted with heart failure

Journal of INTERNAL MEDICINE

K. K. Iversen[1], J. Kjaergaard[1], D. Akkan[1], L. Kober[1], C. Torp-Pedersen[2], C. Hassager[1], J. Vestbo[3,4], E. Kjoller[5] & The ECHOS-Lung Function Study Group*

	COPD (n = 182)	No COPD (n = 345)	P-value
Age (years), mean (95% CI)	73.7 (72.2–75.3)	71.2 (69.7–72.7)	0.02
Male (%)	64.7	62.8	0.70
Body mass index, mean (95% CI)	25.6 (24.6–26.5)	27.2 (26.5–27.9)	0.01
Diabetes (%)	15.3	13.1	0.50
Hyperlipidaemia (%)	25.1	32.0	0.14
Hypertension (%)	37.6	29.5	0.07
Previous myocardial infarction (%)	22.4	27.2	0.28
Previous stroke (%)	15.3	11.0	0.20
Atrial fibrillation (%)	40.0	38.8	0.85
Years of smoking, mean (95% CI)	39.3 (36.3–42.4)	29.6 (27.3–31.9)	<0.01
Smoking status (%)			
Previous	46.1	42.1	
Current	33.5	22.2	<0.01
NYHA class III or IV at admission (%)	55.5	58.6	0.52
LVEF, mean (95% CI)	41.3 (38.8–43.7)	37.7 (35.9–39.5)	0.02
Treated with diuretic at admission (%)	68.2	64.6	0.43
Treated with ACE inhibitors at admission (%)	34.1	36.7	0.62
Treated with beta-blockers at admission (%)	27.1	29.5	0.60

COPD, chronic obstructive pulmonary disease; LVEF, left ventricular ejection fraction; NYHA, New York Heart Association; ACE, angiotensin-converting enzyme.

In patients admitted with HF 35% have COPD and a medical history of COPD only reveals a minority of these patients leaving a considerable number of patients with COPD undiagnosed.

Patients with preserved LVEF had significant lower FEV1 and FEV1/FVC than patients with impaired LVEF

“treatment of HF improves 20% FVC”

”almost a third of the patients with impaired LVEF had COPD….seems relevant to perform spirometry – a simple, cost-effective, noninvasive and objective examination – in all patients admitted with HF in order to diagnose or rule out COPD”

Journal of Internal Medicine. 2008; 264: 361–369

Chronic obstructive pulmonary disease as an independent risk factor for cardiovascular morbidity

International Journal of COPD

We hypothesized that the diagnosis of "COPD" increases the risk of having CVD, independently of smoking history, age, gender, and lifestyle risks known to lead to CVD.

N= 18,342.
56% of COPD patients had CVD
26% of the non-COPD subjects had CVD

Table 3 Prevalence of CVD categories in COPD, non-COPD, and non-COPD smokers

Variables	% in COPD (SE) N = 958	% in non-COPD (SE) N = 17,384	P*	% in non-COPD smokers (SE) N = 8,220	P*
Coronary heart disease	16.1 (1.3)	6.1 (0.2)	<0.0001	7.5 (0.3)	<0.0001
Angina (Angina pectoris)	11.7 (1.2)	3.9 (0.2)	<0.0001	4.8 (0.3)	<0.0001
Myocardial infarction	14.8 (1.3)	4.8 (0.2)	<0.0001	6.1 (0.3)	<0.0001
Stroke	8.0 (1.0)	3.6 (0.2)	<0.0001	4.1 (0.2)	0.0002
Congestive heart failure	11.4 (1.3)	2.4 (0.1)	<0.0001	2.7 (0.2)	<0.0001
Poor circulation in legs	33.8 (1.9)	12.1 (0.3)	<0.0001	13.5 (0.4)	<0.0001
Irregular heart beat	29.0 (1.6)	12.0 (0.3)	<0.0001	12.7 (0.4)	<0.0001

International Journal of COPD 2009:4 337–349

Chronic obstructive pulmonary disease as an independent risk factor for cardiovascular morbidity

International Journal of COPD

Table 5 Stratified analysis: Odds ratios of CVD and individual CVD categories by age and gender

Variables	40–60 N = 11,232	>60 N = 7,110	P[†]	Male N = 7,847	Female N = 10,495	P[†]
Any CVD	3.1** (2.4, 4.0)	2.2** (1.7, 2.7)	0.01	2.2** (1.6, 2.9)	3.2** (2.5, 4.0)	0.08
Coronary heart disease	2.2** (1.3, 3.4)	1.8** (1.4, 2.3)	0.06	1.5* (1.1, 2.2)	2.5** (1.8, 3.6)	0.009
Angina (Angina pectoris)	2.3** (1.4, 3.8)	1.8** (1.3, 2.5)	0.06	1.9** (1.4, 2.7)	2.1** (1.4, 3.2)	0.6
Myocardial infarction	2.8** (1.8, 4.5)	1.7** (1.3, 2.4)	0.009	1.8** (1.2, 2.5)	2.7** (1.8, 3.9)	0.08
Stroke	1.1 (0.6, 2.2)	1.6* (1.1, 2.3)	0.8	1.6 (0.9, 2.5)	1.4 (0.8, 2.3)	0.9
Congestive heart failure	5.2** (2.9, 9.1)	3.1** (2.1, 4.7)	0.1	4.1** (2.5, 6.6)	3.5** (2.3, 5.6)	0.6
Poor circulation in legs	2.6** (1.9, 3.5)	2.2** (1.7, 2.8)	0.1	1.9** (1.4, 2.6)	2.9** (2.2, 3.8)	0.05
Irregular heart beat	2.8** (2.1, 3.7)	1.9** (1.5, 2.5)	0.03	2.1** (1.6, 2.8)	2.6** (2.0, 3.3)	0.4

Chronic obstructive pulmonary disease as an independent risk factor for cardiovascular morbidity

International Journal of COPD

We believe that the results of this study will increase awareness of COPD as an independent risk factor for CVD. Better understanding of this association will help us to make newer guidelines which will require us to screen for presence of COPD in all patients with heart disease and vice versa. This should lead to amendment of various guidelines, which should include control of COPD, along with control of blood pressure, low-density lipoprotein, cholesterol, and other CVD risk factors.

International Journal of COPD 2009:4 337–349

GRUPO DE INSUFICIENCIA CARDIACA

XII Reunión de Insuficiencia Cardíaca

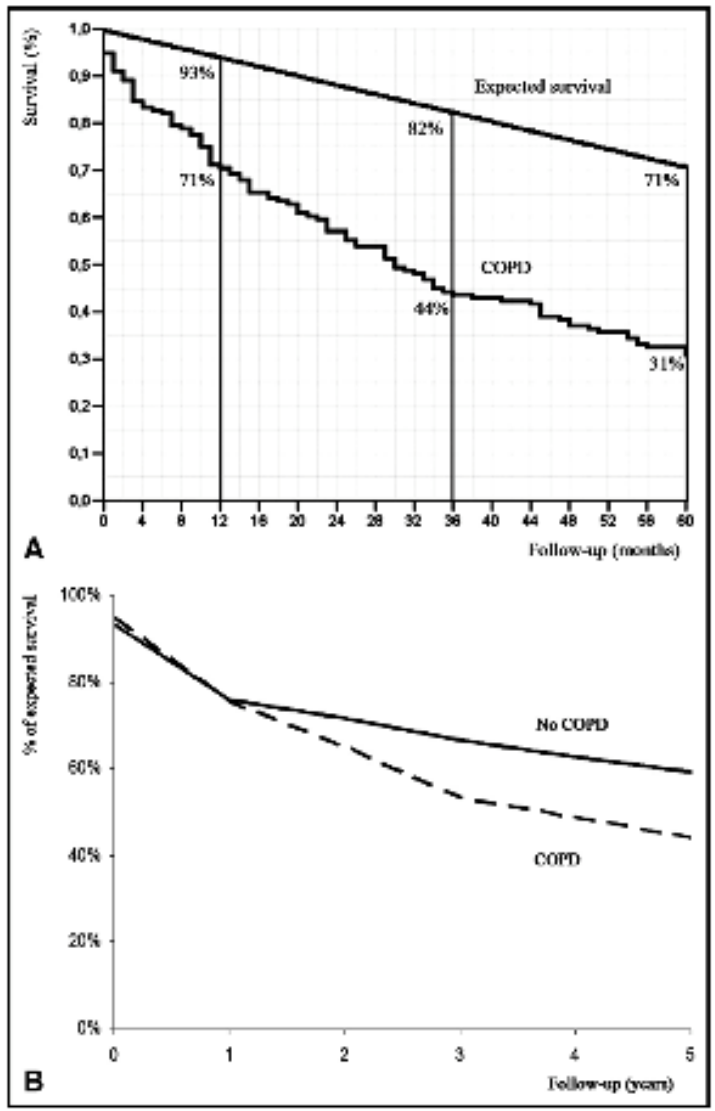
¿Es un factor pronóstico la coexistencia de la EPOC y la IC?

Impact of Chronic Obstructive Pulmonary Disease on Long-Term Outcome of Patients Hospitalized for Heart Failure

Dan Rusinaru, MD, Imen Saaidi, MD, Stephanie Godard, MD, Haïfa Mahjoub, MD, Caroline Battle, MD, and Christophe Tribouilloy, MD, PhD*

799 patients (mean age 75 ± 12 years).
19.5% had COPD
Beta blockers were administered less often in patients with COPD (6,1% at discharge and 10% during the entire follow-up).

"the deleterious effect of COPD on survival was obvious after 1-year of follow-up. Although co-morbid COPD had a relatively limited impact on short-term prognosis, the influence on 5-year outcome was independent of left ventricular function and was considerable."



Am J Cardiol 2008;101:353–358

European Journal of Heart Failure (2009) 11, 130–139
doi:10.1093/eurjhf/hfn013

REVIEW

Heart failure and chronic obstructive pulmonary disease: diagnostic pitfalls and epidemiology

Table 5 Prognostic implications of chronic obstructive pulmonary disease in patients with HF

Reference	N	Prevalence chronic obstructive pulmonary disease (%)	LVEF (%)	Outcome	Follow up	Univariate analysis (±95% CI)	Multivariable analysis (±95% CI)
							1.69)
Braunstein[114]	122 630	26	Any	Death	1 year	RR 1.31 (1.27–1.34)	RR 1.12 (1.09–1.16)
Alexander[353]	90 316	—	Any	Death	1 year	—	RR 1.19 (1.15–1.22)
Jong[354]	38 702	—	Any	Death	1 year	—	OR 1.13 (1.07–
Braunstein[114]	122 630	26	Any	HF hospitalization	1 year	RR 1.49 (1.45–1.53)	RR 1.40 (1.36–1.44)
Harjai[112]	434	18	Any	HF hospitalization	30 days	—	OR 2.2 (1.1–4.5)

Val-HeFT trial : Chronic obstructive pulmonary disease strongly predicted non-cardiovascular mortality (HR 2.50 [1.58– 3.96) and hospitalizations (HR1.71[1.43–2.06],

Respiratory infections are associated with decompensation in 10–16% of admissions. COPD prolongs inpatient stay, increases risk of readmission, and independently predicts greater financial costs

First published online: April 15, 2010

The prognostic importance of lung function in patients admitted with heart failure

Iversen KK, Kjaergaard J, Akkan D, Kober L, Torp-Pedersen C, Hassager C, Vestbo J, Kjoller E; ECHOS Lung Function Study Group.

532 patients admitted with a clinical diagnosis of HF. All patients underwent spirometry and echocardiography

FEV_1 had independent prognostic value after adjusting for demographic variables, known risk factors, ejection fraction, and self-reported chronic obstructive pulmonary disease

Conclusion

Pulmonary function provides significant prognostic information for all-cause mortality in patients admitted with HF. Spirometry therefore seems to be worth considering for all patients admitted with HF in order to identify patients at high risk.

Eur J Heart Fail (2010)doi: 10.1093/eurjhf/hfq050

GRUPO DE INSUFICIENCIA CARDIACA

XII Reunión de Insuficiencia Cardíaca

¿Existen implicaciones en el tratamiento?

Anticolinérgicos

Beta bloqueantes adrenérgicos

International Journal of COPD Open Access Full Text Article

A systematic review of the cardiovascular risk of inhaled anticholinergics in patients with COPD

Positive association between anticholinergics and adverse cardiovascular outcomes

Author	Year published	Study design	Drug evaluated
Anthonisen[9] (LHS)	2002	Prospective, randomized, placebo-controlled, double-blind	Ipratropium vs placebo
Wedzicha[10] (INSPIRE)	2008	Prospective, randomized, double-blind	Tiotropium vs salmeterol/fluticasone
Singh[7]	2008	Meta-analysis	Ipratropium or tiotropium vs placebo or LABA or LABA-ICS
Lee[11]	2008	Nested case control	Ipratropium vs LABA, ICS or theophylline
Macie[12]	2008	Nested case control	Ipratropium vs LABA or ICS
Guite[13]	1999	Observational cohort	Ipratropium vs LABA or ICS
Ringback[14]	2003	Observational cohort	Ipratropium vs LABA or ICS

Negative association between anticholinergic and adverse cardiovascular outcomes

Author	Year published	Study design	Drug evaluated
Oba[8]	2008	Meta-analysis	Re-analysis of Singh[7] meta-analysis
Tashkin[16]	2008	Prospective, randomized, placebo-controlled, double-blind	Tiotropium vs placebo
Kesten[15]	2006	Pooled safety analysis	Tiotropium vs placebo
Salpeter[17]	2006	Meta-analysis	Ipratropium or tiotropium vs LABA or LABA-ICS
Rodrigo[18]	2007	Meta-analysis	Ipratropium or tiotropium vs LABA or LABA-ICS
de Luise[19]	2007	Observational cohort	Tiotropium
Sin[20]	2000	Observational cohort	Ipratropium
Jara[21]	2007	Observational cohort	Tiotropium vs LABA

International Journal of COPD 2009:4 253–263

Do Inhaled Anticholinergics Increase or Decrease the Risk of Major Cardiovascular Events?

A Synthesis of the Available Evidence

Shelley R. Salpeter[1,2]

" treatment has been shown to substantially increase the risk of the development of dry mouth, urinary retention and sinus tachycardia, indicating significant systemic effects of inhaled anticholinergics. For this reason, it is possible that inhaled anticholinergics can exert adverse systemic cardiovascular effects.Inhaled anticholinergics increase the incidenceof sinus tachycardia, which is a supraventriculararrhythmia"

There have been conflicting data concerning the cardiovascular risk associated with the inhaled anticholinergic agents ipratropium bromide and tiotropium bromide. Observational studies and some randomized trials have shown an increase in adverse cardiovascular events, whereas pooled data from all available trials show no significant effect on the proportion of patients with adverse cardiovascular events and a trend towards reduced incidence of events over time

Drugs 2009; 69 (15): 2025-2033

CHEST

Original Research

COPD

Cardiovascular Safety of Tiotropium in Patients With COPD

Bartolome Celli, MD, FCCP; Marc Decramer, MD; Inge Leimer, PhD; Ulrich Vogel, MD; Steven Kesten, MD; and Donald P. Tashkin, MD, FCCP

The primary objective … to examine whether there were specific events that might show either a decreased or an increased risk with tiotropium. Attention was focused on selected CV events, including a composite CV end point and mortality.

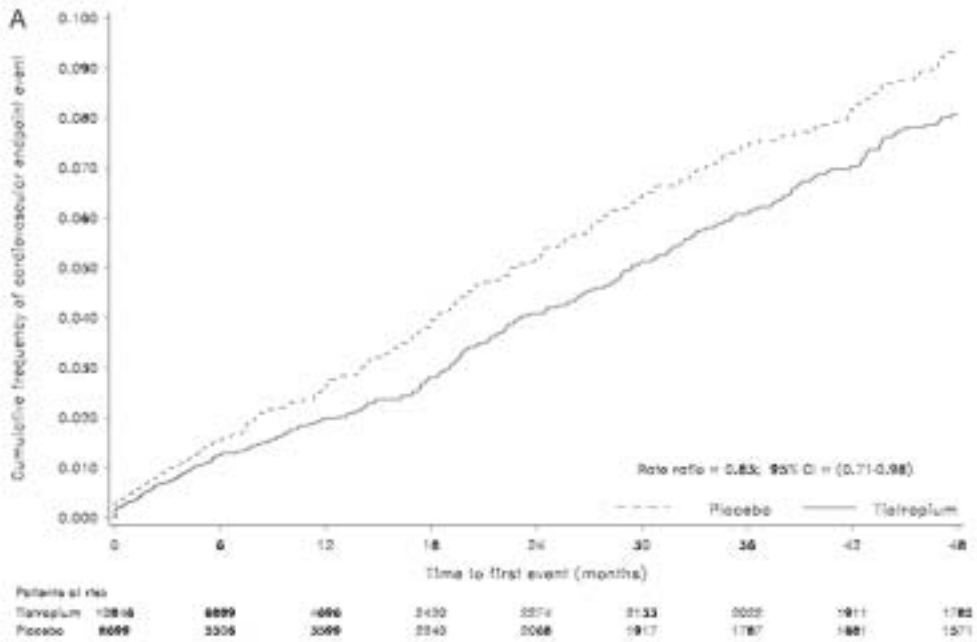
Table 4—*IRs, RRs, and 95% CIs for Cardiac Adverse Events in the Pooled Analysis of 30 Trials*

	Placebo n = 5,689		Tiotropium n = 10,846		
Cardiac Events	No.	IR	No.	IR	RR (95% CI)
Cardiac disorders (SOC)	788	7.23	867	6.64	0.91 (0.83-1.01)
Ischemic heart disease	290	2.53	322	2.36	0.93 (0.79-1.09)
Atrial fibrillation/flutter	147	1.26	159	1.15	0.92 (0.74-1.16)
Cardiac arrest	31	0.26	23	0.16	0.68 (0.39-1.16)
Cardiac failure	261	2.26	252	1.82	0.82 (0.69-0.98)*
Myocardial infarction	111	0.95	101	0.72	0.78 (0.59-1.02)
Palpitations	58	0.49	85	0.61	1.16 (0.83-1.64)
Supraventricular tachycardia	28	0.24	37	0.26	1.09 (0.67-1.79)
Tachycardia (nonventricular)	52	0.44	66	0.47	1.03 (0.71-1.50)
Ventricular tachycardia/fibrillation	28	0.24	22	0.16	0.67 (0.38-1.19)

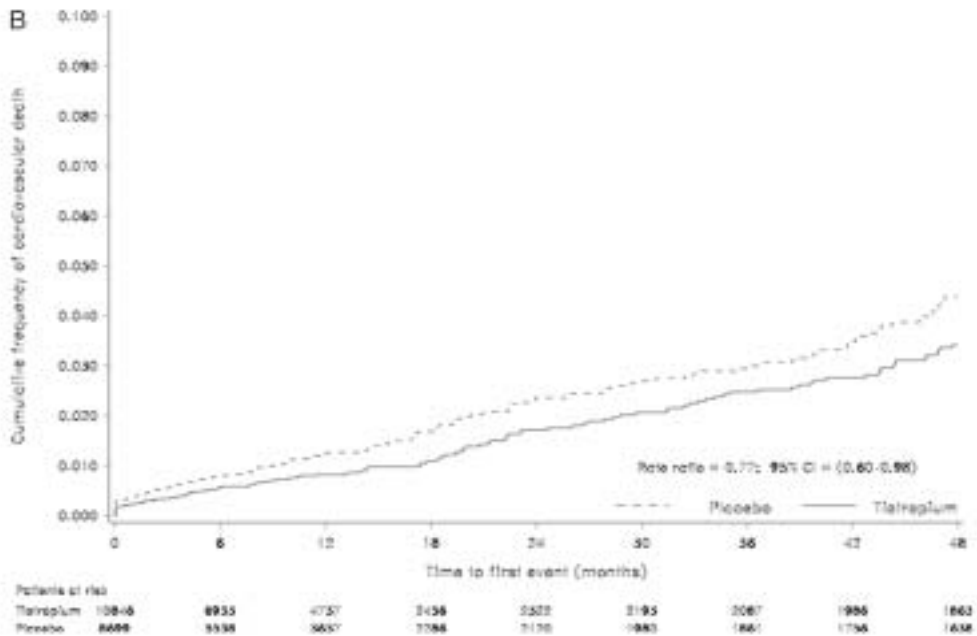
Chest 2010;137;20-30

Cardiovascular Safety of Tiotropium in Patients With COPD

Cardiovascular events



Cardiovascular deaths



Chest 2010;137;20-30

Under-use of beta-blockers in COPD patients

- "despite the clear evidence of the effectiveness of BB, there is a general reluctance to use them in patients with COPD, due to a perceived contraindication and fear of inducing adverse reactions and bronchspasm"

- < 30% of HF patients received β blockers

- Long-term BB is underused in CHF … due to the entrenched belief that it may precipitate respiratory deterioration when COPD coexists with CHF. Beta-blockers remain underprescribed to patients with CHF and COPD… despite extensive safety data in patients with moderate to severe COPD.

N Engl J Med 1998;339:489-97
Int J Clin Pharmacol Ther 2001;39:383-8
Q J Med 2005; 98:493–497
J Am Coll Cardiol 2007;49:171–80

Journal of the American College of Cardiology

Published by Elsevier Inc.

Diagnostic and Therapeutic Challenges in Patients With Coexistent Chronic Obstructive Pulmonary Disease and Chronic Heart Failure

BB in Patients With CHF and COPD

Selective beta-1 adrenergic blockade

Respiratory symptoms and FEV1 are not significantly worsened by selective beta-1blockade (B1B) in COPD patients……. Selective B1B does not attenuate beta-2 receptor (B2R) agonist-induced bronchodilatation . The cumulative evidence from trials and meta-analysis indicates that selective B1B should not be withheld when COPD coexists with cardiovascular diseases, because the benefits of selective B1B in cardiac patients with COPD far outweigh the risks .

J Am Coll Cardiol 2007;49:171–80

Journal of the American College of Cardiology

Published by Elsevier Inc.

Diagnostic and Therapeutic Challenges in Patients With Coexistent Chronic Obstructive Pulmonary Disease and Chronic Heart Failure

Nonselective BB combined with alpha-blockade

The safety profile of carvedilol and labetalol that combine alpha-adrenergic blockade with nonselective BB is not as well-established as that of selective B1B in COPD.

Data regarding the use of carvedilol in COPD patients with reversible airflow obstruction are not available. In contrast to selective B1B, nonselective blockade attenuates B2R agonist-induced bronchodilatation.

J Am Coll Cardiol 2007;49:171–80

Journal of the American College of Cardiology

Published by Elsevier Inc.

Diagnostic and Therapeutic Challenges in Patients With Coexistent Chronic Obstructive Pulmonary Disease and Chronic Heart Failure

"In summary, BB therapy should be attempted with selective beta-1 adrenergic blockade or combined nonselective beta- and alpha-adrenergic blockade in all CHF patients with concomitant stable COPD who do not have reversible airway obstruction. Selective BB is recommended in patients with CHF and COPD who have reversible airway obstruction in the absence of safety data regarding combined nonselective beta- and alpha-adrenergic blockade."

J Am Coll Cardiol 2007;49:171–80

THORAX

Use of β blockers and the risk of death in hospitalised patients with acute exacerbations of COPD

To examine the use of b blockers (both cardioselective and non-cardioselective) in patients admitted to a university hospital with acute exacerbations of COPD and to determine whether the administration of these drugs was associated with in-hospital mortality.

Table 3 Predictors of in-hospital mortality

Parameter	Unadjusted OR for death (95% CI)	p Value	Adjusted OR for death (95% CI)	p Value
β blocker use	1.10 (0.50 to 2.44)	0.80	0.39 (0.14 to 0.99)	0.049
Short-acting β agonist use	0.08 (0.04 to 0.17)	<0.001	0.08 (0.02 to 0.30)	<0.001
Age (per year of life)	1.05 (1.02 to 1.08)	0.001	1.05 (1.02 to 1.09)	0.004
Number of prior AECOPD	1.27 (1.12 to 1.44)	<0.001	1.22 (1.01 to 1.47)	0.037
Length of stay (per day)	1.06 (1.04 to 1.09)	<0.001	1.05 (1.02 to 1.08)	<0.001
Respiratory failure	11.5 (6.04 to 22.0)	<0.001	10.2 (4.58 to 22.6)	<0.001
Congestive heart failure	3.58 (1.92 to 6.67)	<0.001	4.54 (1.53 to 13.5)	0.006
Cerebrovascular disease	3.41 (1.25 to 9.32)	0.016	12.9 (3.10 to 53.3)	<0.001
Chronic liver disease	3.42 (0.73 to 15.9)	0.12	12.1 (2.06 to 71.5)	0.006

OR, odds ratio; CI, confidence interval; AECOPD, acute exacerbation of chronic obstructive pulmonary disease.

"the use of b blockers in patients admitted with acute exacerbations of COPD is not deleterious and may be associated with a beneficial effect on mortality. These results have direct implications for the use of b blockers in patients hospitalised for acute exacerbations of COPD and suggest that they can be safely continued in this setting".

Thorax 2008;63:301–305

Enfermedad pulmonar obstructiva crónica en pacientes ingresados por insuficiencia cardiaca. Resultados del Grupo para el Estudio y Significado de la Anemia en la Insuficiencia Cardiaca (GESAIC)

Objetivo: estudiar la prevalencia de EPOC en pacientes ingresados por IC ,definir su perfil clínico y la relación con el tratamiento con bloqueadores beta

- 98/391 enfermos (25,1%) diagnóstico clínico o espirométrico de EPOC
- En dos tercios: diagnóstico sólo por criterios clínicos
- El perfil del enfermo que hemos encontrado corresponde al de un hombre de edad avanzada con frecuente comorbilidad y con sobrepeso.

- Tratamiento con BB en el 18,4 (antes) frente al 27,6% (alta) ($p<0,05$).
- Durante el ingreso se suspendió el tratamiento con BB en 31 de 111 pacientes (27,9%)
- En el 29,6% de los pacientes con EPOC el BB se instauró durante el ingreso

Solo la FEVI ($p< 0,03$) y el tratamiento con BB previo ($p< 0,001$) se asociaron a mayor prescripción de tratamiento BB al alta

Conclusión

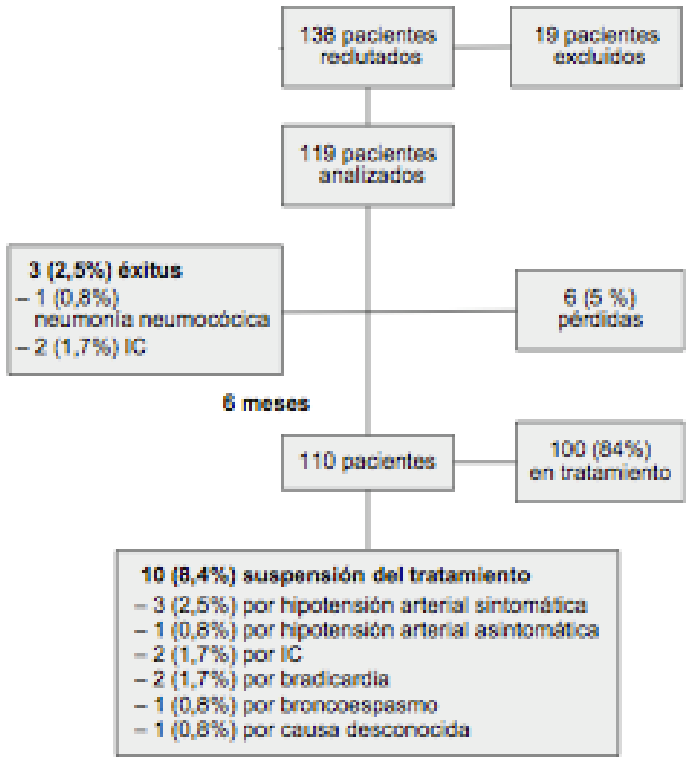
Aumento en el tratamiento con BB condicionado por el deterioro de la función del VI y que no se ve interferido por la presencia simultánea de EPOC.

Med Clin (Barc). 2010;134(10):427–432

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

Objetivo: determinar la seguridad y la tolerancia de los BB en pacientes >70 años con IC tratados en servicios de medicina interna.

Variable	n (%)
Edad	78,9 (5,8)*
Mujeres	74 (62,2)
Hipertensión arterial	104 (87,4)
Diabetes mellitus	45 (37,8)
Tabaquismo activo o pasado	34 (28,8)
Fibrilación auricular	51 (42,9)
Cardiopatía isquémica	55 (46,2)
Enfermedad arterial periférica	25 (21)
Enfermedad cerebrovascular	17 (14,3)
Anemia	27 (22,7)
Asma	3 (2,5)
Marcapasos	10 (8,4)
EPOC	19 (10,9)
FE < 50%	51 (42,9)



Conclusión

BB bien tolerados y seguros en casi el 80% de los pacientes ancianos con IC

No existen razones que justifiquen su falta de uso

Med Clin (Barc) 2010;13: 141-5

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QUARTERLY FOCUS ISSUE: HEART FAILURE

Clinical Research

Differences Between Beta-Blockers in Patients With Chronic Heart Failure and Chronic Obstructive Pulmonary Disease

A Randomized Crossover Trial

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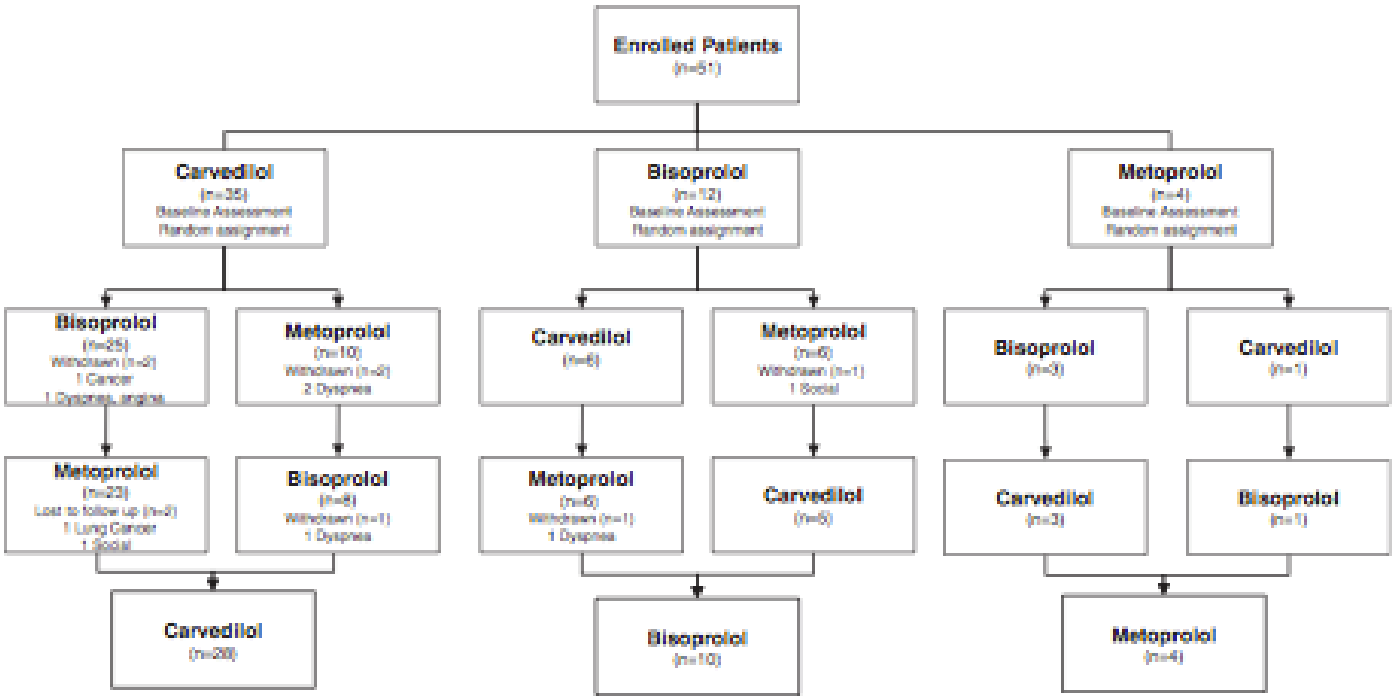
Objectives The purpose of this study was to determine the respiratory, hemodynamic, and clinical effects of switching between β1-selective and nonselective beta-blockers in patients with chronic heart failure (CHF) and chronic obstructive pulmonary disease (COPD).

Background Carvedilol, metoprolol succinate, and bisoprolol are established beta-blockers for treating CHF. Whether differences in beta-receptor specificities affect lung or vascular function in CHF patients, particularly those with coexistent COPD, remains incompletely characterized.

Beta-Blockade in Heart Failure and COPD

J Am Coll Cardiol 2010; 55:1780–7

Age: 66±12 y; 78% male;
NYHA II-III 88%



Beta-Blockade in Heart Failure and COPD

J Am Coll Cardiol 2010; 55:1780–7

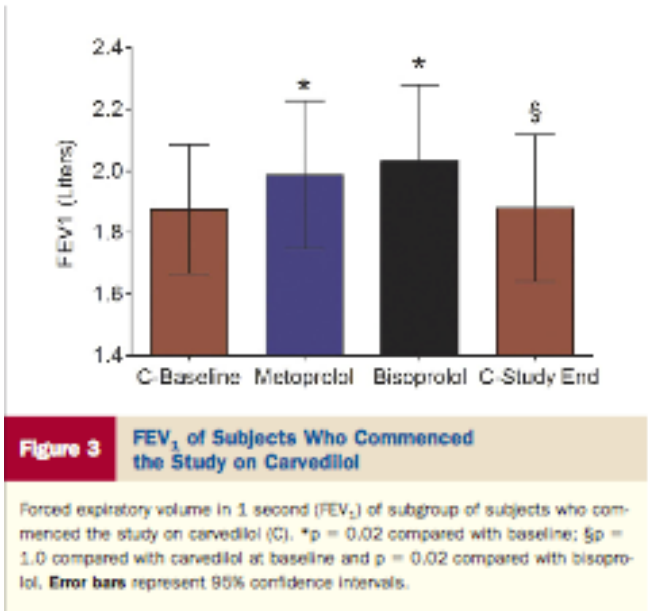


Figure 3 **FEV_1 of Subjects Who Commenced the Study on Carvedilol**

Forced expiratory volume in 1 second (FEV_1) of subgroup of subjects who commenced the study on carvedilol (C). *p = 0.02 compared with baseline; §p = 1.0 compared with carvedilol at baseline and p = 0.02 compared with bisoprolol. **Error bars** represent 95% confidence intervals.

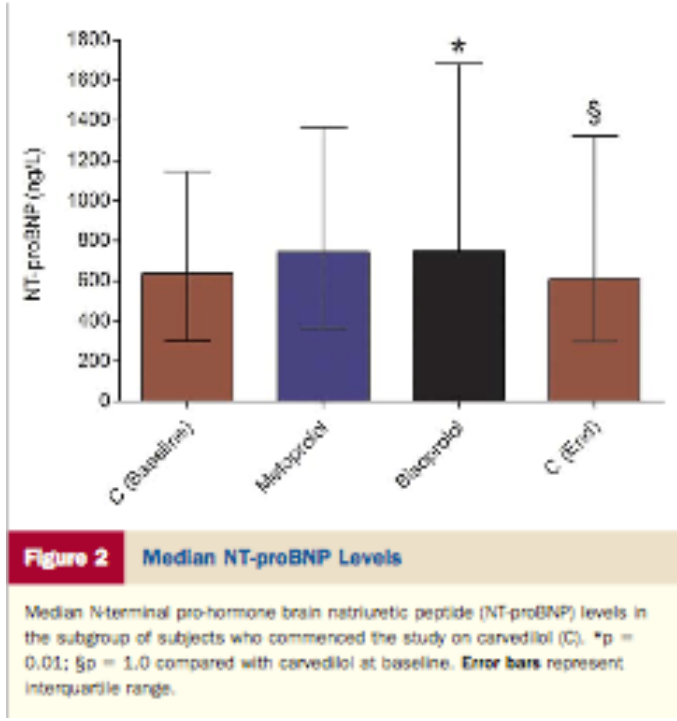


Figure 2 **Median NT-proBNP Levels**

Median N-terminal pro-hormone brain natriuretic peptide (NT-proBNP) levels in the subgroup of subjects who commenced the study on carvedilol (C). *p = 0.01; §p = 1.0 compared with carvedilol at baseline. **Error bars** represent interquartile range.

Clinical effects

- No change in brachial artery pressure.
- 6MWD: There was no clinically significant difference.
- No changes in left ventricular dimensions or ejection fraction were detected,

Safety

5 (10%) drug-related adverse events necessitating withdrawal from our study

The present study demonstrates that in a cohort of patients with CHF with or without coexistent COPD who are able to tolerate beta-blockers, switching between B1Bs and carvedilol

En resumen ……...

- EPOC e IC con frecuencia se presentan de manera conjunta
  Es necesario el estudio de la función pulmonar en los pacientes con IC y realizar estudio de la función cardíaca en los enfermos con EPOC.
- El deterioro de la función pulmonar es factor de peor pronóstico
- El tratamiento anticolinérgico en la EPOC es eficaz y seguro desde el punto de vista de morbimortalidad cardiovascular.
- El tratamiento con BB en pacientes con IC y EPOC es eficaz y seguro y necesario.

"La verdadera esencia de la medicina cardiovascular es el reconocimiento precoz de la insuficiencia cardíaca"

Sir Thomas Lewis 1933