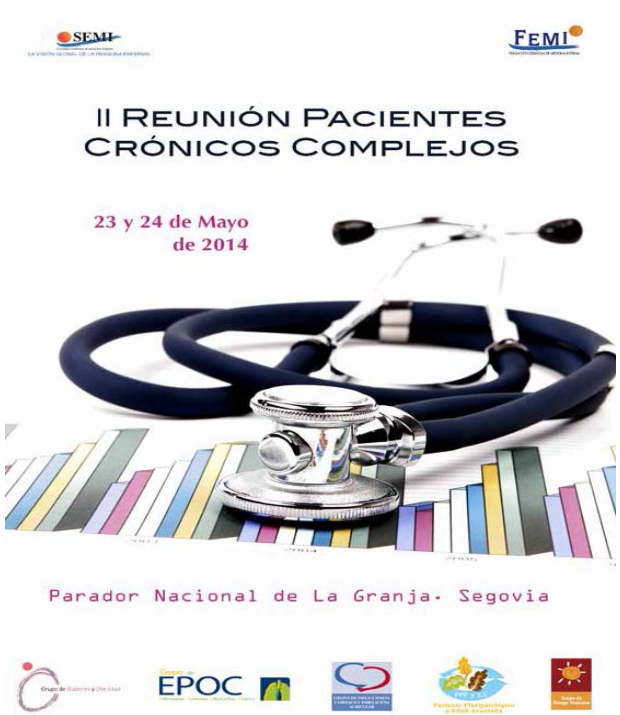
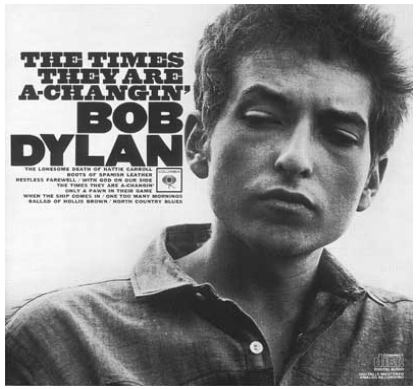
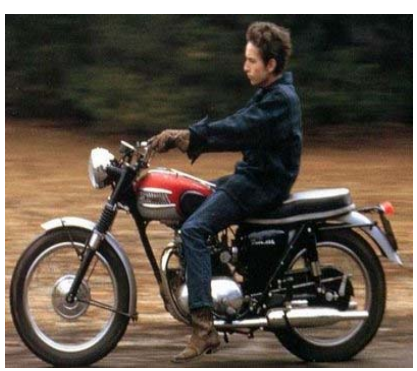
ACTUALIZACION EN EPOC



P.Almagro
Unidad de Geriatría de Agudos
Servicio de Medicina Interna
Hospital Universitario Mutúa de Terrassa





The times they are changing

COPD: Journal of Chronic Obstructive Pulmonary Disease, 7:345–351
ISSN: 1541-2555 print / 1541-2563 online

DOI: 10.3109/15412555.2010.510546

informa
healthcare

ORIGINAL RESEARCH

Modification of COPD Presentation During the Last 25 Years

Respiration

Clinical Investigations

Respiration
DOI: 10.1159/000338792

Received: December 5, 2011
Accepted after revision: April 10, 2012
Published online: July 4, 2012

Anemia and Survival in Chronic Obstructive Pulmonary Disease: A Dichotomous Rather than a Continuous Predictor

Global Initiative for Chronic Obstructive Lung Disease

GLOBAL STRATEGY FOR THE DIAGNOSIS, MANAGEMENT, AND PREVENTION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE NHLBI/WHO WORKSHOP REPORT

NATIONAL INSTITUTES OF HEALTH
National Heart, Lung, and Blood Institute

GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE

GLOBAL STRATEGY FOR THE DIAGNOSIS, MANAGEMENT, AND PREVENTION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE
NHLBI/WHO WORKSHOP REPORT
(Based on an April 1998 meeting)

NHLBI

International Journal of COPD

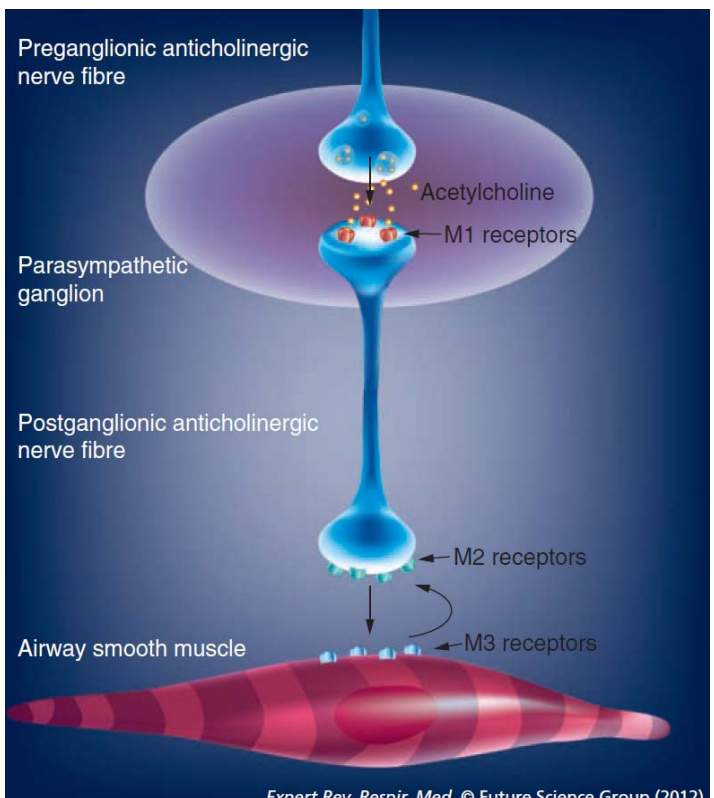
Dovepress
open access to scientific and medical research

Open Access Full Text Article

REVIEW

Ten years of tiotropium: clinical impact and patient perspectives

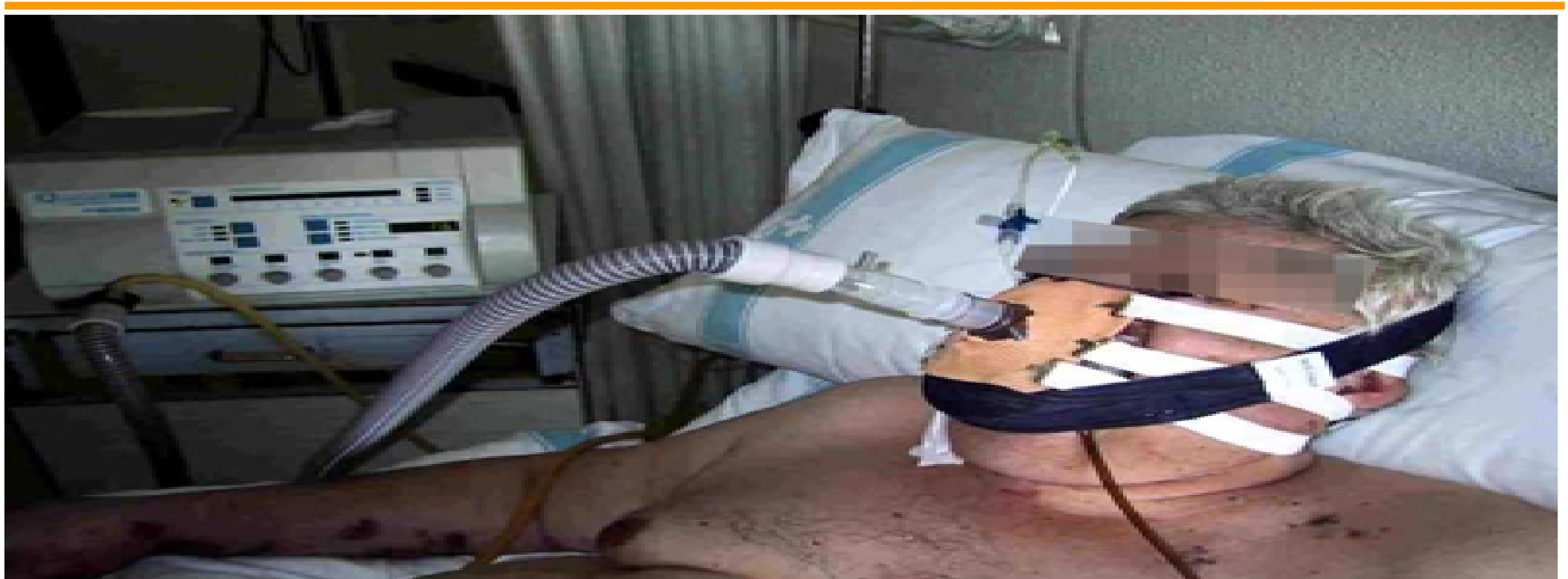
International Journal of COPD 2013:8 117–125



- Mejora la función pulmonar
- Disminuye las exacerbaciones
- Mejora la calidad de vida y la disnea
- Mejora la capacidad de esfuerzo
- Disminuye la mortalidad ¿?


LA EPOC ES UNA ENFERMEDAD
PREVENIBLE Y TRATABLE
MAS ALLA DEL
FEV1

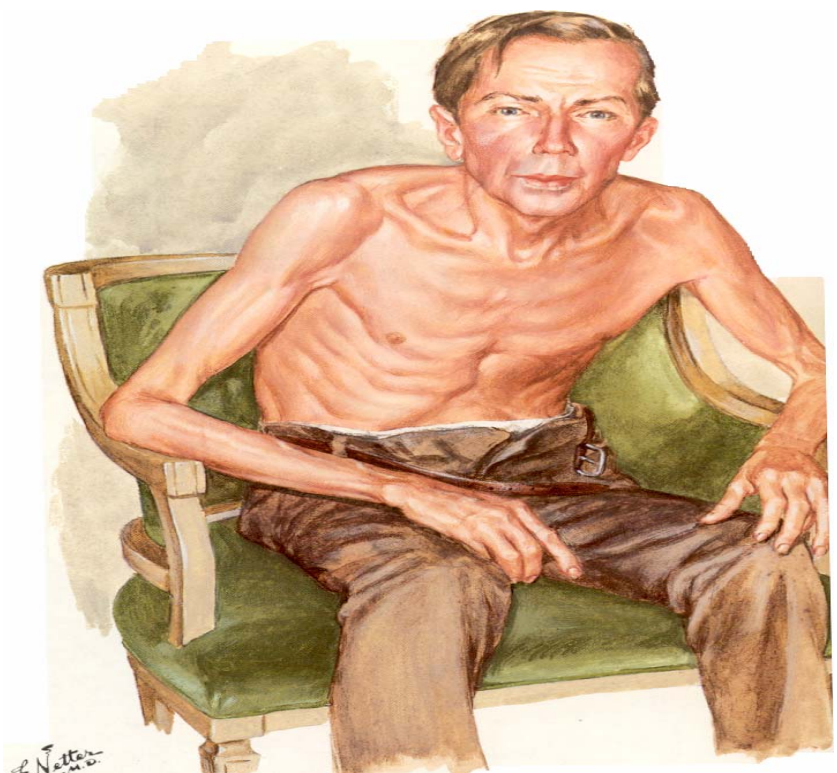
EXACERBACIONES

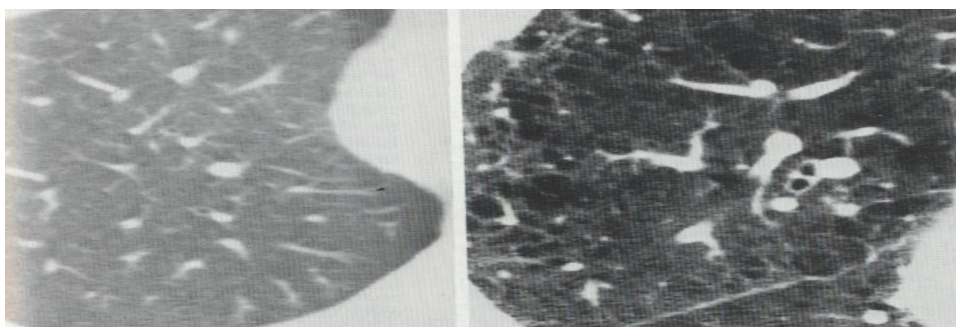


The NEW ENGLAND JOURNAL of MEDICINE

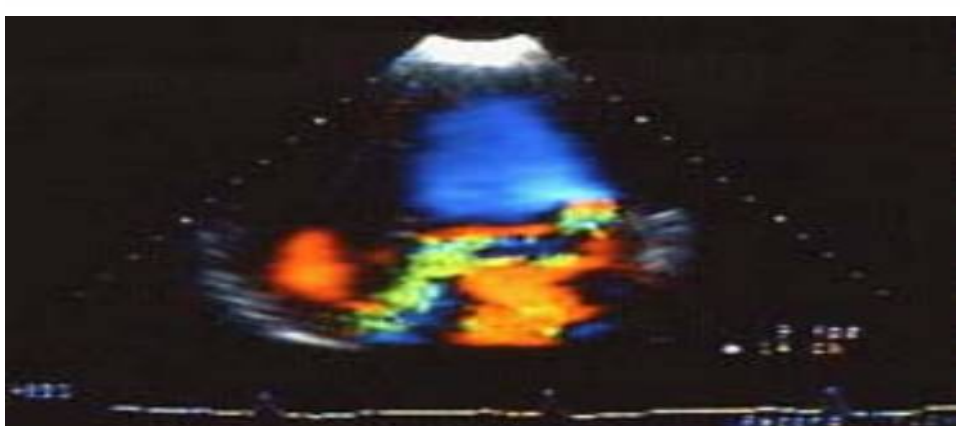
ORIGINAL ARTICLE

Percent Emphysema, Airflow Obstruction, and Impaired Left Ventricular Filling





N ENGL J MED 362;3 NEJM.ORG JANUARY 21, 2010



Arch Bronconeumol. 2014;**50(Supl 1)**:1-16

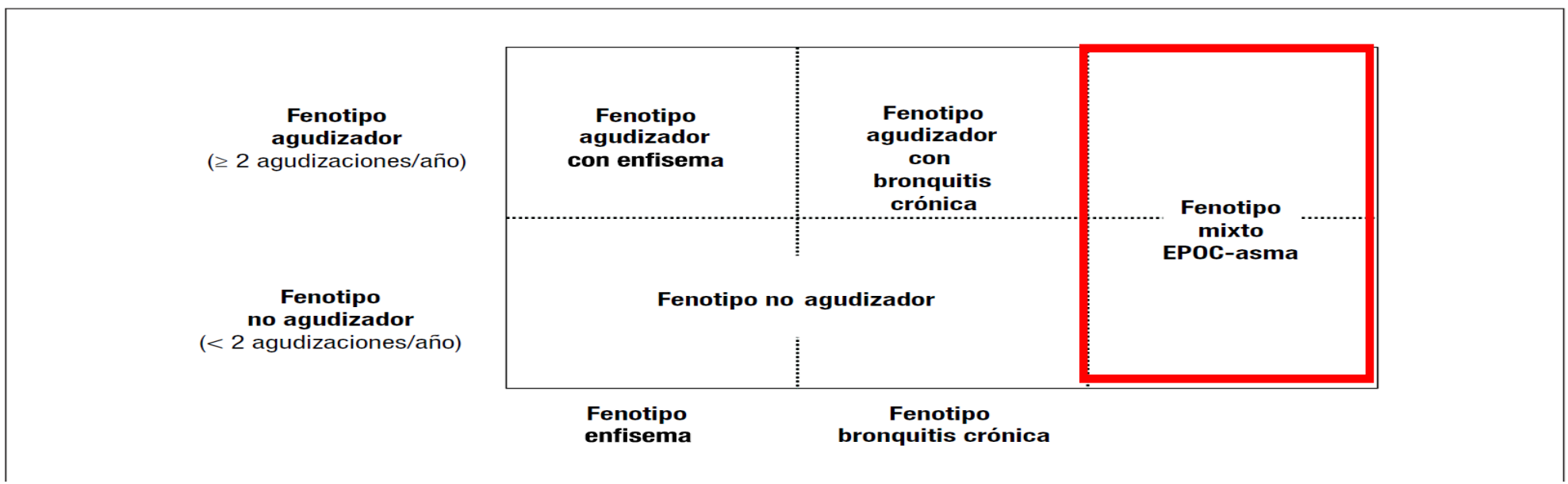
ELSEVIER DOYMA

ARCHIVOS DE BRONCONEUMOLOGIA

www.archbronconeumol.org

Guía española de la EPOC (GesEPOC). Actualización 2014

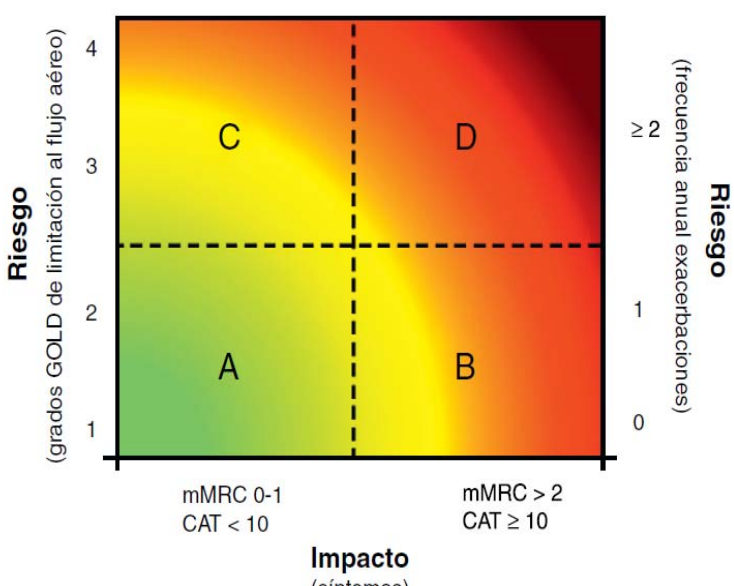
Spanish Guideline for COPD (GesEPOC). Update 2014



COPD, a common preventable and treatable disease, is characterized by persistent airflow limitation that is usually progressive and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases.

Exacerbations and comorbidities contribute to the overall severity in individual patients.

GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE (GOLD):
January 2014



INDIVIDUO GENÉTICAMENTE SUSCEPTIBLE

AGRESIÓN TABACO

INFLAMACIÓN

LESIÓN TISULAR

ENFERMEDAD

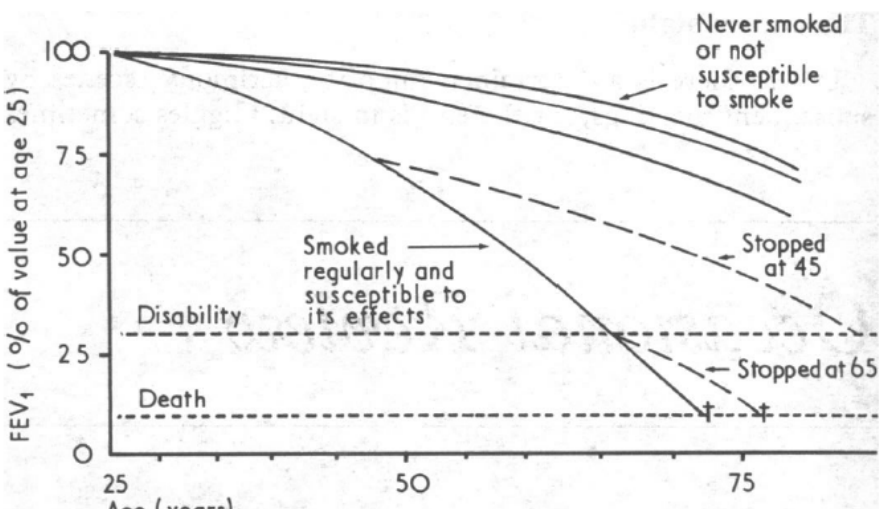
Occasional Review

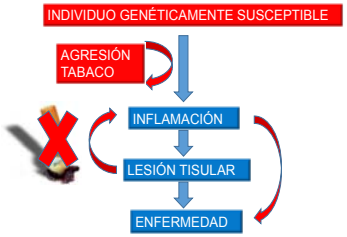
The natural history of chronic airflow obstructio

CHARLES FLETCHER, RICHARD PETO

British Medical Journal, 1977, 1, 1645-1648


The natural history of chronic bronchitis and emphysema

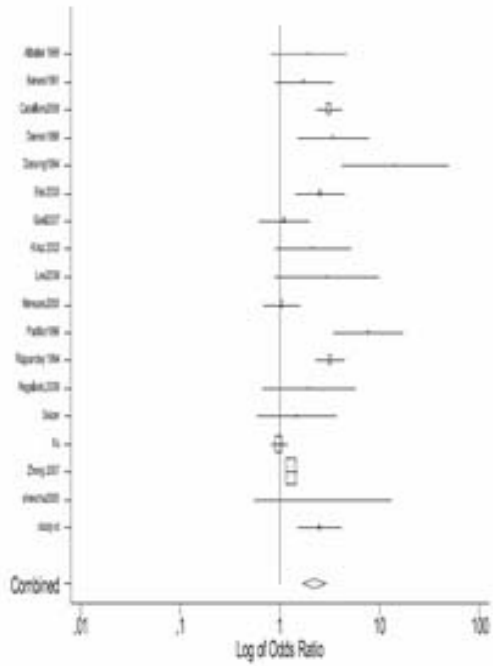




RESPUESTA A PARTÍCULAS NOCIVAS O GASES

Is Exposure to Biomass Smoke the Biggest Risk Factor for COPD Globally?

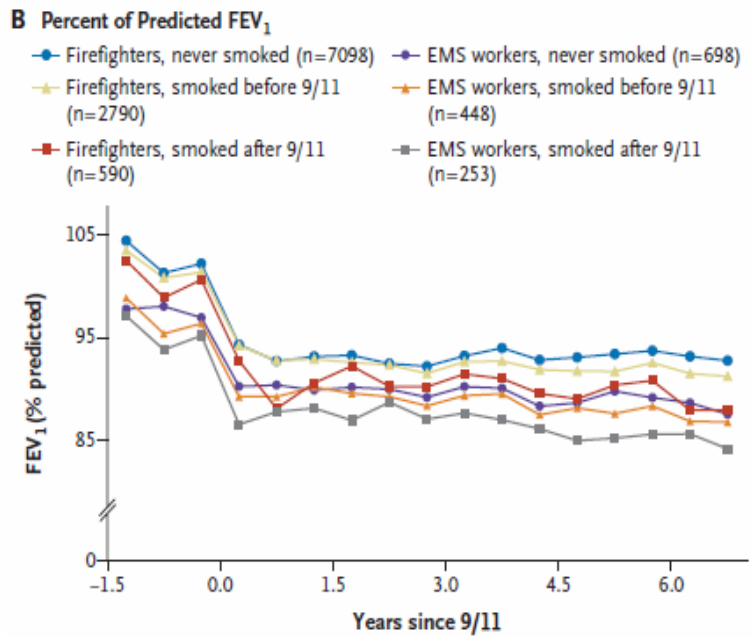
CHEST / 138 / 1 / JULY, 2010



The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 APRIL 8, 2010 VOL. 362 NO. 14

Lung Function in Rescue Workers at the World Trade Center after 7 Years



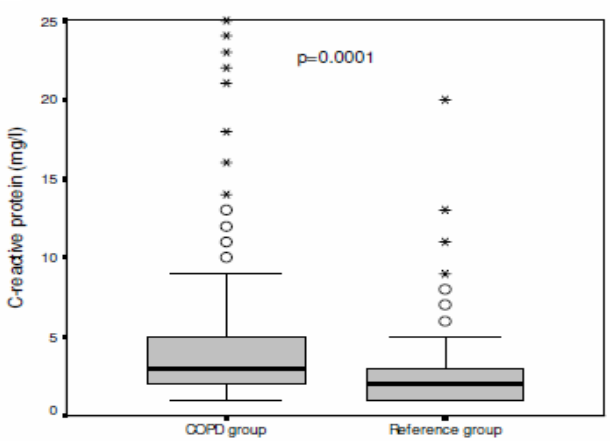
Garcia-Rio *et al. Respiratory Research* 2010, **11**:63
http://respiratory-research.com/content/11/1/63

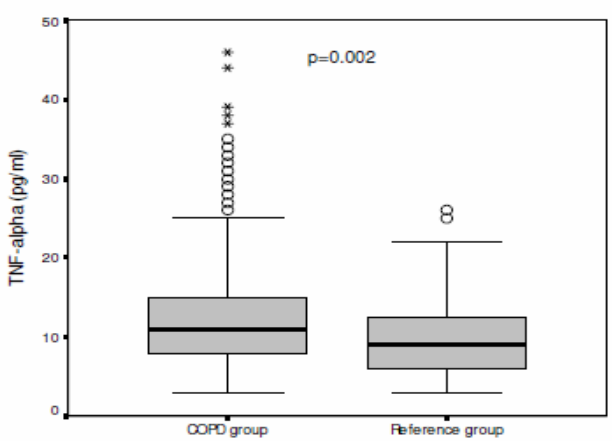
RESPIRATORY RESEARCH

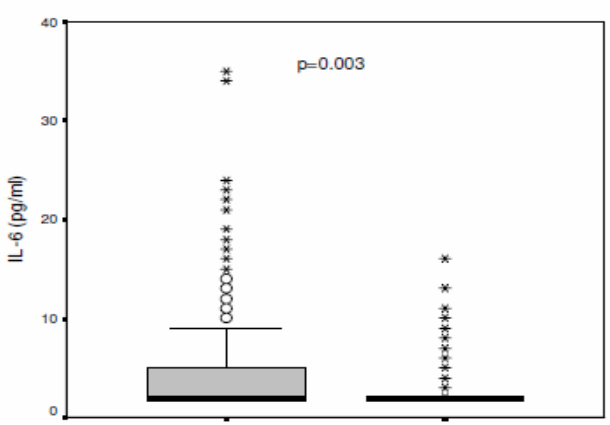
RESEARCH Open Access

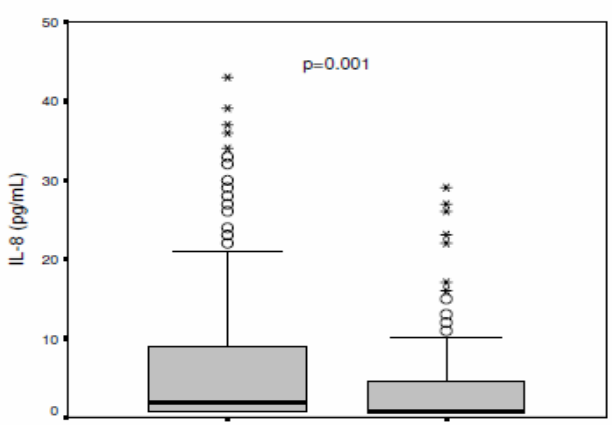
Systemic inflammation in chronic obstructive pulmonary disease: a population-based study

Francisco Garcia-Rio*[1], Marc Miravitlles[2], Joan B Soriano[3], Luis Muñoz[4], Enric Duran-Tauleria[5], Guadalupe Sánchez[6], Víctor Sobradillo[7], Julio Ancochea[8] and EPI-SCAN Steering Committee









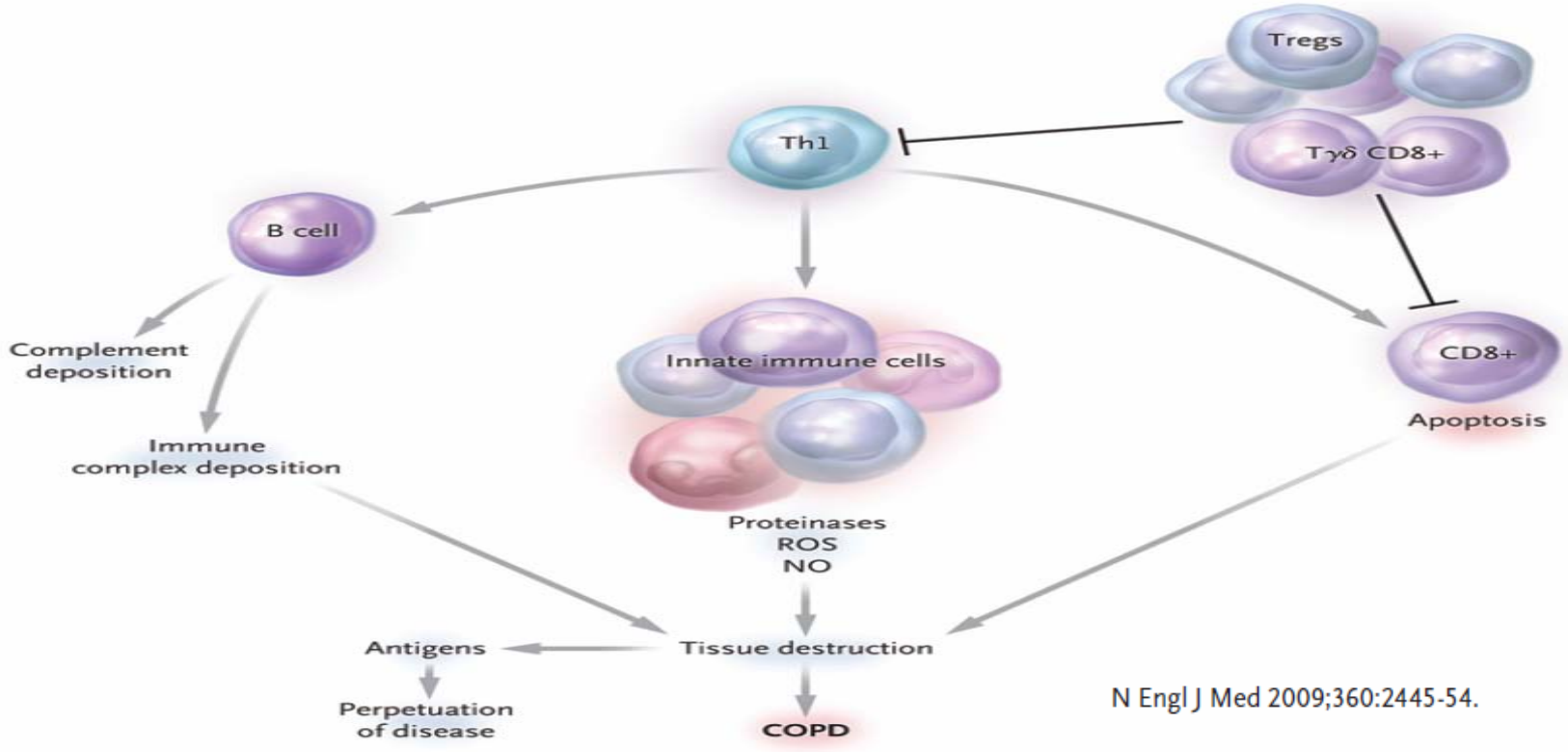
The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

MECHANISMS OF DISEASE

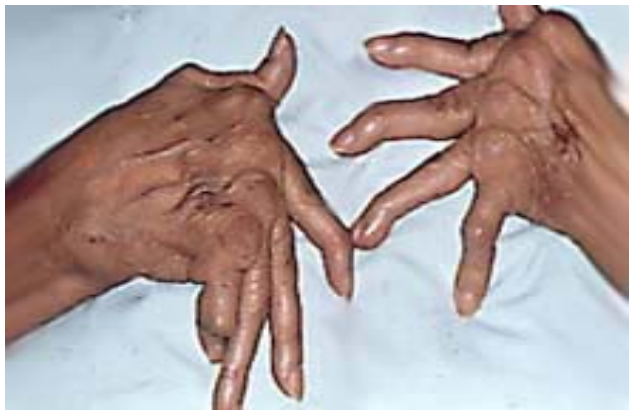
Immunologic Aspects of Chronic Obstructive Pulmonary Disease

Manuel G. Cosio, M.D., Marina Saetta, M.D., and Alvar Agusti, M.D.

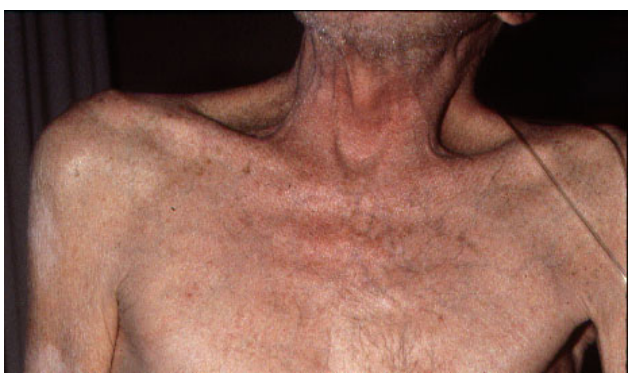


N Engl J Med 2009;360:2445-54.

EXACERBACIONES



GRAVEDAD ≠ ACTIVIDAD

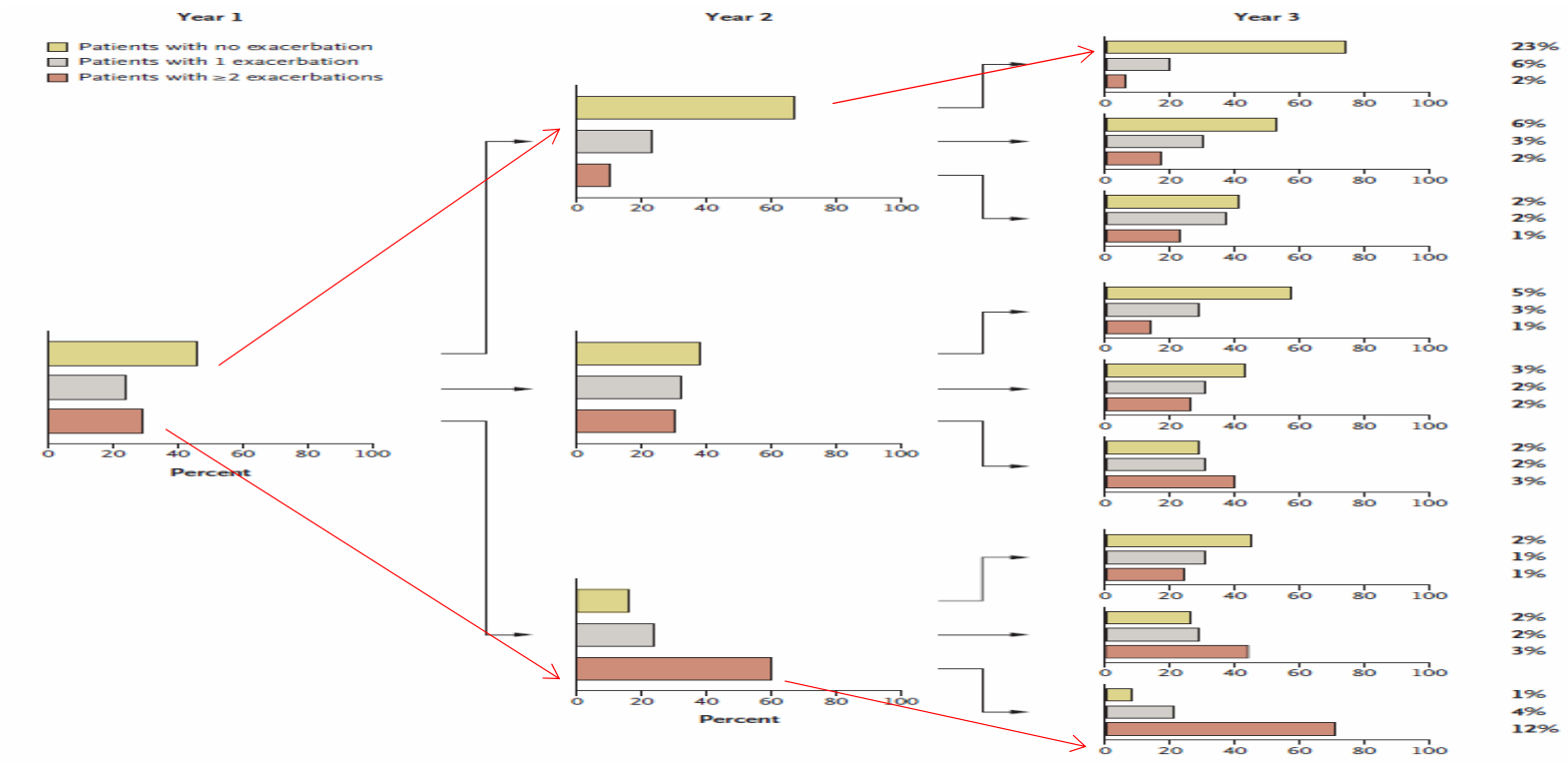


EXACERBACIONES

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Susceptibility to Exacerbation in Chronic Obstructive Pulmonary Disease[23]



EXACERBACIONES

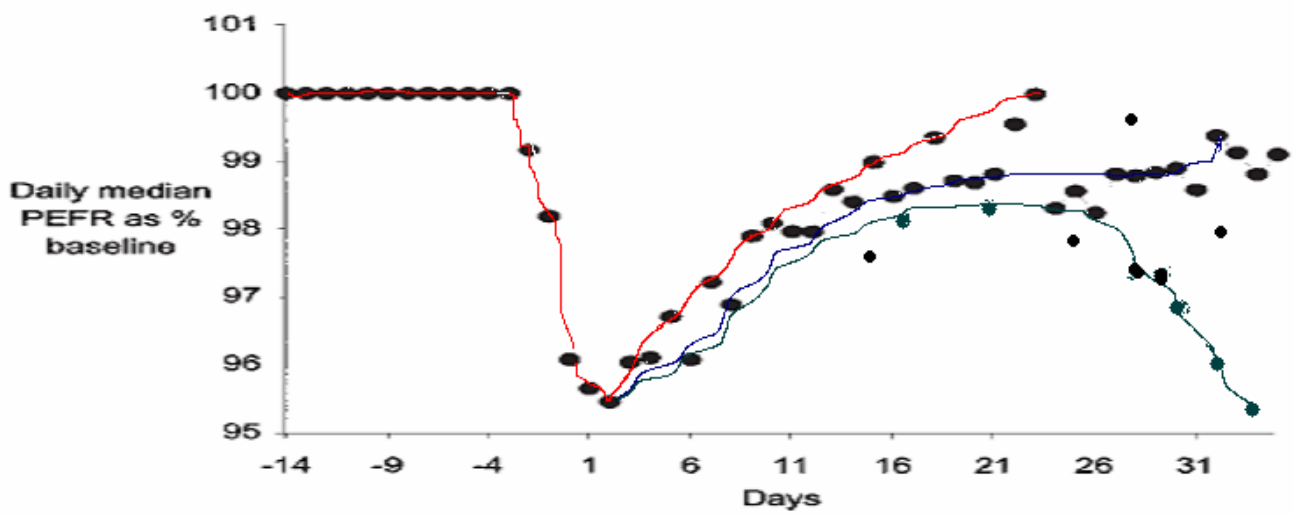


Figure 3. Median peak flow expressed as a percentage of baseline peak flow from 14 d before, to 35 d after onset of exacerbation for 504 exacerbations in 91 patients.

Seemungal T. Am J Respir Crit Care Med 2000

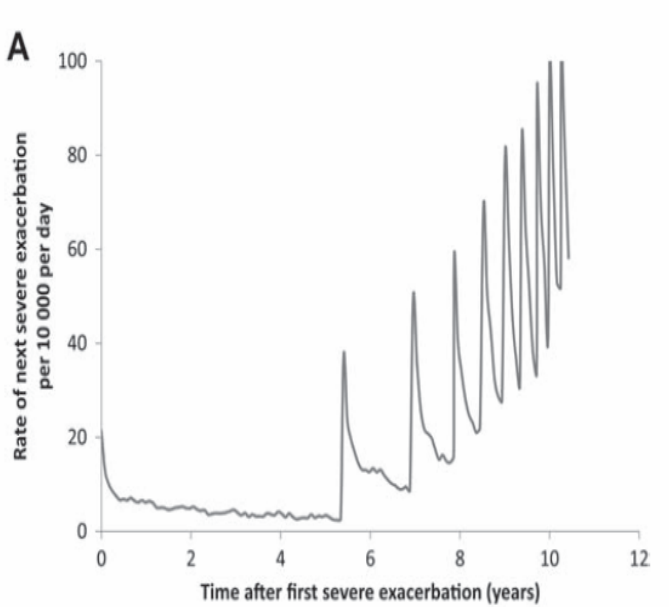
EXACERBACIONES

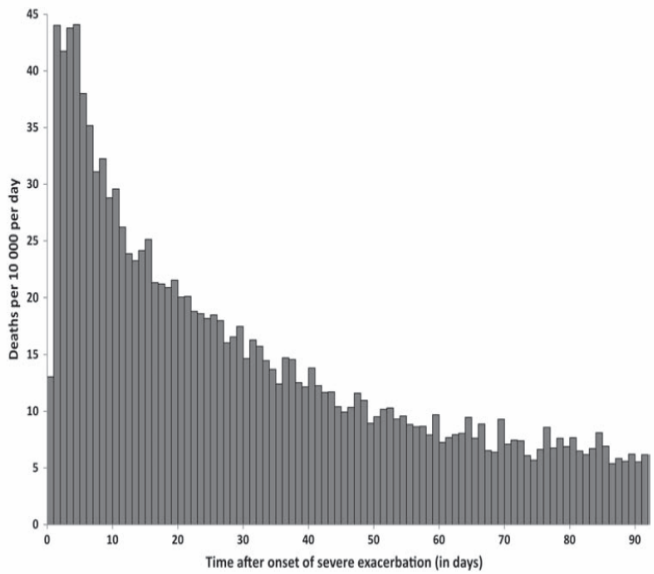
Thorax 2012;**67**:957–963.

ORIGINAL ARTICLE

Long-term natural history of chronic obstructive pulmonary disease: severe exacerbations and mortality

Samy Suissa,[1,2] Sophie Dell'Aniello,[1] Pierre Ernst[1,3]





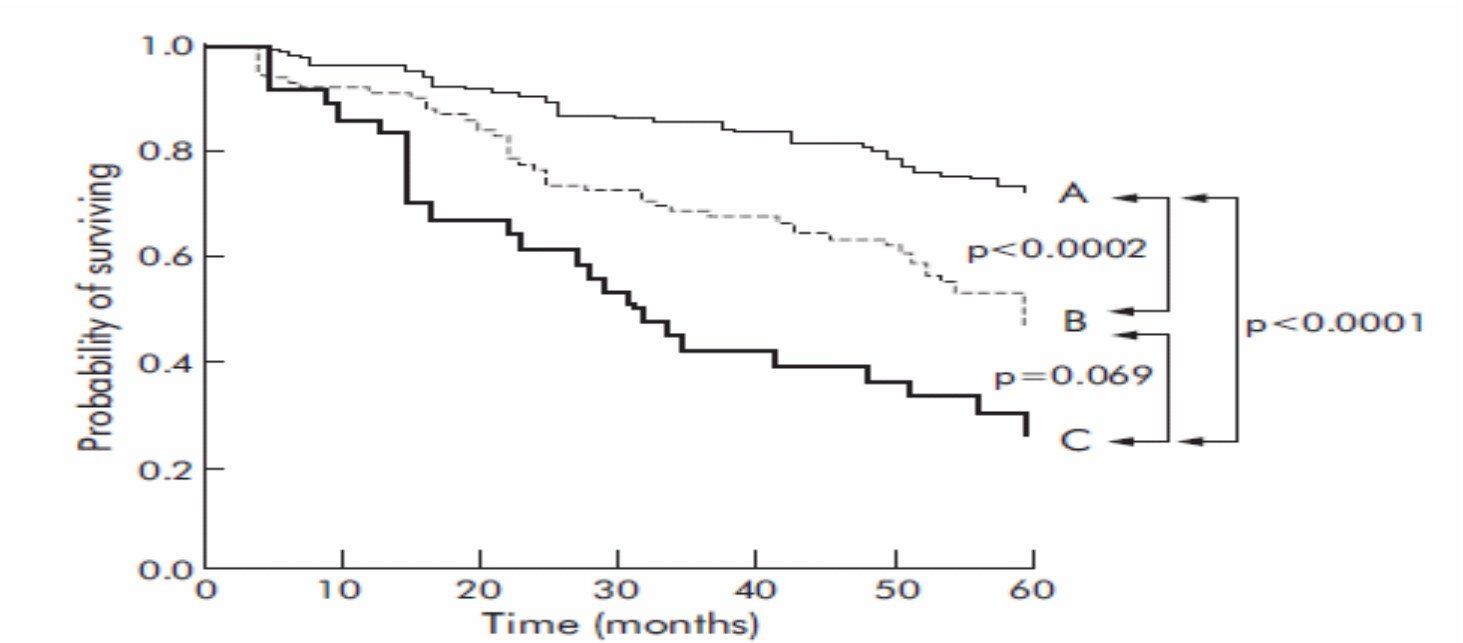
EXACERBACIONES

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Severe acute exacerbations and mortality in patients with chronic obstructive pulmonary disease

J J Soler-Cataluña, M Á Martínez-García, P Román Sánchez, E Salcedo, M Navarro, R Ochando

Thorax 2005;**60**:925–931. doi: 10.1136/thx.2005.040527

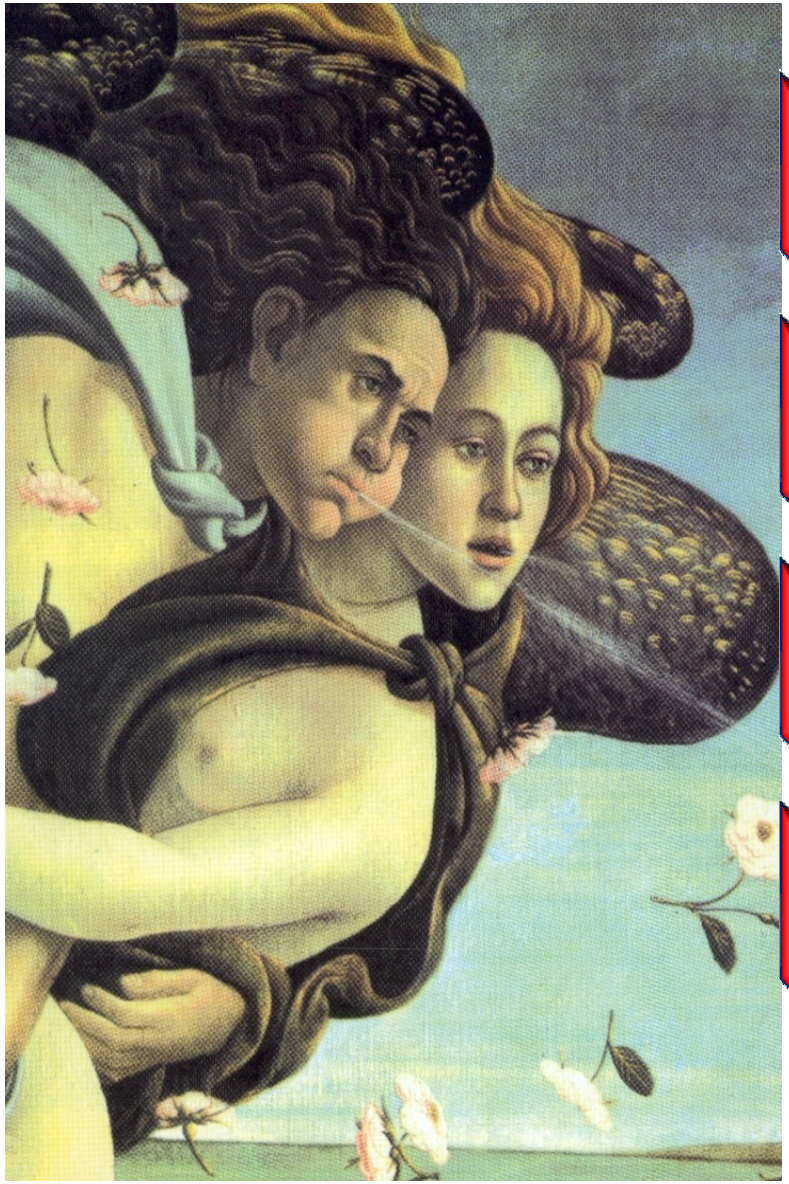


COMORBILIDADES

Look for Comorbidities, but Don't Forget Lung Function

To the Editor:

Therefore, although we agree that comorbidities must be sought in patients with COPD, as well as in patients with any other disease, we disagree on the interpretation by Fabbri and colleagues (2) that "impaired lung function carries little weight." We encourage pulmonologists to keep doing pulmonary function tests, possibly not limited to FEV_1 but including measurements of lung volumes and carbon monoxide transfer coefficient for diagnosis and phenotyping of COPD.

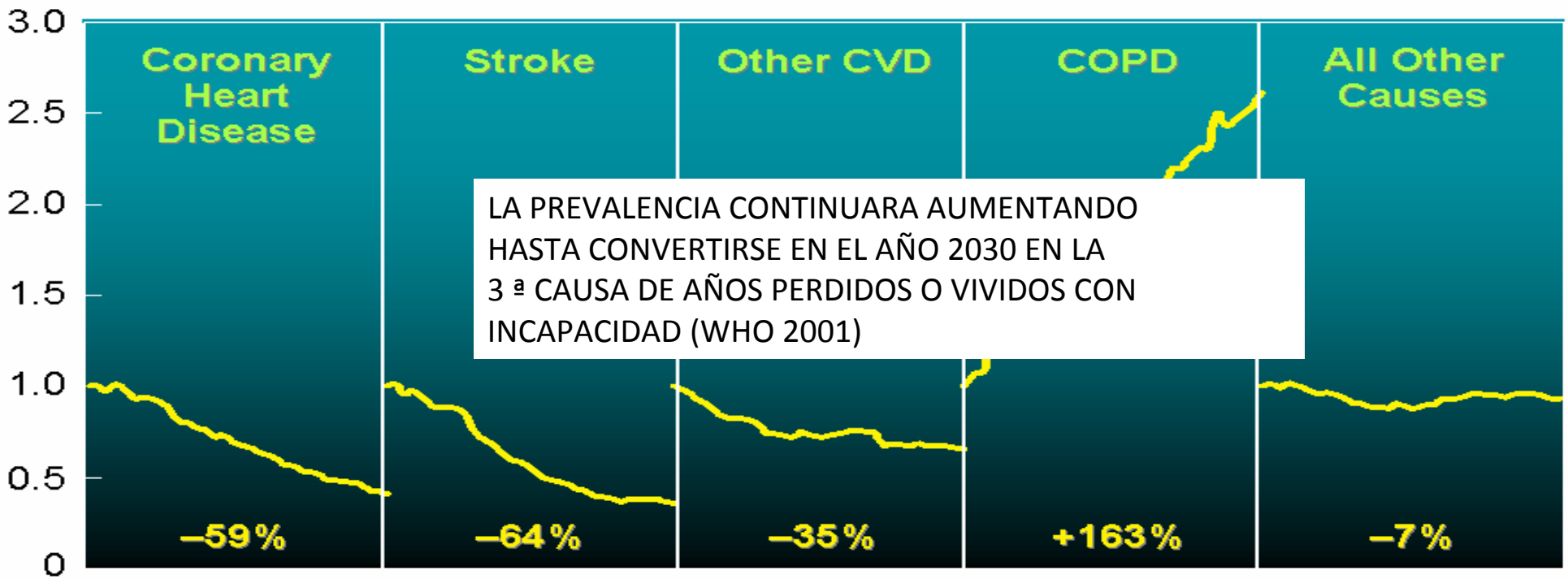


- PRONÓSTICO
- TRATAMIENTO
- COMORBILIDADES
- FUTURO

Canadian Respiratory Guidelines

COPD
Treatable. Preventable.

Percent Change in Age-Adjusted Death Rates, U.S., 1965-1998 (Proportion of 1965 Rate)



LA PREVALENCIA CONTINUARA AUMENTANDO HASTA CONVERTIRSE EN EL AÑO 2030 EN LA 3 ª CAUSA DE AÑOS PERDIDOS O VIVIDOS CON INCAPACIDAD (WHO 2001)

www.goldcopd.com

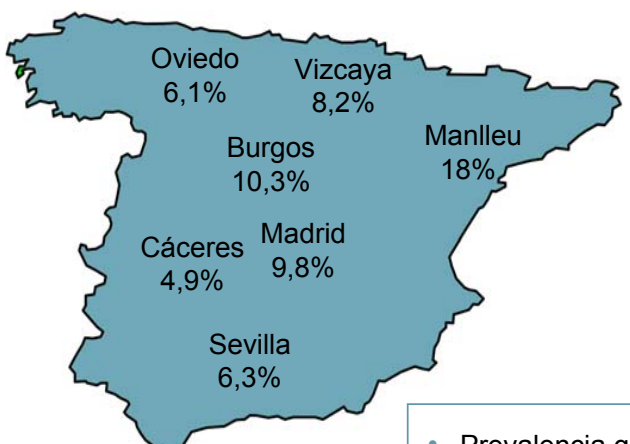
CANADIAN THORACIC SOCIETY
SOCIÉTÉ CANADIENNE DE THORACOLOGIE

Eur Respir J 2010; 36: 758–765
DOI: 10.1183/09031936.00138409

Recent trends in COPD prevalence in Spain: a repeated cross-sectional survey 1997–2007

J.B. Soriano*, J. Ancochea#, M. Miravitlles¶,+, F. García-Río§, E. Duran-Tauleria[f,**], L. Muñoz##, C.A. Jiménez-Ruiz¶¶, J.F. Masa¶,++, J.L. Viejo§§, C. Villasante§, L. Fernández-Fau#, G. Sánchez[ff] and V. Sobradillo-Peña***

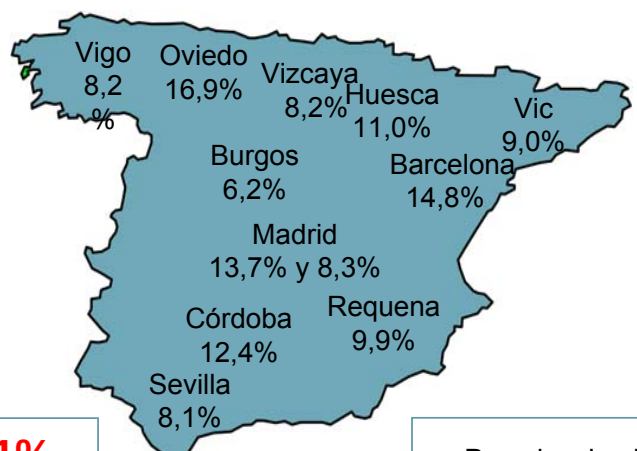
IBERPOC 1997



- Prevalencia global: **9,1%** entre 40 y 69 años
- Varones: 14,3% (12,8-15,9)
- Mujeres: 3,9% (3,09-4,81)

Sobradillo-Peña V, et al. Chest 2000.

EPI-SCAN 2007



- Prevalencia global: **10,2%** entre 40 y 80 años
- Varones: 15,1% (13,5-16,8)
- Mujeres: 5,7% (4,7-6,7)

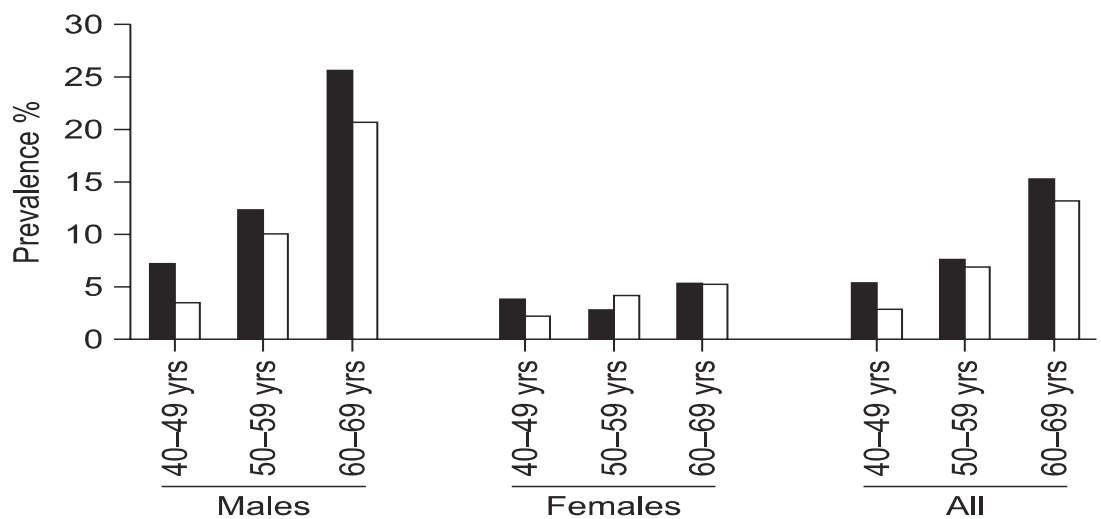
Miravitlles M, et al. Thorax 2009.

Eur Respir J 2010; 36: 758–765
DOI: 10.1183/09031936.00138409

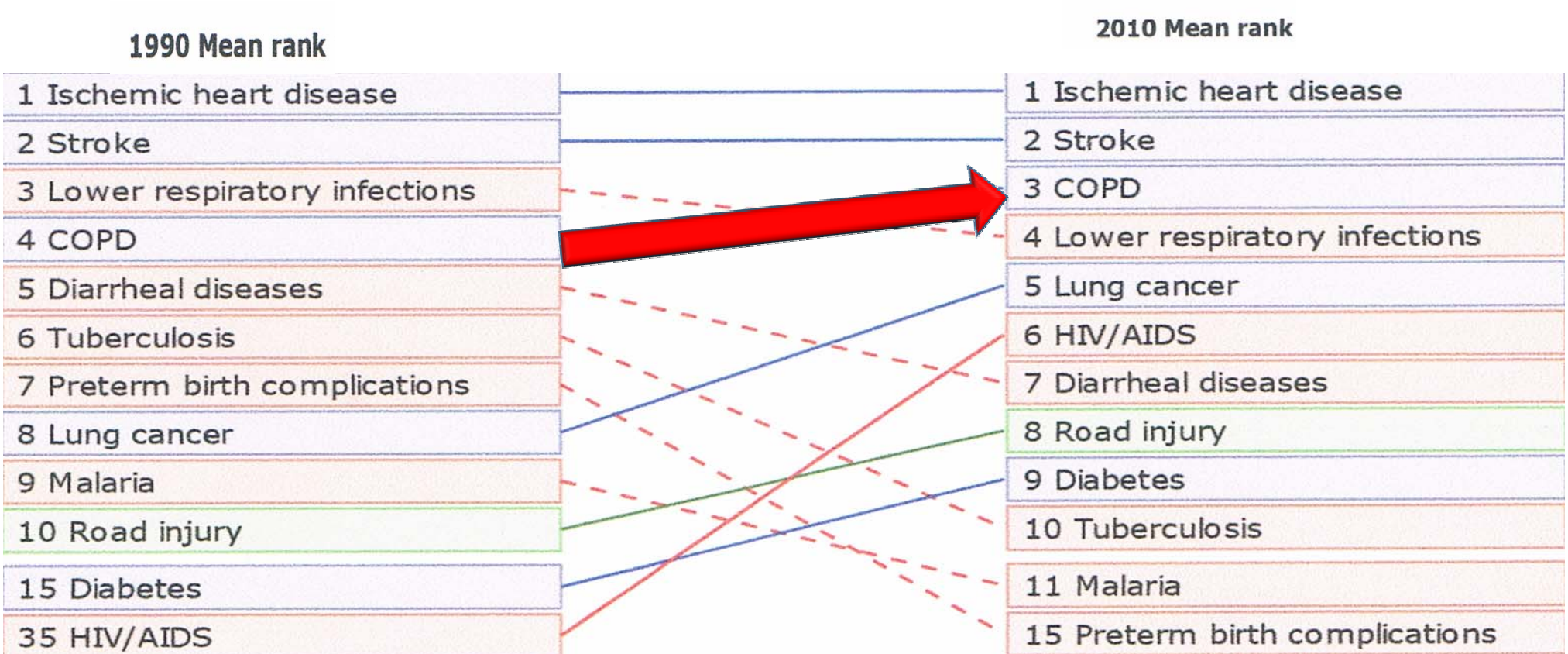
Recent trends in COPD prevalence in Spain: a repeated cross-sectional survey 1997–2007

J.B. Soriano*, J. Ancochea#, M. Miravitlles¶,+, F. García-Río§, E. Duran-Tauleria[f],**, L. Muñoz##, C.A. Jiménez-Ruiz¶¶, J.F. Masa¶,++, J.L. Viejo§§, C. Villasante§, L. Fernández-Fau#, G. Sánchez[ff] and V. Sobradillo-Peña***

J.B. SORIANO ET AL.



COPD prevalence in the population between 40 to 69 yrs of age dropped from 9.1% (95% CI 8.1–10.2%) in 1997 to 4.5% (95% CI 2.4–6.6%), a 50.4% decline.

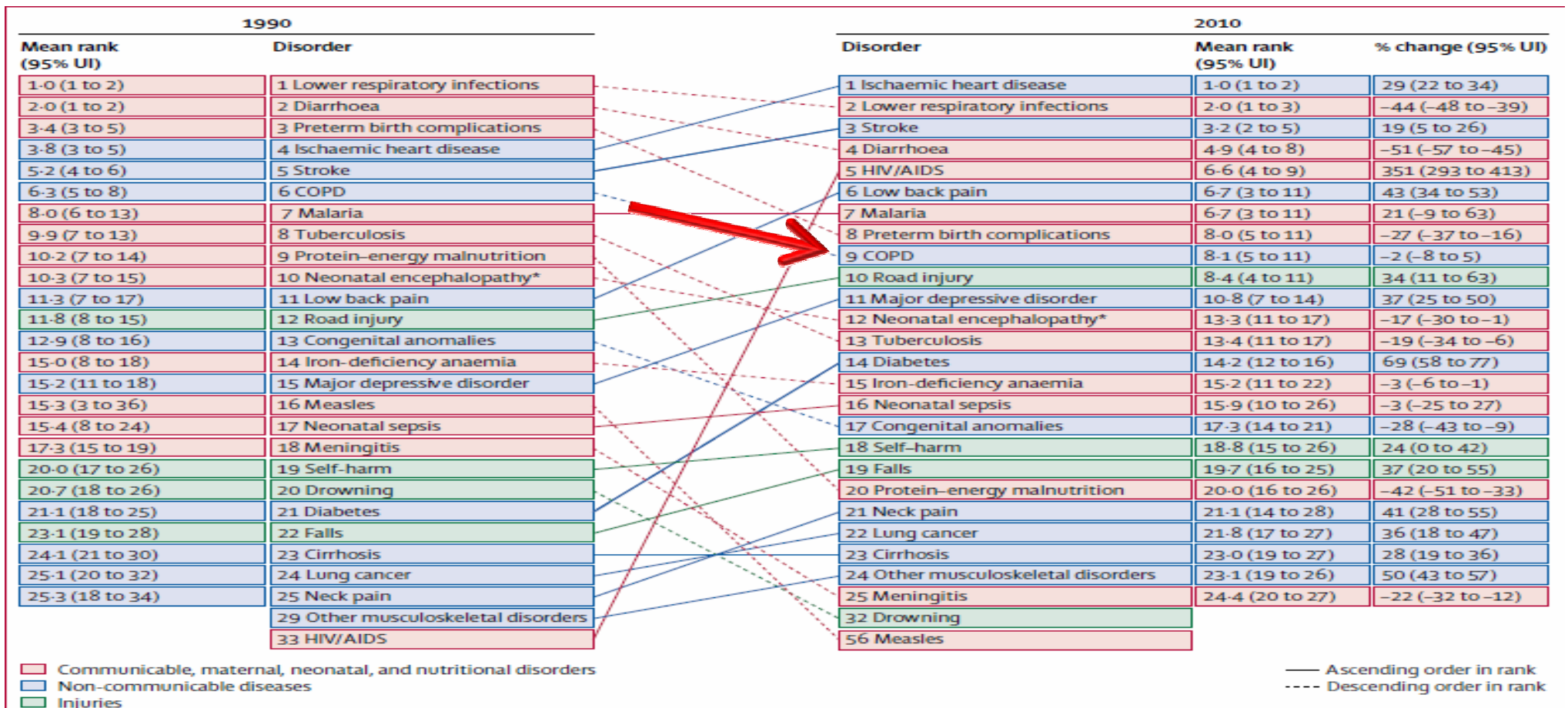


	All ages deaths (thousands)			Age-standardised death rates (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
Chronic obstructive pulmonary disease	3099·0 (2914·2–3338·6)	2899·9 (2669·3–3245·8)	-6·4%	77·4 (72·8–83·3)	43·8 (40·4–49·1)	-43·3

Institute for Health Metrics and Evaluation. Washington 2013

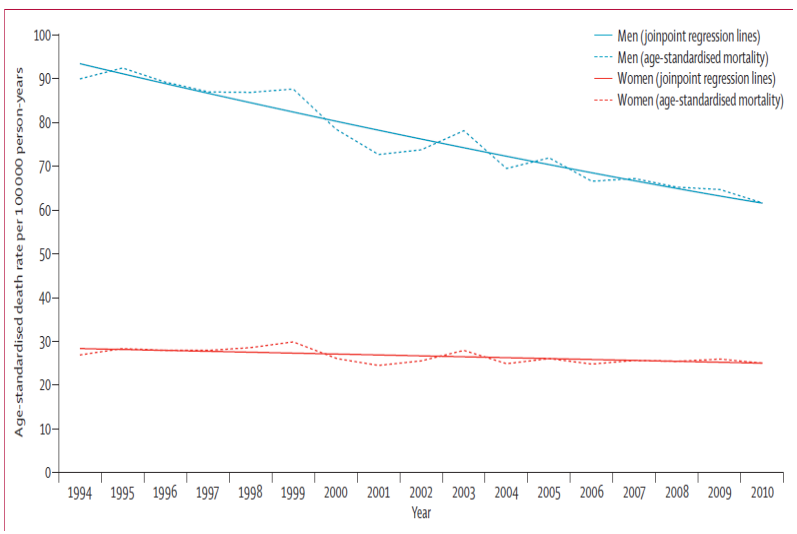
Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010

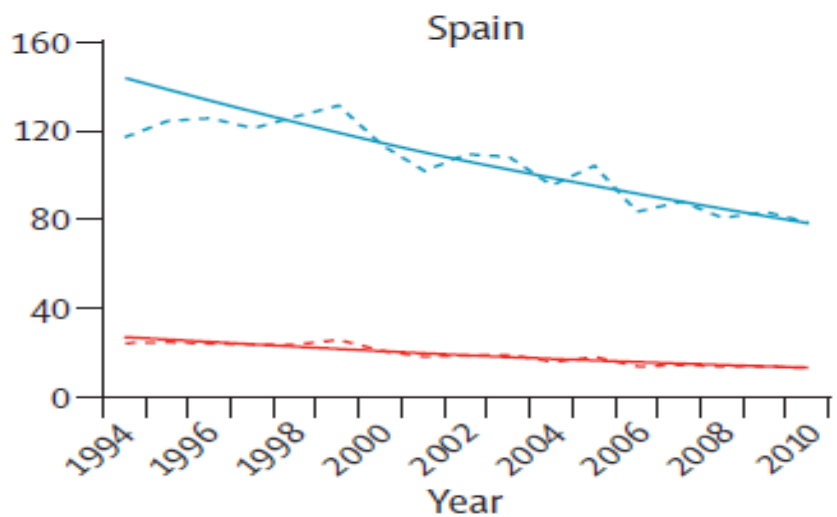
December 15/22/29, 2012



Mortality trends in chronic obstructive pulmonary disease in Europe, 1994–2010: a joinpoint regression analysis

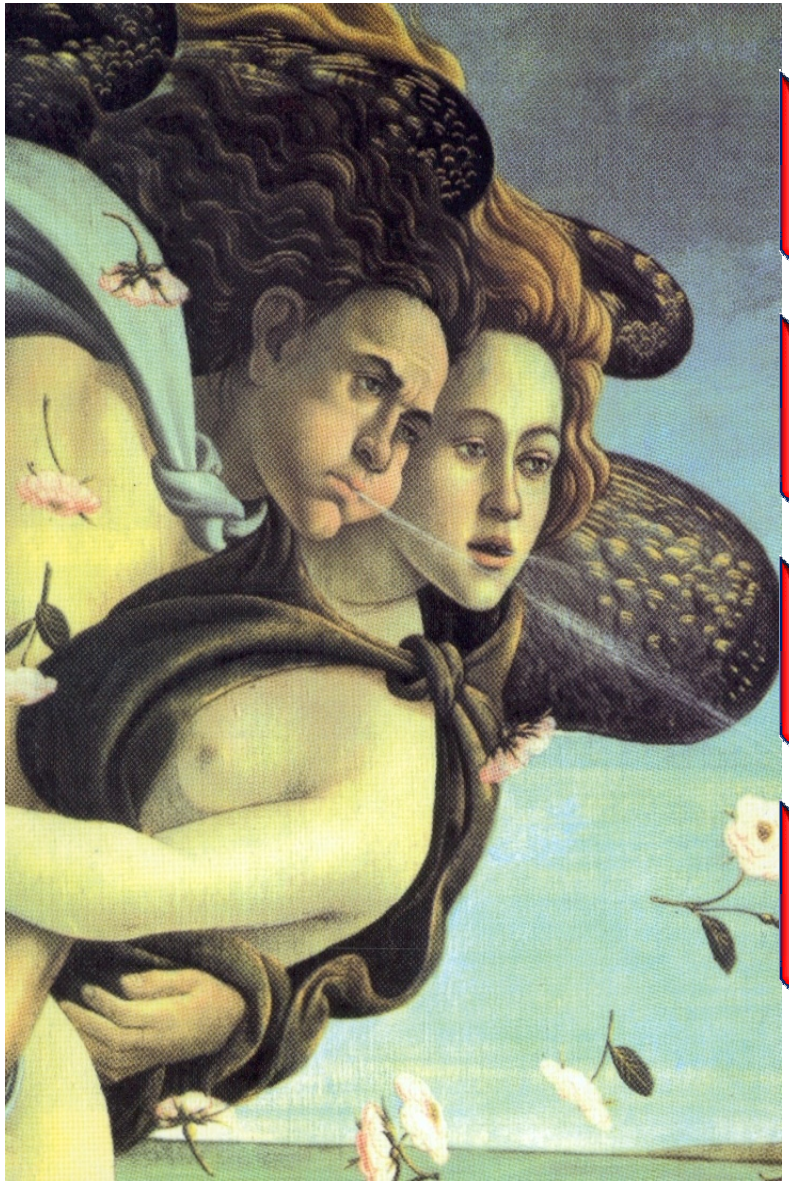
Jose Luis López-Campos, Miguel Ruiz-Ramos, Joan B Soriano





	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Spain	0·90	0·87	0·86	0·86	0·83	0·86	0·80	0·74	0·75	0·67	0·64	0·67	0·55	0·56	0·54	0·53	0·53

Lancet respiratory medicine 2014



- PRONÓSTICO
- TRATAMIENTO
- COMORBILIDADES
- FUTURO

Medical Progress

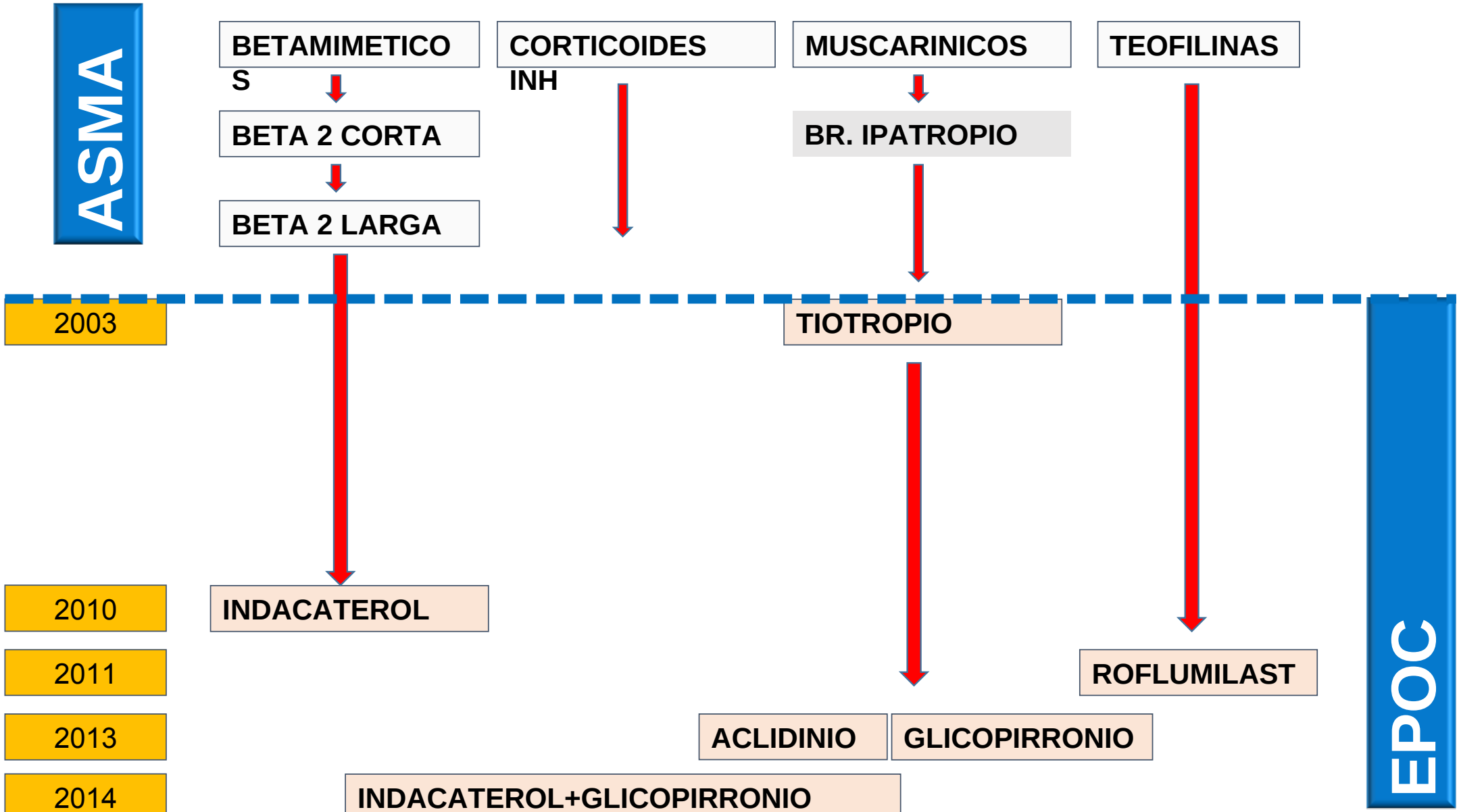
CHRONIC OBSTRUCTIVE PULMONARY DISEASE

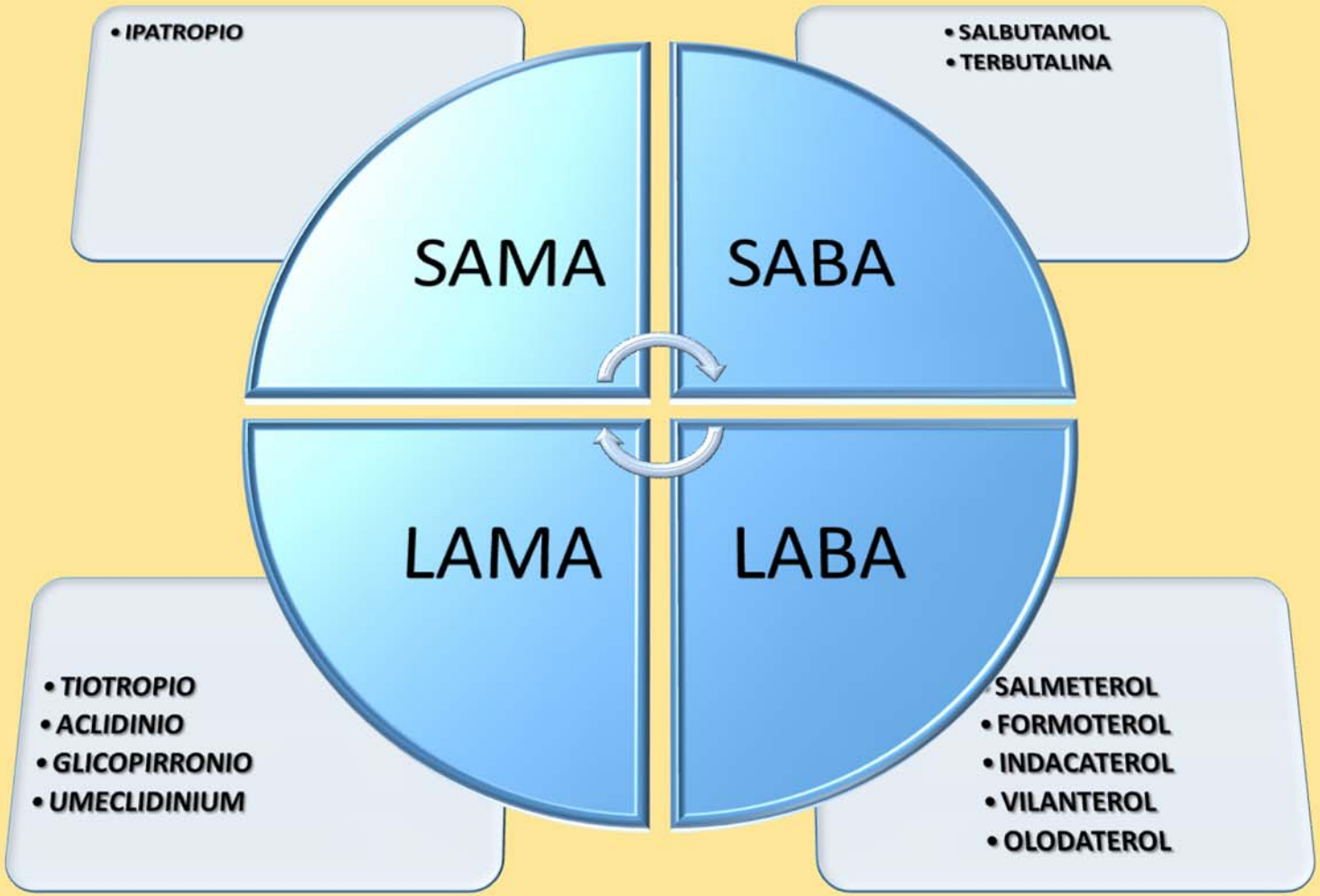
PETER J. BARNES, D.SC.

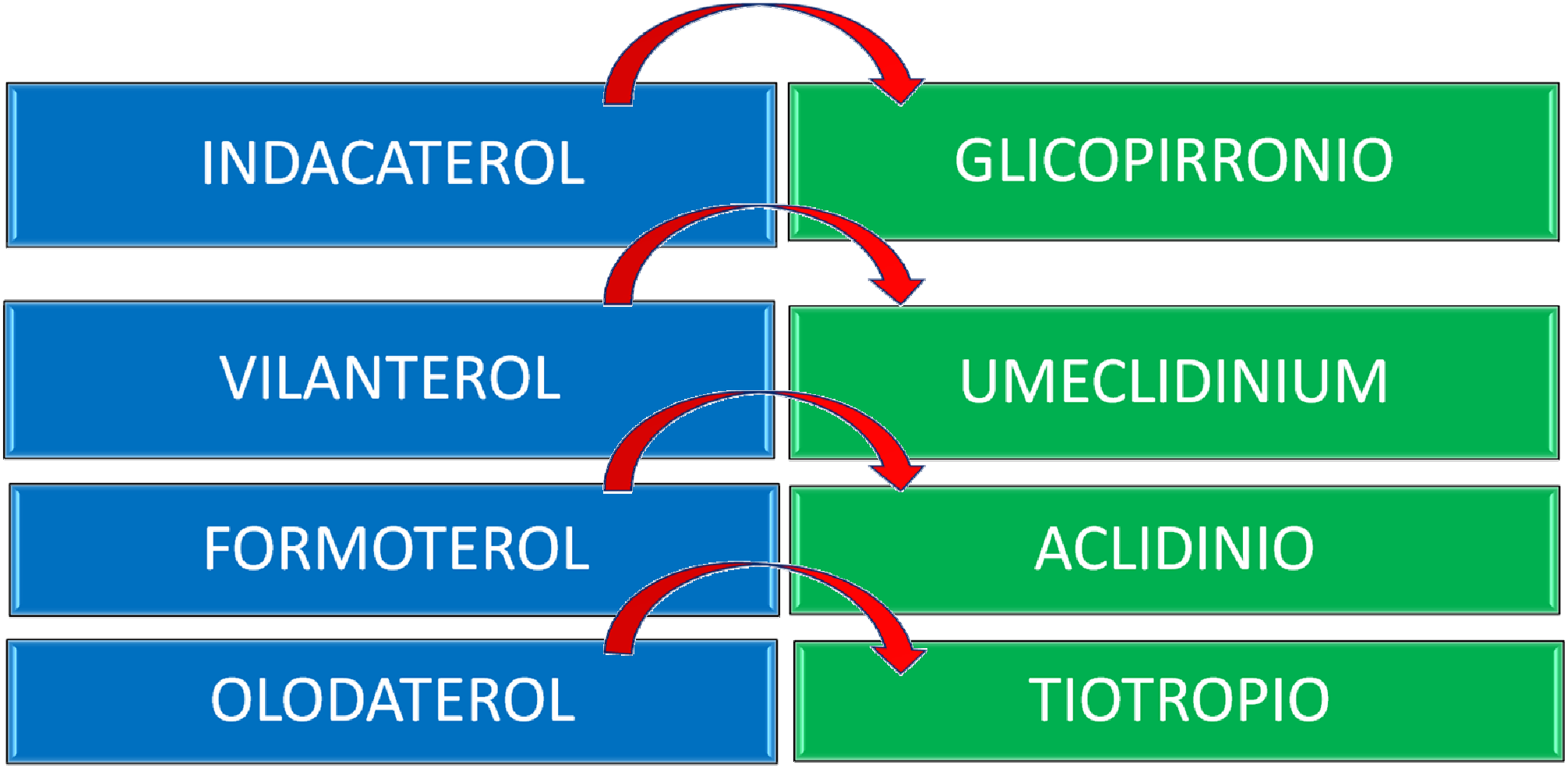
Although there has been an explosion of research on asthma and a revolution in asthma therapy, COPD has been surprisingly neglected, with little research into cellular mechanisms and few advances in therapy.

have a long course and currently available treatment is at best no more than palliative.

N Engl J Med 2000


ASMA
BETAMIMETICOS
BETA 2 CORTA
BETA 2 LARGA
CORTICOIDES INH
MUSCARINICOS
BR. IPATROPIO
TEOFILINAS
2003
TIOTROPIO
2010
INDACATEROL
2011
ROFLUMILAST
2013
ACLIDINIO
GLICOPIRRONIO
2014
INDACATEROL+GLICOPIRRONIO
EPOC


• IPATROPIO
• SALBUTAMOL
• TERBUTALINA
SAMA
SABA
LAMA
LABA
• TIOTROPIO
• ACLIDINIO
• GLICOPIRRONIO
• UMECLIDINIUM
• SALMETEROL
• FORMOTEROL
• INDACATEROL
• VILANTEROL
• OLODATEROL


INDACATEROL
GLICOPIRRONIO
VILANTEROL
UMECLIDINIUM
FORMOTEROL
ACLIDINIO
OLODATEROL
TIOTROPIO

OBJETIVOS EN EL TRATAMIENTO DE LA EPOC

SINTOMAS

- ALIVIO DE SINTOMAS ✓
- TOLERANCIA AL EJERCICIO ✓
- CALIDAD DE VIDA ✓

PREVENCION

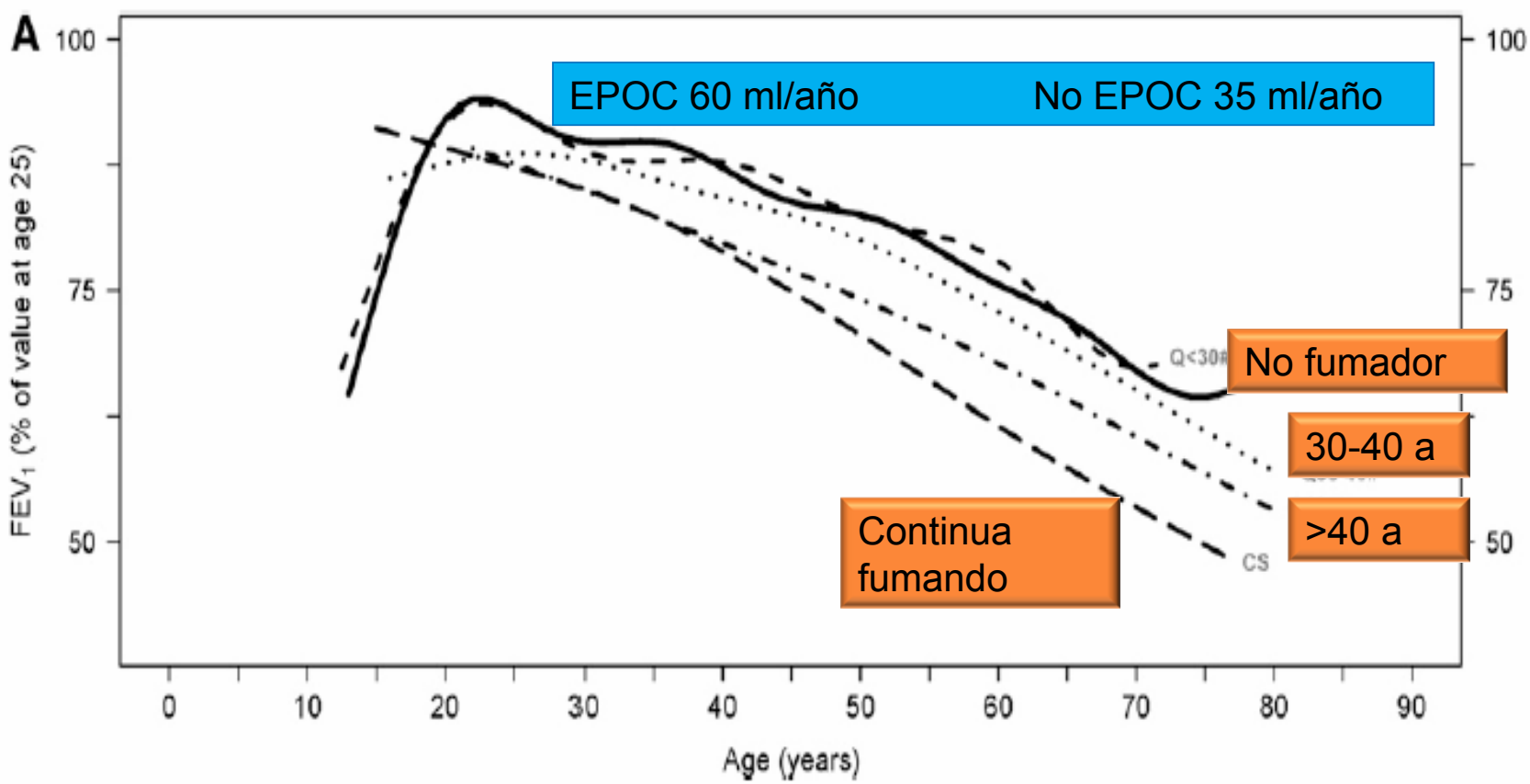
- FRENAR PROGRESIÓN ¿?
- DISMINUIR EXACERBACIONES ✓
- REDUCIR MORTALIDAD ¿?

The Natural History of Chronic Airflow Obstruction Revisited

An Analysis of the Framingham Offspring Cohort

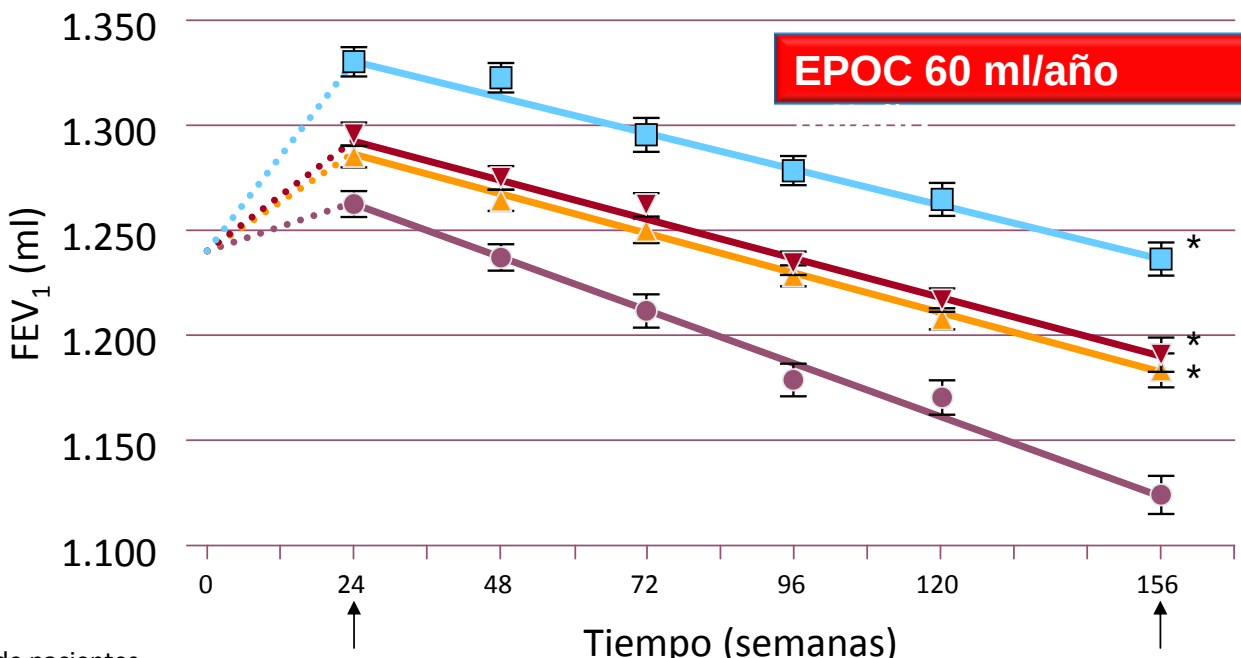
Robab Kohansal[1,2], Pablo Martinez-Camblor[1,3], Alvar Agustí[1,4,5], A. Sonia Buist[6], David M. Mannino[7], and Joan B. Soriano[1,4]

Am J Respir Crit Care Med Vol 180. pp 3–10, 2009



Effect of Pharmacotherapy on Rate of Decline of Lung Function in Chronic Obstructive Pulmonary Disease

Results from the TORCH Study



Nº de pacientes							
SFC	1392	1375	1281	1180	1139	1073	975
Fluticasona	1356	1346	1230	1157	1078	1006	908
Salmeterol	1334	1317	1218	1127	1054	1012	934
Placebo	1261	1248	1128	1049	979	906	819

Celli B, et al. Am J Respir Crit Care Med 2008; 178:332-338

Effect of tiotropium on outcomes in patients with moderate chronic obstructive pulmonary disease (UPLIFT): a prespecified subgroup analysis of a randomised controlled trial

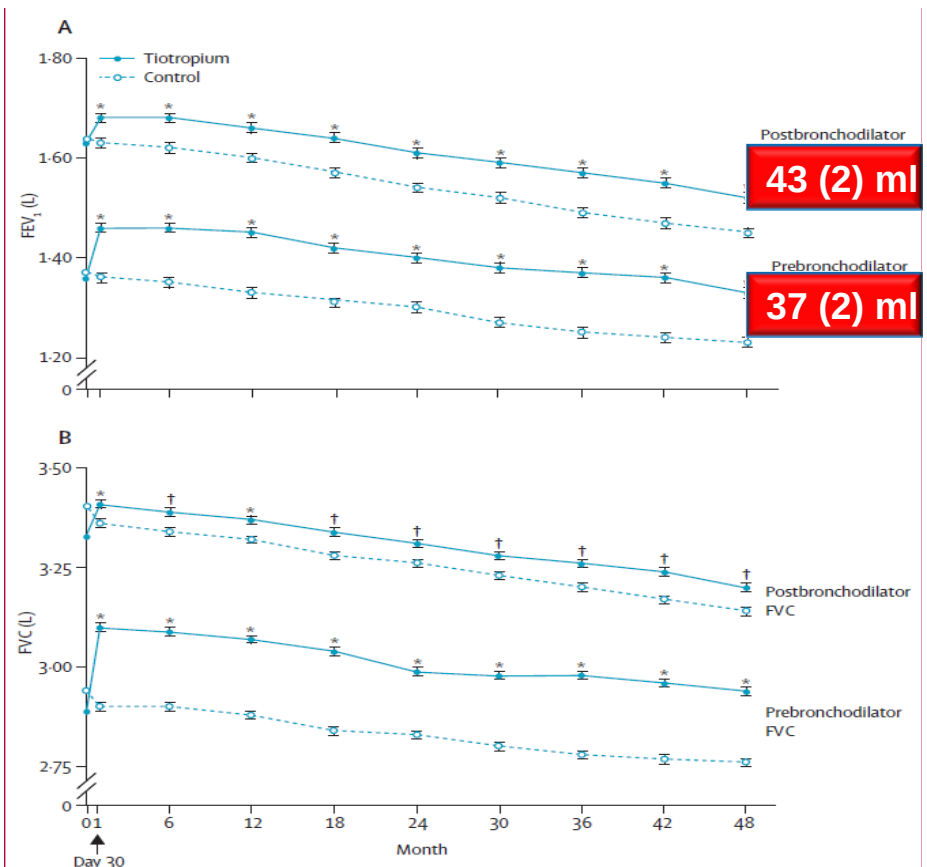
Published Online
August 28, 2009

*Marc Decramer, Bartolome Celli, Steven Kesten, Theodore Lystig, Sunil Mehra, Donald P Tashkin, for the UPLIFT investigators**

DISMINUIR PÉRDIDA DE FUNCIÓN PULMONAR

	Tiotropium		Control		Difference between tiotropium and control (mL per year [95% CI])	p value
	n	Mean decline (mL per year [SE]])	n	Mean decline (mL per year [SE])		
Primary analysis*						
FEV_1						
Prebronchodilator	1221	35 (2)	1158	37 (2)	2 (−3 to 7)	0·28
Postbronchodilator	1218	43 (2)	1157	49 (2)	6 (1 to 11)	0·024

	Baseline		During study	
	Tiotropium (n=1384)	Control (n=1355)	Tiotropium (n=1384)	Control (n=1355)
Longacting β agonists*	771 (56%)	751 (55%)	955 (69%)	962 (71%)
Inhaled corticosteroids*	810 (59%)	772 (57%)	996 (72%)	989 (73%)
Combination longacting β agonist and inhaled corticosteroids	627 (45%)	598 (44%)	841 (61%)	827 (61%)

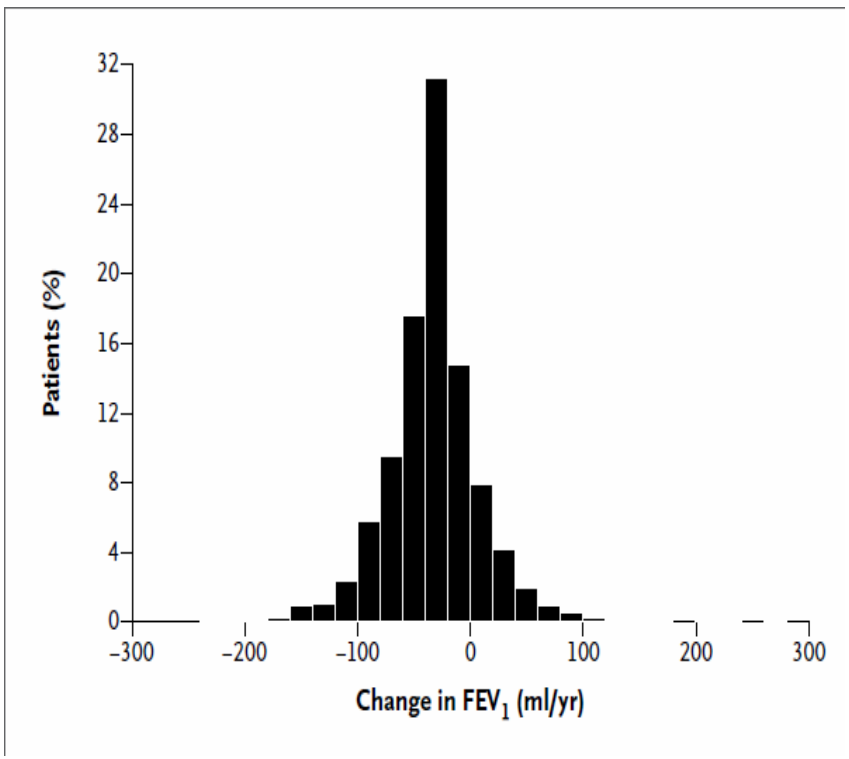


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Changes in Forced Expiratory Volume in 1 Second over Time in COPD

N Engl J Med 2011.



Media 33.2 ml/año (DE 59)

38% >40 ml/año

31% 20-40 ml/ año

23% <20 ml/ año

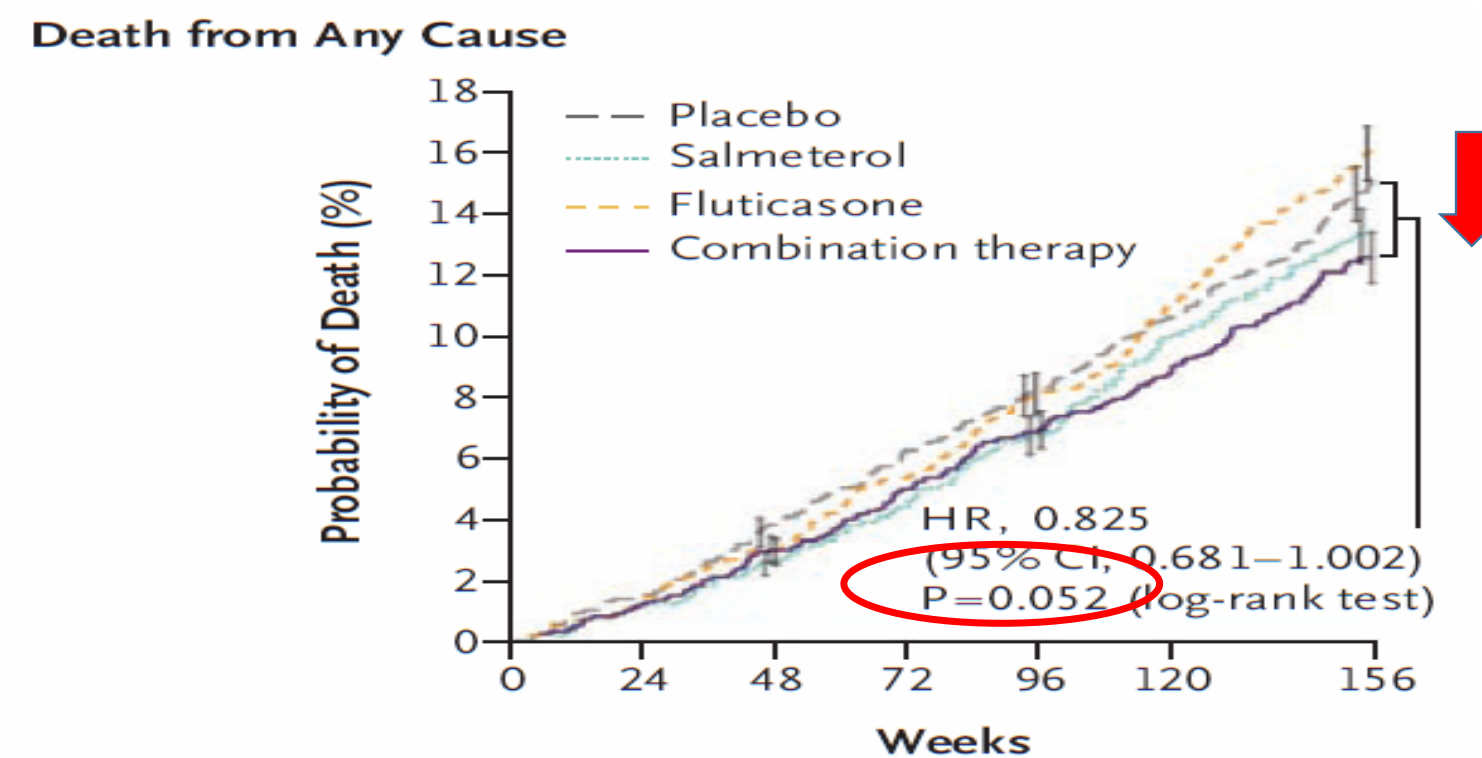
8% aumentan >20 ml/año

Pierden más

-fumadores
-exacerbadores
-enfisematosos
-PBD +

The NEW ENGLAND JOURNAL of MEDICINE
ESTABLISHED IN 1812 FEBRUARY 22, 2007 VOL. 356 NO. 8

Salmeterol and Fluticasone Propionate and Survival in Chronic Obstructive Pulmonary Disease

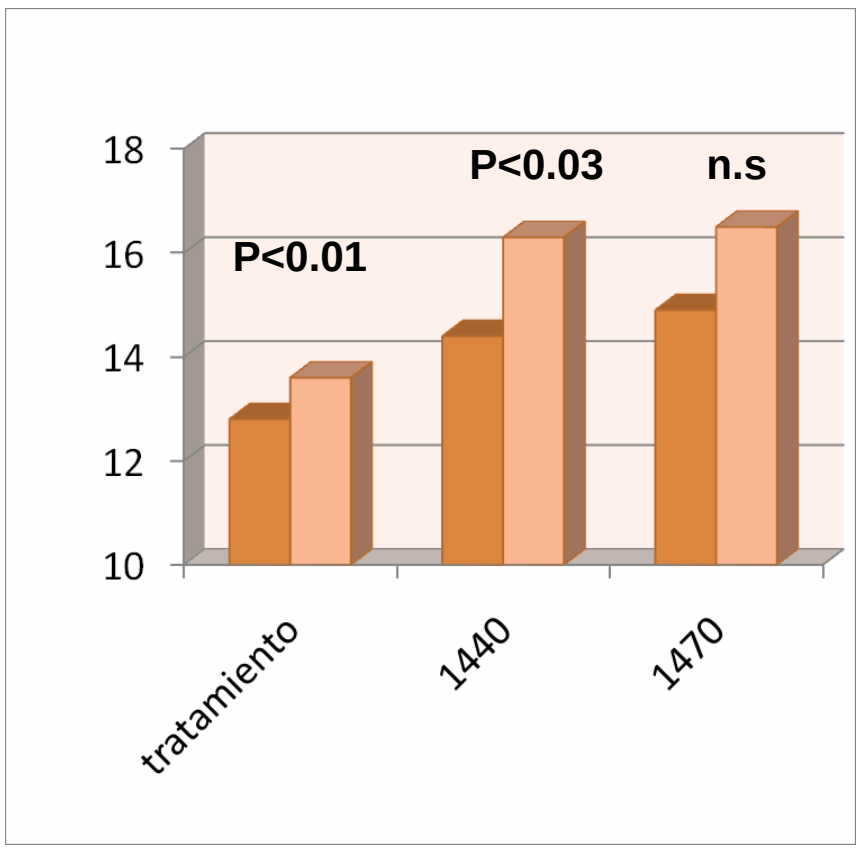


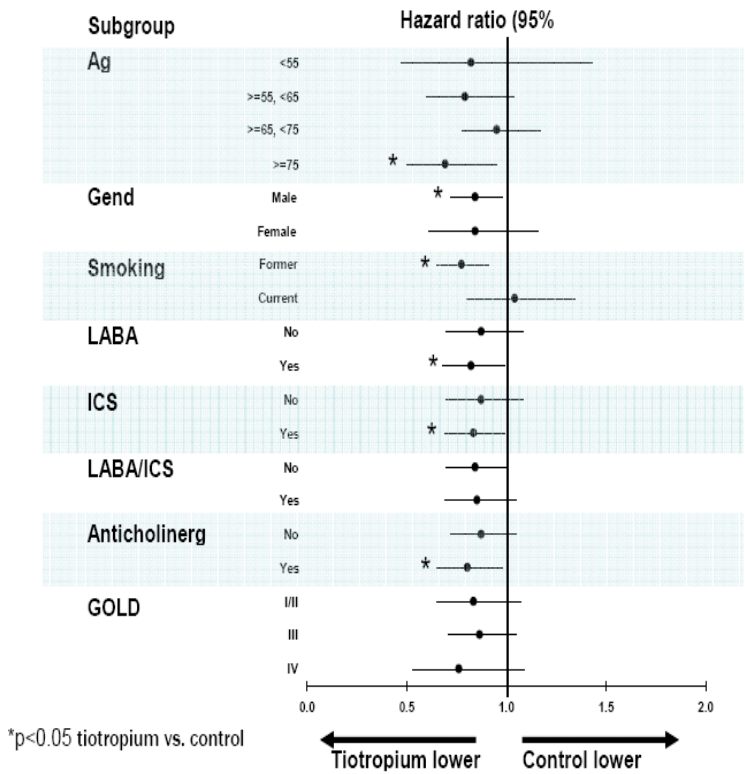
17%

Mortality in the 4-Year Trial of Tiotropium (UPLIFT) in Patients with Chronic Obstructive Pulmonary Disease

Bartolome Celli[1], Marc Decramer[2], Steven Kesten[3], Dacheng Liu[3], Sunil Mehra[4], and Donald P. Tashkin[5], on behalf of the UPLIFT Study Investigators*

Am J Respir Crit Care Med Vol 180. pp 948–955, 2009

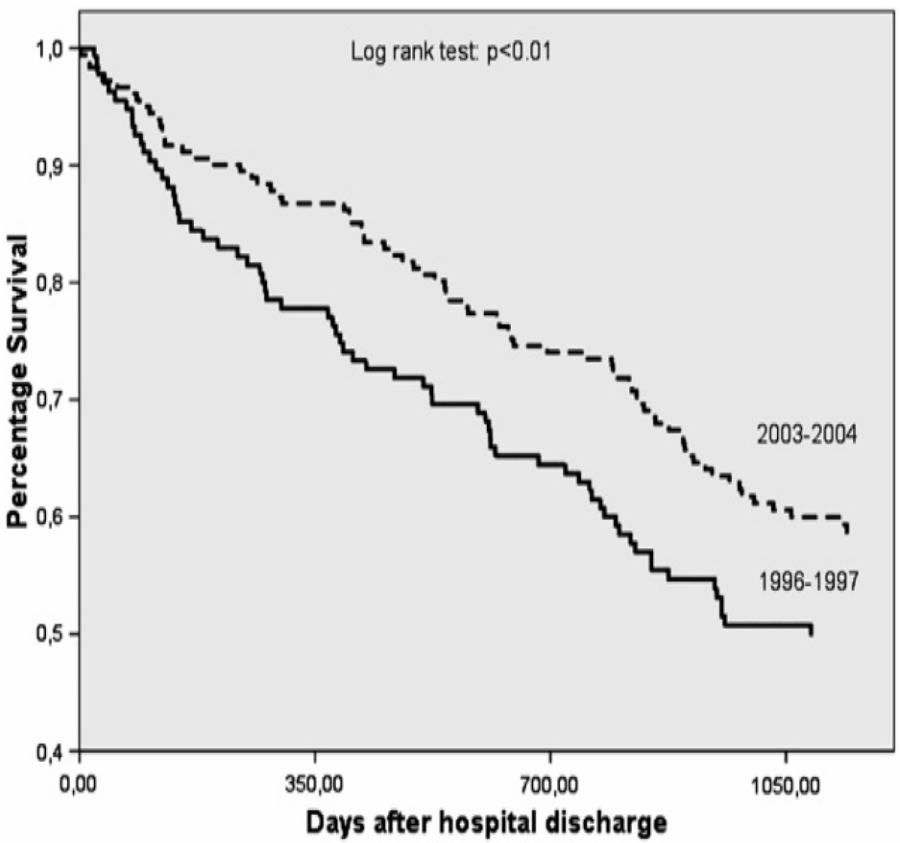




*p<0.05 tiotropium vs. control

Recent improvement in long-term survival after a COPD hospitalisation

Pere Almagro,[1] M Salvadó,[1] C Garcia-Vidal,[1] M Rodriguez-Carballeira,[1] M Delgado,[1] B Barreiro,[2] J L Heredia,[2] Joan B Soriano[3]



Almagro P, et al. Thorax 2010.

Table 4 Treatment at discharge, by cohort

	1996–7 %	2003–4 %	p Value
Short-acting β_2 agonists	97.6	78.5	0.0001
Long-acting β_2 agonists	1.2	77.9	0.0001
Ipratropium bromide	89	58.1	0.0001
Tiotropium	0	33.1	0.0001
Inhaled corticosteroids	87.4	84.9	0.3
Chronic systemic corticosteroids	2.4	2.3	0.6
Statins	1.6	16.9	0.001
ACE inhibitors	27.6	27.3	0.5
Angiotensin II receptor antagonists	0	7.6	0.001
β-Blockers	1.6	5.8	0.057
Antiplatelet drugs	16.5	30.2	0.004

SOBRE FILIAS Y FOBIAS……..

Betamiméticos

Chowhdury B

Anticolinérgicos

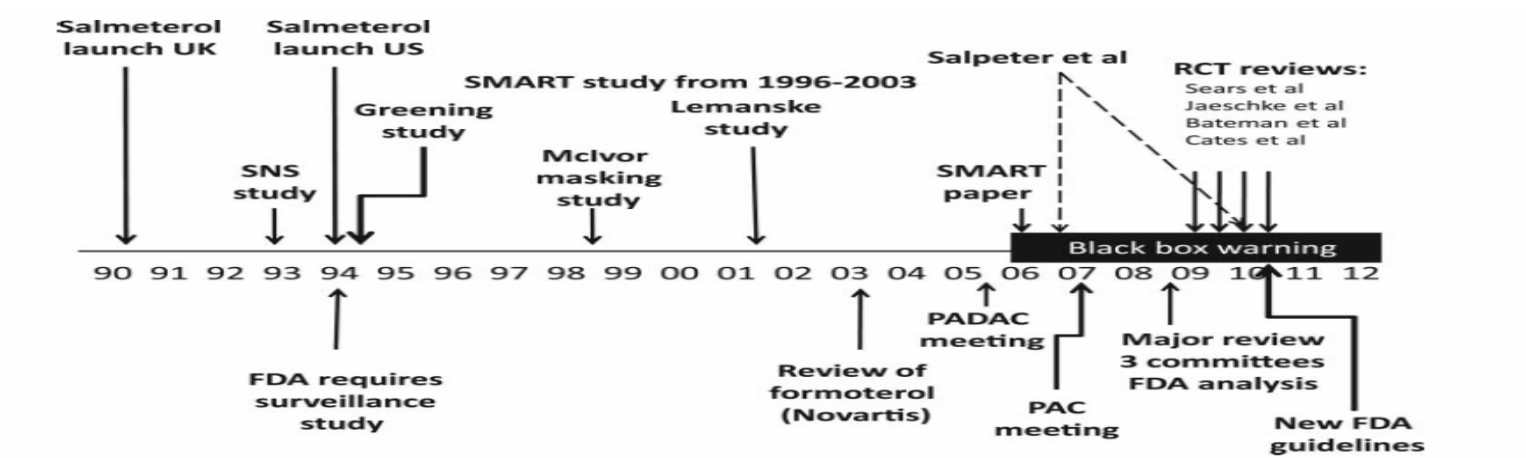
Singh S

Corticoides inh.

Suissa R

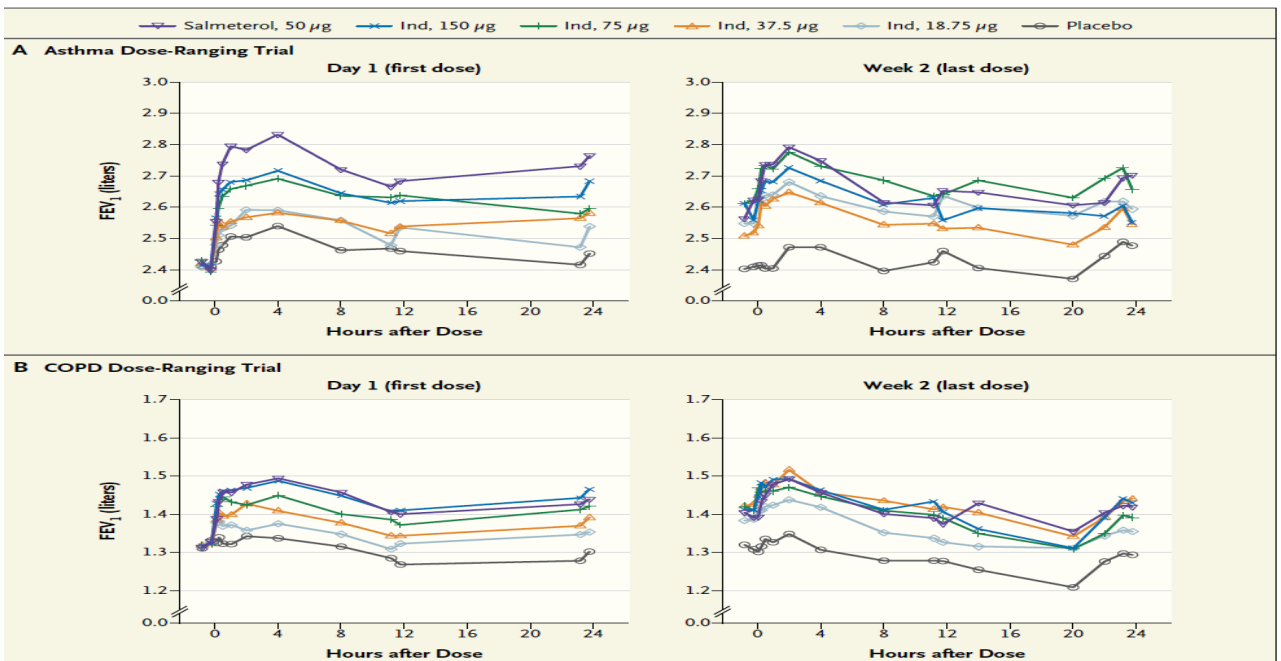
¿Existe un aumento de mortalidad con B2?

- En EPOC NO
- En ASMA controvertido



The Risks and Benefits of Indacaterol — The FDA's Review

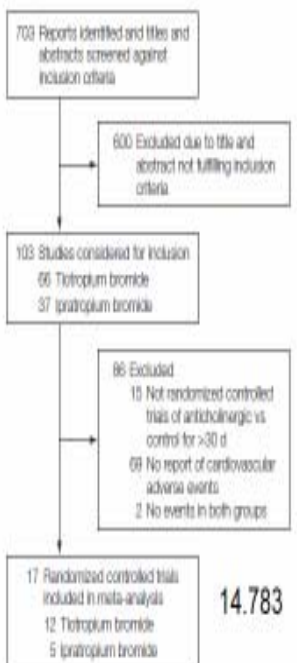
Badrul A. Chowdhury, M.D., Ph.D., Sally M. Seymour, M.D., Theresa M. Michele, M.D., Anthony G. Durmowicz, M.D., Dongmei Liu, Ph.D., and Curtis J. Rosebraugh, M.D., M.P.H. N ENGL J MED 365;24 NEJM.ORG DECEMBER 15, 2011



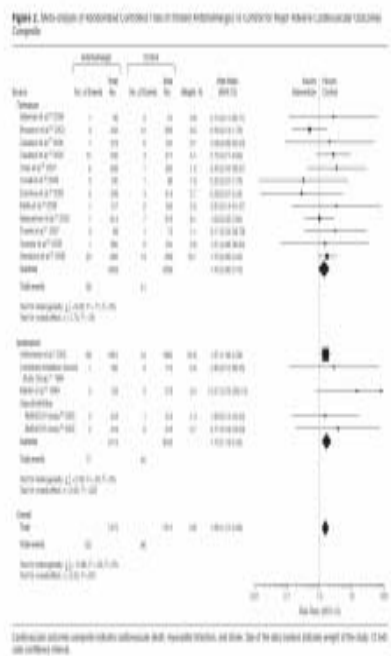
Given the concern about LABAs' association with serious exacerbations of asthma and asthma-related deaths, review of the safety data for indacaterol in patients with asthma suggested that the proposed doses might be higher than necessary.

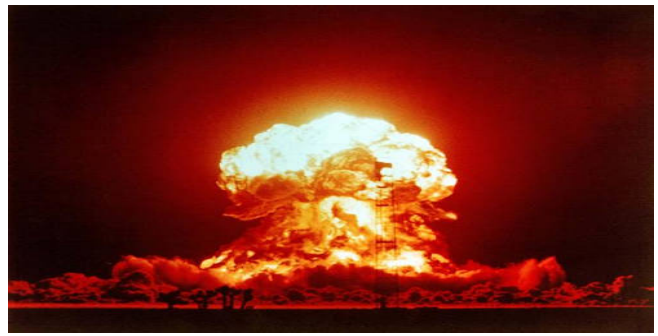
Inhaled Anticholinergics and Risk of Major Adverse Cardiovascular Events in Patients With Chronic Obstructive Pulmonary Disease

A Systematic Review and Meta-analysis



14.783





EL INVESTIGADOR SABIA:

1) EL UPLIFT ESTABA FINALIZADO
2) EL ESTUDIO NO SE HABIA SUSPENDIDO POR TANTO TIOTROPIO NO AUMENTABA MORTALIDAD

The NEW ENGLAND JOURNAL of MEDICINE

The Safety of Tiotropium — The FDA's Conclusions

Theresa M. Michele, M.D., Simone Pinheiro, Sc.D., and Solomon Iyasu, M.D., M.P.H.

Safety Data from Pooled Analysis of Tiotropium Trials and UPLIFT.*

Attribute	29 Pooled Trials (N=13,544)	UPLIFT (N=5992)
Study duration	1–12 mo	48 mo
Patient-years (placebo group)	3065	8499
Patient-years (tiotropium group)	4571	9222
Relative risk (95% CI)		
Stroke	1.37 (0.73–15.6)	0.95 (0.70–1.29)
Myocardial infarction		0.71 (0.51–0.99)
Death from cardiovascular causes†	0.97 (0.54–1.75)	0.73 (0.56–0.95)
Death from any cause		0.85 (0.74–0.98)

CORRECTIONS

Incorrect Data: In the Review entitled "Inhaled Anticholinergics and Risk of Major Adverse Cardiovascular Events in Patients With Chronic Obstructive Pulmonary Disease: A Systematic Review and Meta-analysis" published in the September 24, 2008, issue of *JAMA* (2008;300[12]:1439-1450), incorrect data appear.

On page 1439 in the abstract, the Data Synthesis section should read "After a detailed screening of 103 articles, 17 trials enrolling 13 645 patients were analyzed. Follow-up duration ranged from 6 weeks to 5 years. Cardiovascular death, MI, or stroke occurred in 134 of 6984 patients (1.9%) receiving inhaled anticholinergics and 83 of 6661 patients (1.2%) receiving control therapy (RR, 1.60 [95% confidence interval {CI}, 1.22-2.10]; $P<.001$, $I^2=0\%$). Among individual components of the primary end point, inhaled anticholinergics significantly increased the risk of MI (RR, 1.52 [95% CI, 1.04-2.22]; $P=.03$, $I^2=0\%$) and cardiovascular death (RR, 1.92 [95% CI, 1.23-3.00]; $P=.004$, $I^2=0\%$) without a statistically significant increase in the risk of stroke (RR, 1.46 [95% CI, 0.81-2.62]; $P=.20$, $I^2=0\%$). All-cause mortality was reported in 146 of the patients treated with inhaled anticholinergics (2.1%) and 108 of the control patients (1.6%) (RR, 1.29 [95% CI, 1.00-1.65]; $P=.05$, $I^2=0\%$). A sensitivity analysis restricted to 6 long-term trials (>6 months) confirmed the significantly increased risk of cardiovascular death, MI, or stroke (2.9% of patients treated with anticholinergics vs 1.8% of the control patients; RR, 1.73 [95% CI, 1.27-2.35]; $P<.001$, $I^2=0\%$).

On page 1441, the following text should be added at the end of column 1 after the citation for Table 1 and in column 2 after the citations for Table 2 and Table 3, "(Casaburi et al[19] and Brusasco et al[24] each represent a composite of 2 trials and reported trial findings that had already been published without clearly acknowledging the respective earlier publications by Casaburi et al[23] and Donohue et al[25])." Also on page 1441, column 2, in the first full paragraph, the first 3 sentences should be "The trials included 13 645 participants, in which 6984 received inhaled anticholinergics and 6661 received control therapy." Under the heading "Primary Outcome," the first sentence should be "Inhaled anticholinergics significantly increased the risk of cardiovascular death, MI, or stroke (1.9% vs 1.2% for control; RR, 1.60 [95% CI, 1.22-2.10]; $P<.001$) in a meta-analysis of 17 trials involving 13 645 patients (FIGURE 2).[4,19-22,24,26-34]" In the next paragraph, the first 3 sentences should be "Among individual components of the primary outcome, inhaled anticholinergics significantly increased the risk of MI (1.2% vs 0.8% for control; RR, 1.52 [95% CI, 1.04-2.22]; $P=.03$) in a meta-analysis of 13 trials involving 10 553 patients.[4,19-22,24,26,28,31-33] Inhaled anticholinergics also significantly increased the risk of cardiovascular death (0.9% vs 0.5% for control; RR, 1.92 [95% CI, 1.23-3.00]; $P=.004$) in a meta-analysis of 12 trials involving 11 283 patients.[4,19-21,24,27,29-31,33]" Under the heading "Secondary Outcome," the 2 sentences should be "Inhaled anticholinergics did not significantly increase the risk of all-cause mortality (2.1% vs 1.6% for control; RR, 1.29 [95% CI, 1.00-1.65]; $P=.05$) in a meta-analysis of 17 trials involving 13 645 patients.[4,19-22,24,26-34] There was evidence of low statistical heterogeneity among the included trials ($I^2=0\%$) (TABLE 4)."

On page 1443, in column 1, the first sentence in the first full paragraph should be "Inhaled anticholinergics significantly increased the risk of cardiovascular death, MI, and stroke in a sensitivity analysis limited to the 6 long-term trials (>6 months) involving 7222 patients (2.9% vs 1.8% for control; RR, 1.73 [95% CI, 1.27-2.35]; $P<.001$) (FIGURE 3).[4,19-22]" The third sentence in this paragraph should be "The significantly increased risk of cardiovascular death, MI, and stroke was demonstrated even when we separately analyzed inhaled tiotropium vs control therapy (RR, 2.09 [95% CI, 1.20-3.63]; $P=.009$),[19-22] and inhaled ipratropium vs control therapy (RR, 1.57 [95% CI, 1.08-2.28]; $P=.02$)[4] in the long-term trials." The next sentence should be "Although there was no statistically significant increase in the risk of cardiovascular death, MI, and stroke in a sensitivity analysis of the 11 short-term trials (<26 weeks) involving 6423 patients (0.7% for anticholinergics vs 0.6% for control; RR, 1.23 [95% CI, 0.69-2.20]; $P=.48$), the direction of the drug effect was similar to that of the long-term trials (FIGURE 4).[24,26-34]"

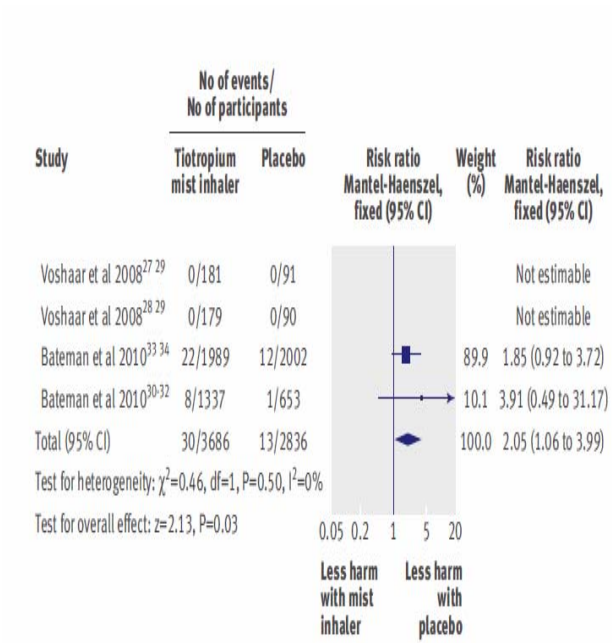
On page 1446, in Table 3, under the heading "Long-Term (>6 mo-5 y)," under "Chan et al,[22] 2007[c]," the value for the "All-Cause Mortality" column in the row for "Tiotropium," should be "15" instead of "17." In the next row for "Placebo," the value for the "Total No. of Participants" column should be "305" instead of "350." The corrected Figure 2, Figure 3, and Figure 4 and Table 4 appear herein.

BMJ

RESEARCH

Mortality associated with tiotropium mist inhaler in patients with chronic obstructive pulmonary disease: systematic review and meta-analysis of randomised controlled trials

Sonal Singh, assistant professor,[1] Yoon K Loke, senior lecturer,[2] Paul L Enright, professor,[3] Curt D Furberg, professor[4]



In this systematic review and meta-analysis of 6522 patients with chronic obstructive pulmonary disease tiotropium mist inhaler was associated with a 52% increased risk of all cause mortality compared with placebo

The study suggests a possible dose-response increased risk of mortality associated with tiotropium mist inhaler

The study showed an increased risk of cardiovascular mortality associated with tiotropium mist inhaler

1 MUERTE POR 124 PACIENTES /AÑO
I.C. 95%: 52-5862

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Tiotropium Respimat Inhaler and the Risk of Death in COPD

Robert A. Wise, M.D., Antonio Anzueto, M.D., Daniel Cotton, M.S., Ronald Dahl, M.D., Theresa Devins, Dr.Ph., Bernd Disse, M.D., Daniel Dusser, M.D., Elizabeth Joseph, M.P.H., Sabine Kattenbeck, Ph.D., Michael Koenen-Bergmann, M.D., Gordon Pledger, Ph.D., and Peter Calverley, D.Sc., for the TIOSPIR Investigators*

ABSTRACT

BACKGROUND

Tiotropium delivered at a dose of 5 μg with the Respimat inhaler showed efficacy similar to that of 18 μg of tiotropium delivered with the HandiHaler inhalation device in placebo-controlled trials involving patients with c… obstructive pulmonary disease (COPD). Although tiotropium HandiHaler w… d with reduced mortality, as compared with placebo, more deaths wer… otropium Respimat than with placebo.

METHODS

In this randomized, double-blind, … involving 17,135 patients with COPD, we evaluated the safe… tiotropium Respimat at a once-daily dose of 2.5 μg or 5 μg, a… tiotropium HandiHaler at a once-daily dose of 18 μg. Primary … e risk of death (noninferiority study, Respimat at a dose of 5 … HandiHaler) and the risk of the first COPD exacerbation (sup… spimat at a dose of 5 μg vs. HandiHaler). We also assessed ca… y, including safety in patients with stable cardiac disease.

RESULTS

During a mean follo… 2.3 years, Respimat was noninferior to HandiHaler with respect to the risk of … th (Respimat at a dose of 5 μg vs. HandiHaler: hazard ratio, 0.96; 95% confidence interval [CI], 0.84 to 1.09; Respimat at a dose of 2.5 μg vs. HandiHaler: hazard ratio, 1.00; 95% CI, 0.87 to 1.14) and not superior to HandiHaler with respect to the risk of the first exacerbation (Respimat at a dose of 5 μg vs. HandiHaler: hazard ratio, 0.98; 95% CI, 0.93 to 1.03). Causes of death and incidences of major cardiovascular adverse events were similar in the three groups.

CONCLUSIONS

Tiotropium Respimat at a dose of 5 μg or 2.5 μg had a safety profile and exacerbation efficacy similar to those of tiotropium HandiHaler at a dose of 18 μg in patients with COPD. (Funded by Boehringer Ingelheim; TIOSPIR ClinicalTrials.gov number, NCT01126437.)

From Johns Hopkins University School of Medicine, Baltimore (R.A.W.); University of Texas Health Science Center and South Texas Veterans Health Care System, San Antonio (A.A.), and private practice, Hamilton (G.P.) — both in Texas; Boehringer Ingelheim Pharmaceuticals, Ridgefield, CT (D.C., T.D., E.J.); Odense University Hospital, Odense, Denmark (R.D.); Boehringer Ingelheim, Ingelheim, Germany (B.D., S.K., M.K.-B.); Service de Pneumologie Hôpital Cochin, Assistance Publique–Hôpitaux de Paris, Université Paris Descartes, Sorbonne Paris Cité, Paris (D.D.); and Institute of Ageing and Chronic Disease, University of Liverpool, Liverpool, United Kingdom (P.C.). Address reprint requests to Dr. Wise at Johns Hopkins University School of Medicine, 5501 Hopkins Bayview Circle, Baltimore, MD 21224, or at rwise@jhmi.edu.

*Investigators in the Tiotropium Safety and Performance in Respimat (TIOSPIR) study are listed in the Supplementary Appendix, available at NEJM.org.

This article was published on August 30, 2013, at NEJM.org.

N Engl J Med 2013.
DOI: 10.1056/NEJMoa1303142

TIOSPIR 2013

TIOSPIR

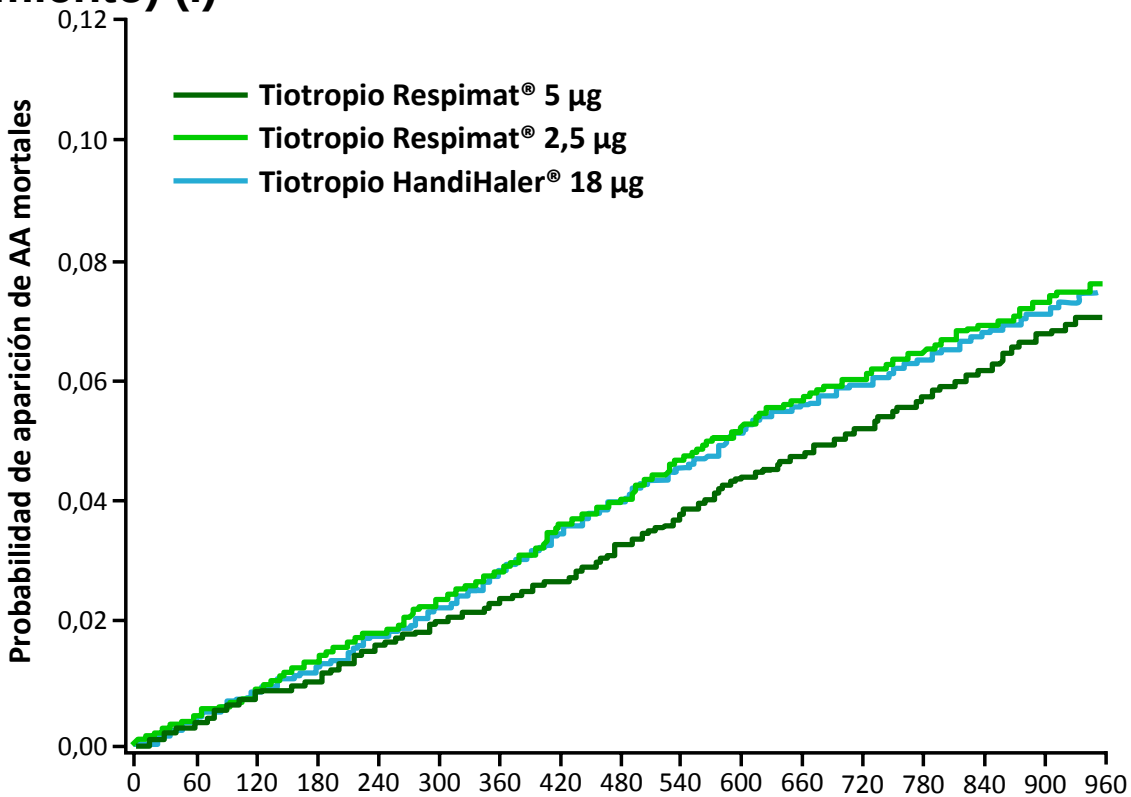
OBJETIVO SEGURIDAD TIOTROPIO

PACIENTES 17135

RAMAS

- TIOTROPIO 
- TIOTROPIO 
- B2 y CI

Ninguna diferencia entre grupos de tratamiento en el tiempo hasta la muerte por cualquier causa (análisis durante el tratamiento) (I)



Número bajo riesgo:																	
Tiotropio Respimat® 2,5 µg	5730	5564	5387	5290	5179	5083	5015	4903	4822	4728	4671	4602	4423	4155	3183	1431	385
Tiotropio Respimat® 5 µg	5711	5539	5333	5253	5138	5044	4978	4904	4809	4728	4662	4603	4427	4156	3171	1397	364
Tiotropio HandiHaler® 18 µg	5694	5534	5351	5242	5146	5058	4998	4897	4811	4729	4659	4605	4398	4130	3141	1387	373

CORTICOIDES INHALADOS Y NEUMONÍA

THE COCHRANE COLLABORATION®

Inhaled steroids and risk of pneumonia for chronic obstructive pulmonary disease (Review)

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2014, Issue 3

http://www.thecochranelibrary.com

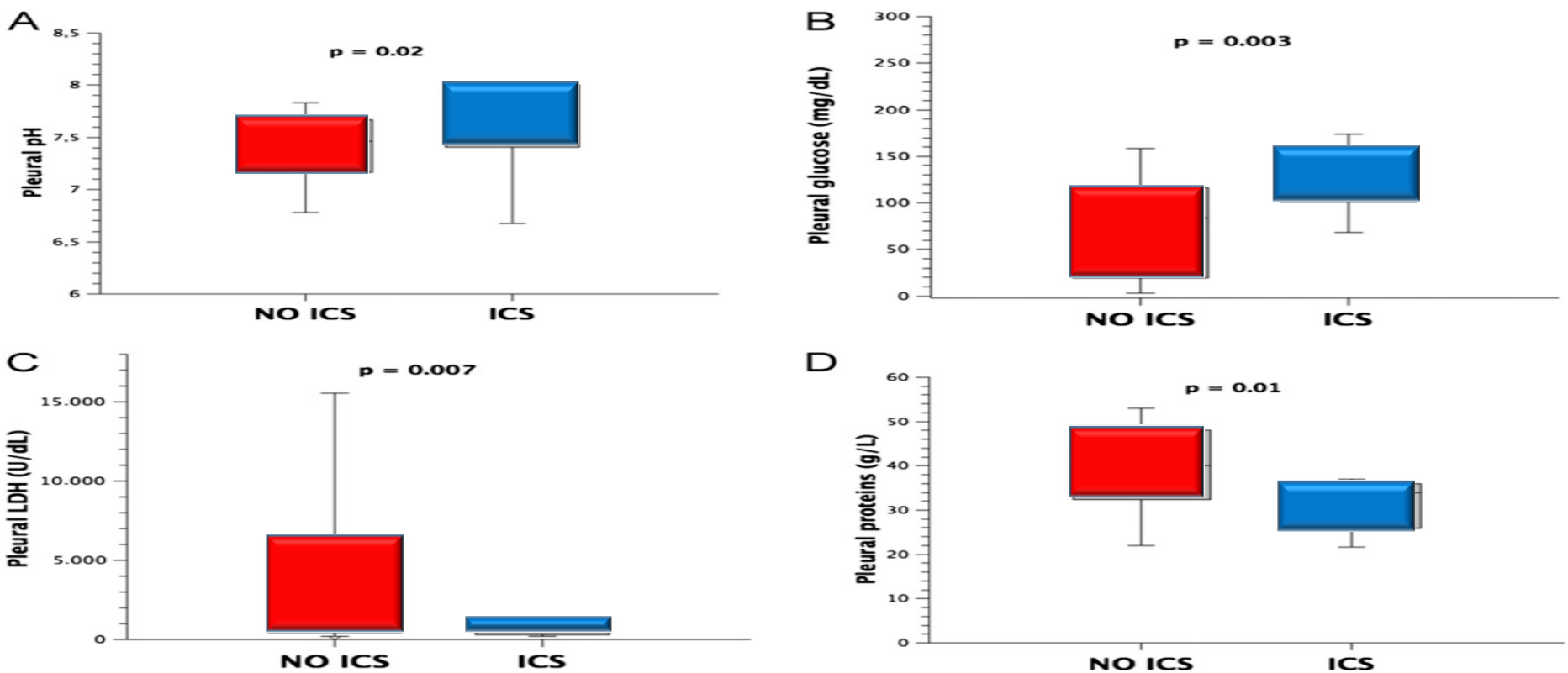
Budesonide and fluticasone, delivered alone or in combination with a LABA, are associated with increased risk of serious adverse pneumonia events, but neither significantly affected mortality compared with controls. The safety concerns highlighted in this review should be balanced with recent cohort data and established randomised evidence of efficacy regarding exacerbations and quality of life. Comparison of the two drugs revealed no statistically significant difference in serious pneumonias, mortality or serious adverse events.

Influence of Previous Use of Inhaled Corticoids on the Development of Pleural Effusion in Community-acquired Pneumonia

Am J Respir Crit Care Med Vol 187, Iss. 11, pp 1241–1248, Jun 1, 2013

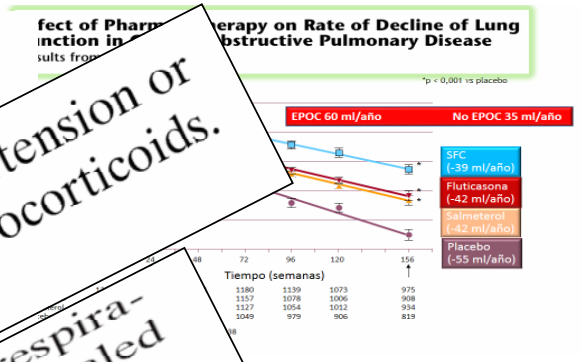
Jacobo Sellares[1,2], Alejandra López-Giraldo[1], Carmen Lucena[1,2], Catia Cilloniz[1,2], Rosanel Amaro[1,2], Eva Polverino[1,2], Miquel Ferrer[1,2], Rosario Menéndez[2,3], Josep Mensa[4], and Antoni Torres[1,2]

5% CI vs 13% no CI



Medications to Modify Lung Function Decline in Chronic Obstructive Pulmonary Disease

Some Hopeful Signs



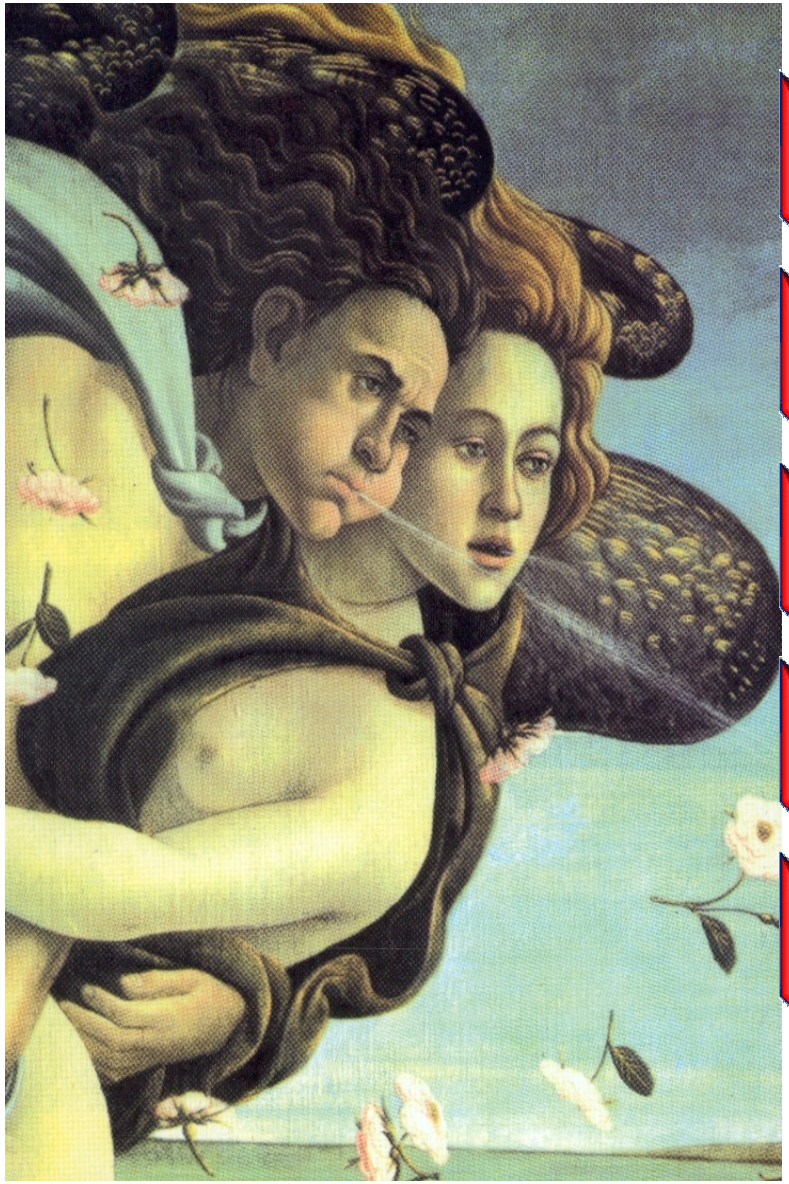
component (6, 8). More
combination have
glaucoma an
been sh
be
evid
cation
cortico
sary and thus inappropriate.

9. Garbe E, LeLorier J, Boivin JF, Suissa S. Risk of ocular hypertension or open-angle glaucoma in elderly patients on oral glucocorticoids. *Lancet* 1997;350:979–982.

The implications of our results for the treatment of respiratory disease are important. The fact that long-term use of inhaled corticosteroids does not appear to be associated with an increased risk of hip or upper extremity fracture, except at very high doses, suggests that the doses corresponding to the current treatment guidelines are safe.

Samy Suissa, Marc Baltzan, Richard Kremer, and Pierre Ernst

advances that
the first possible
can be slowed with medi-
evidence that the use of inhaled
combination, in COPD is unneces-



- DIAGNÓSTICO
- PRONÓSTICO
- TRATAMIENTO
- COMORBILIDADES
- FUTURO

Causas de mortalidad en la EPOC

Arch Bronconeumol. 2009;45(Supl 4):8-13

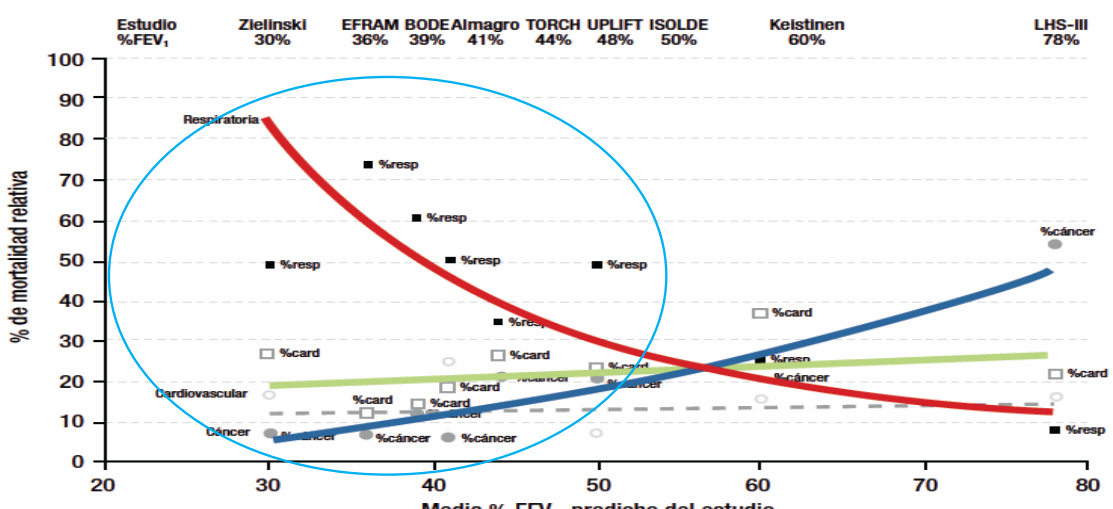
ELSEVIER DOYMA

ARCHIVOS DE BRONCONEUMOLOGIA

www.archbronconeumol.org

Causas de mortalidad en la EPOC

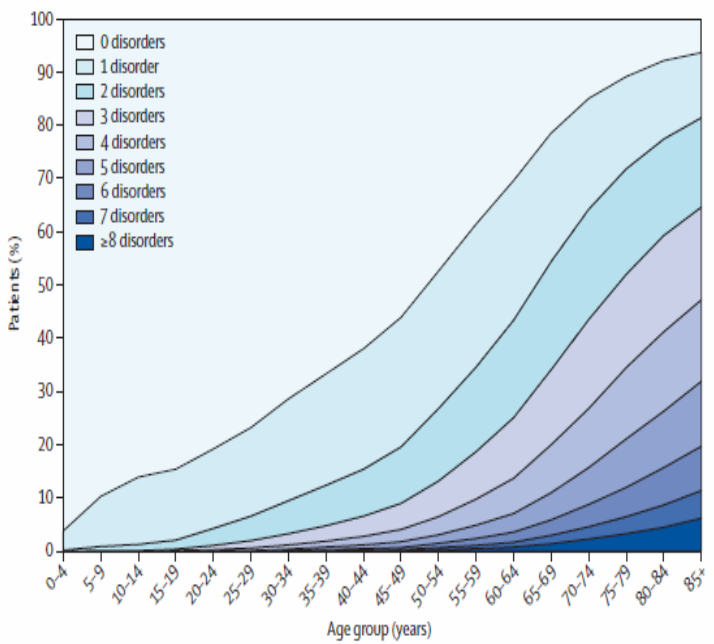
Joan B. Soriano Ortiz [a,b,*], Pere Almagro [c] y Jaume Sauleda Roig [b,d]

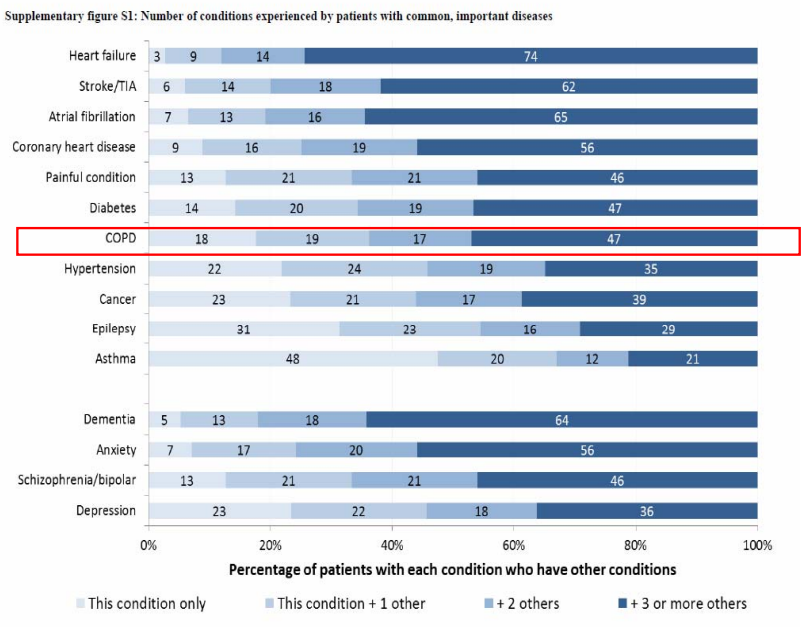


Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study

Karen Barnett, Stewart W Mercer, Michael Norbury, Graham Watt, Sally Wyke, Bruce Guthrie

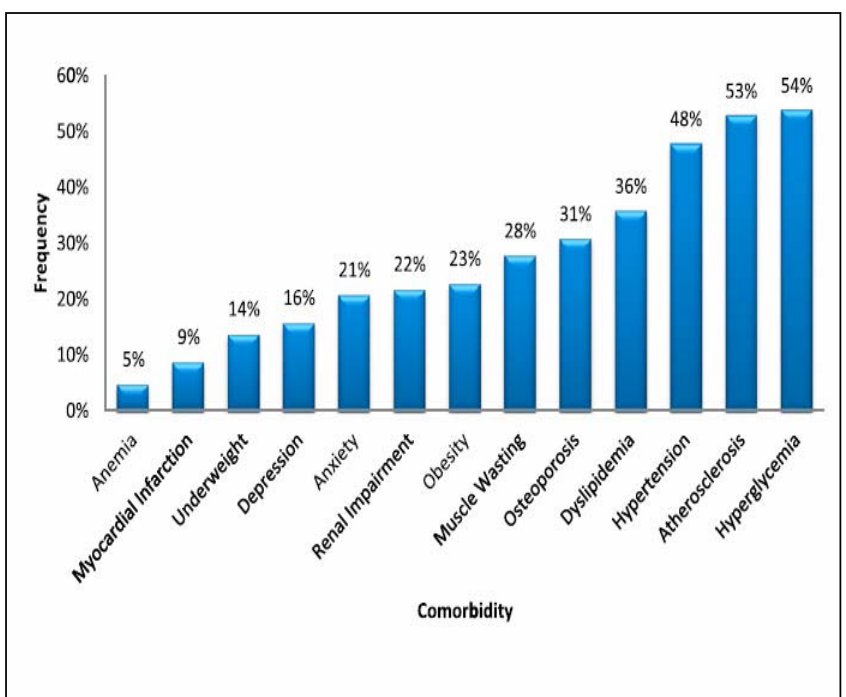
www.thelancet.com Vol 380 July 7, 2012

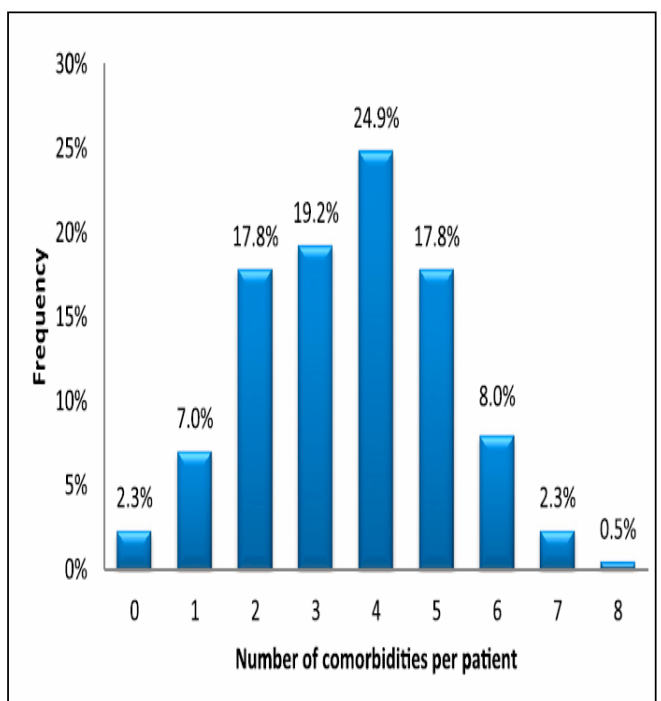




Clusters of Comorbidities Based on Validated Objective Measurements and Systemic Inflammation in Patients with Chronic Obstructive Pulmonary Disease

Lowie E. G. W. Vanfleteren[1,2], Martijn A. Spruit[1], Miriam Groenen[1], Swetlana Gaffron[3], Vanessa P. M. van Empel[1,4], Piet L. B. Bruijnzeel[5], Erica P. A. Rutten[1], Jos Op 't Roodt[6], Emiel F. M. Wouters[1,2], and Frits M. E. Franssen[1,2]

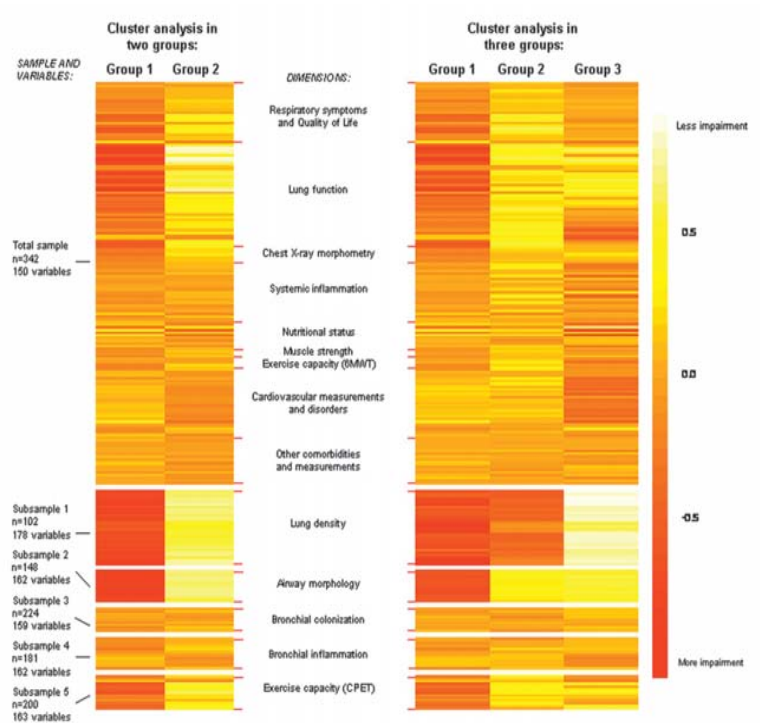




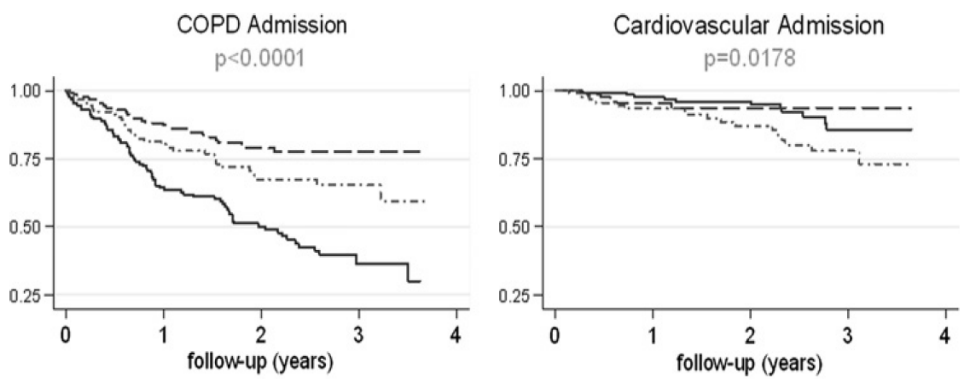
Am J Respir Crit Care Med Vol 187, Iss. 7, pp 728–735, Apr 1, 2013

Identification and prospective validation of clinically relevant chronic obstructive pulmonary disease (COPD) subtypes

Thorax 2011;**66**:430—437.



RESPIRATORIO SISTÉMICO



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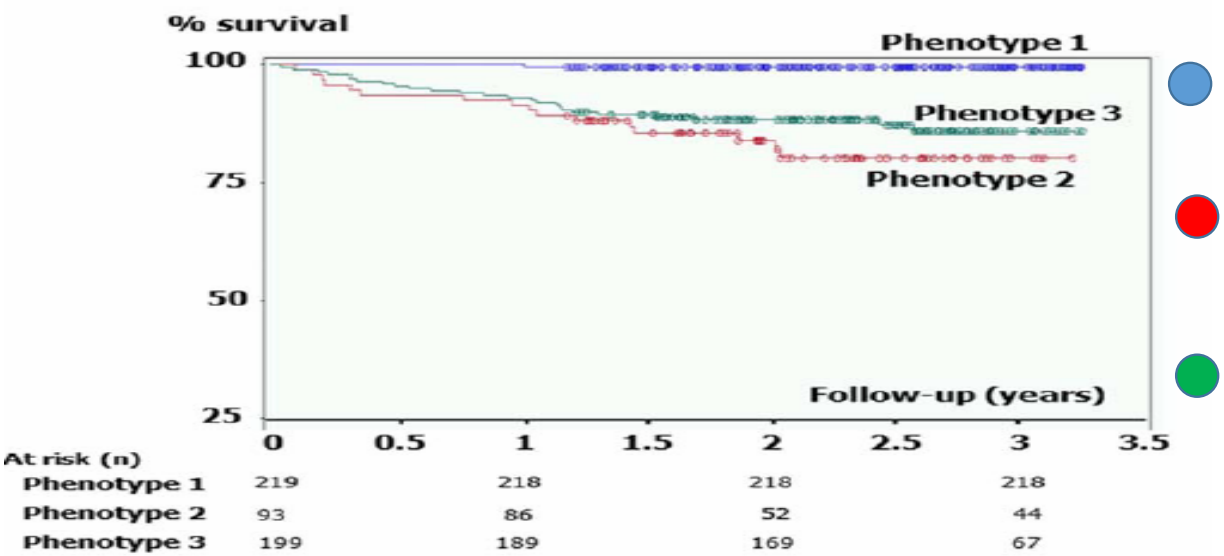
PLOS | ONE

Two Distinct Chronic Obstructive Pulmonary Disease (COPD) Phenotypes Are Associated with High Risk of Mortality

December 2012

Pierre-Régis Burgel[1]*, Jean-Louis Paillasseur[2], Bernard Peene[3], Daniel Dusser[1], Nicolas Roche[4] Johan Coolen[5], Thierry Troosters[3], Marc Decramer[3], Wim Janssens[3]

1 Service de Pneumologie, Hôpital Cochin, AP-HP and Université Paris Descartes, Sorbonne Paris Cité, Paris, France, **2** Clindatafirst, Clamart, France, **3** Respiratory Division, University Hospital Gasthuisberg, K.U. Leuven, Leuven, Belgium, **4** Service de Pneumologie, Hôpital de l'Hôtel Dieu, AP-HP and Université Paris Descartes, Sorbonne Paris Cité, Paris, France, **5** Radiology, University Hospital Gasthuisberg, K.U. Leuven, Leuven, Belgium



EPOC MODERADA
BAJA COMORBILIDAD

JOVENES
EPOC GRAVE
BAJA COMORBILIDAD

VIEJOS
EPOC LEVE
COMORBILIDAD ALTA

Table 3. Cox model analysis of mortality between phenotypes.

	Unadjusted		Adjusted for age	
	Hazard Ratio [95% CI]	*P* value	Hazard Ratio [95% CI]	*P* value
Phenotype 2 vs. 3	1.4 [0.8;2.7]	0.23	3.3 [1.5; 7.2]	0.002
Phenotype 2 vs. 1	42.4 [5.6; 320.1]	0.0003	47.5 [6.3; 358.6]	0.0002
Phenotype 3 vs. 1	28.9 [3.9;213.3]	0.001	14.3 [1.9; 110;3]	0.01

HTA
Diabetes
Obesidad y sdme. Metabólico
Dislipemia
Cardiopatía isquémica
Insuficiencia cardiaca
Fibrilación auricular
Enfermedad arterial periférica
Ictus
Insuficiencia renal crónica
Anemia
Ansiedad y depresión
Deterioro cognitivo
Cáncer de pulmón
Osteoporosis
Desnutrición
Reflujo gastroesofágico
Enfermedad tromboembólica…….

PACIENTES HOSPITALIZADOS POR EPOC, CON UNA O MAS DE LAS SIGUIENTES COMORBILIDADES

FIBRILACIÓN AURICULAR
INSUFICIENCIA CARDIACA
DIABETES MELLITUS

CHEST Original Research
COPD

Comorbidities and Short-term Prognosis in Patients Hospitalized for Acute Exacerbation of COPD

The EPOC en Servicios de Medicina Interna (ESMI) Study

Incluidas en el índice de Charlson	N	%
Cardiopatía isquémica	126	20.8
Insuficiencia cardiaca	199	32.8
Enfermedad vascular periférica	102	16.8
Enfermedad cerebrovascular	71	11.7
Enfermedad hepática (leve)	35	5.8
DM sin lesión de órgano diana	172	28.4
Insuficiencia renal crónica (creatinina <3)	94	15.5
Insuficiencia renal crónica (creatinina >3)	4	0.7
DM con lesión de órgano diana	45	7.4
Tumor sólido	73	12

CHEST Original Research
COPD

Comorbidities and Short-term Prognosis in Patients Hospitalized for Acute Exacerbation of COPD

The EPOC en Servicios de Medicina Interna (ESMI) Study

No incluidas en el índice de Charlson	N	%
Infarto de miocardio	70	11.6
HTA	384	63.4
Osteoporosis	96	15.8
Depresión	91	15
Ansiedad	111	18.3
Dislipidemia	205	33.8
SAHOS	74	12.2
Fibrilación auricular	128	21.1
Anemia ferropénica	54	8.9
Otras anemias	63	10.4
Obesidad abdominal	178	29.4
Enfermedad tromboembólica	26	4.3
Cáncer de pulmón	12	2
Cáncer gastrointestinal	9	1.5
Otras neoplasias	44	7.3

MORTALIDAD 3 MESES

Variables	*P* Value	HR	95% CI
Age	< .007	1.068	1.02-1.1
Hospitalization for COPD in previous year	< .001	1.4	1.2-1.7
Hospitalization for other causes in previous year	< .05	1.3	1.15-1.57
Dyspnea	< .0001	2.36	1.57-3.55
Chronic oxygen therapy	< .003	3.4	1.5-7.5
Charlson index	< .0001	1.35	1.18-1.57
Global comorbidity scale	< .003	1.32	1.15-1.52
Katz index	< .0001	0.7	0.58-0.85
FEV_1 stratified GOLD	< .04	1.78	1.02-3.11
Ischemic heart disease	< .01	1.29	1.04-1.61
Heart failure	< .01	2.31	1.05-5.1
Peripheral vascular disease	< .002	3.83	1.71-8.57
Cerebrovascular disease	< .006	3.44	1.49-7.99
Dementia	< .001	5.17	1.76-15.28
Chronic kidney disease	< .005	3.91	1.75-8.73
Hemiplegia	< .0001	32.2	10.2-101
Depression	< .012	3.24	1.24-7.36
Atrial fibrillation	< .001	2.8	1.28-6.15

CHEST Original Research
COPD

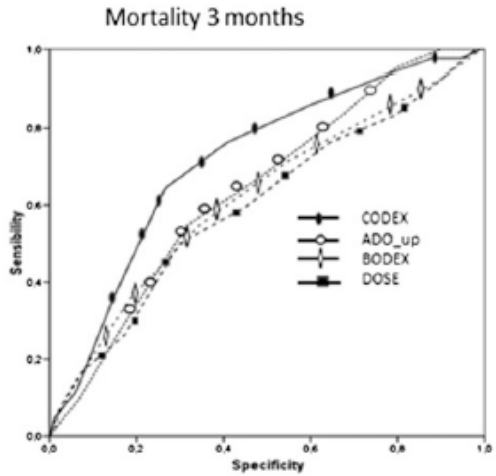
Short- and Medium-term Prognosis in Patients Hospitalized for COPD Exacerbation

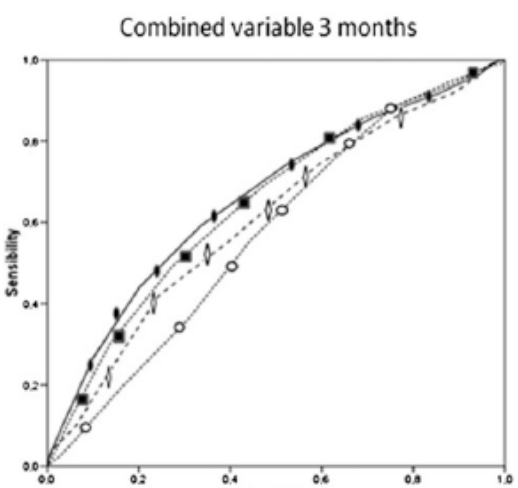
The CODEX Index

*Pedro Almagro, MD; Joan B. Soriano, MD; Francisco J. Cabrera, MD; Ramon Boixeda, MD; M. Belen Alonso-Ortiz, MD; Bienvenido Barreiro, MD; Jesus Diez-Manglano, MD; Cristina Murio, MD; Josep L. Heredia, MD; and the Working Group on COPD, Spanish Society of Internal Medicine**

Table 1—*Variables and Thresholds to Estimate the CODEX Index*

			Scoring			
CODEX	Domain	Variables	0	1	2	3
C	Comorbidity	Charlson index[a]	0-4	5-7	≥ 8	…
O	Obstruction	FEV_1 %	≥ 65	50-64	36-49	≤ 35
D	Dyspnea	mMRC scale	0-1	2	3	4
EX	Exacerbation	Exacerbation[b]	0	1-2	≥ 3	…





The CODEX Index

A Collection or Digest of Laws: A Code

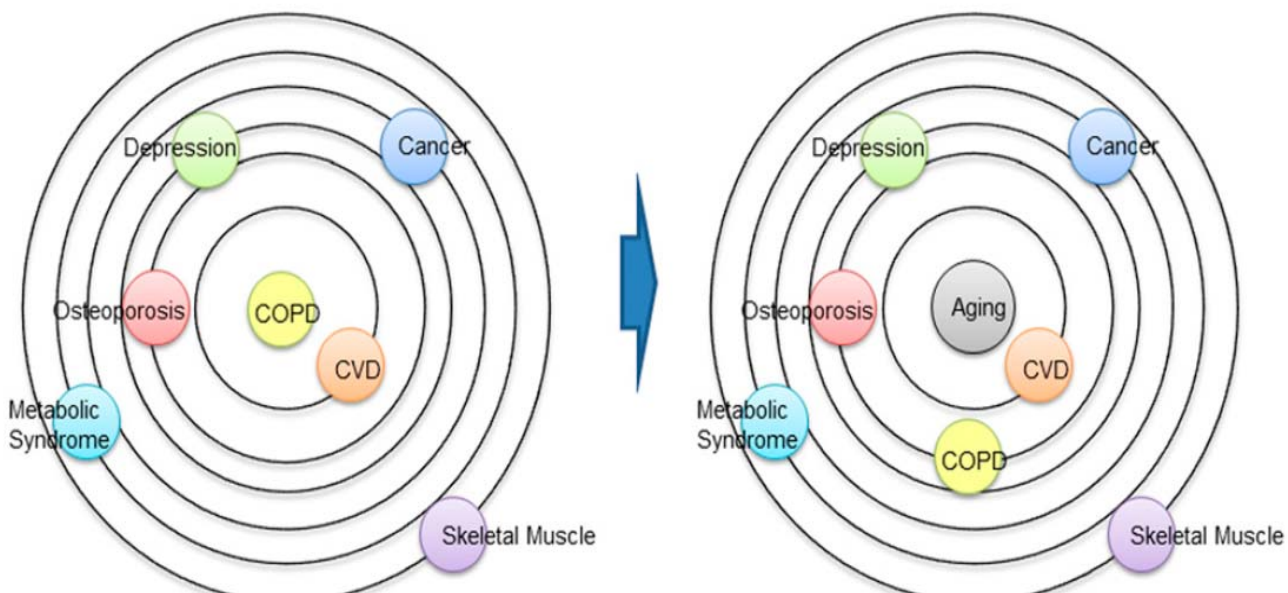
The CODEX index is based on comorbidity, age, obstruction, dyspnea, and previous severe exacerbations. Its main novelty is the inclusion of the Charlson comorbidity score coupled with one extra point per decade of life. This must be correct as any prediction of mortality disregarding age and comorbidity is probably doomed to failure.

TRANSATLANTIC AIRWAY CONFERENCE

Phenotypes and Disease Characterization in Chronic Obstructive Pulmonary Disease

Toward the Extinction of Phenotypes?

Alvar Agustí



Ann Am Thorac Soc Vol 10, Supplement, pp S125–S130, Dec 2013

Los periodistas del futuro escribirán en computadoras

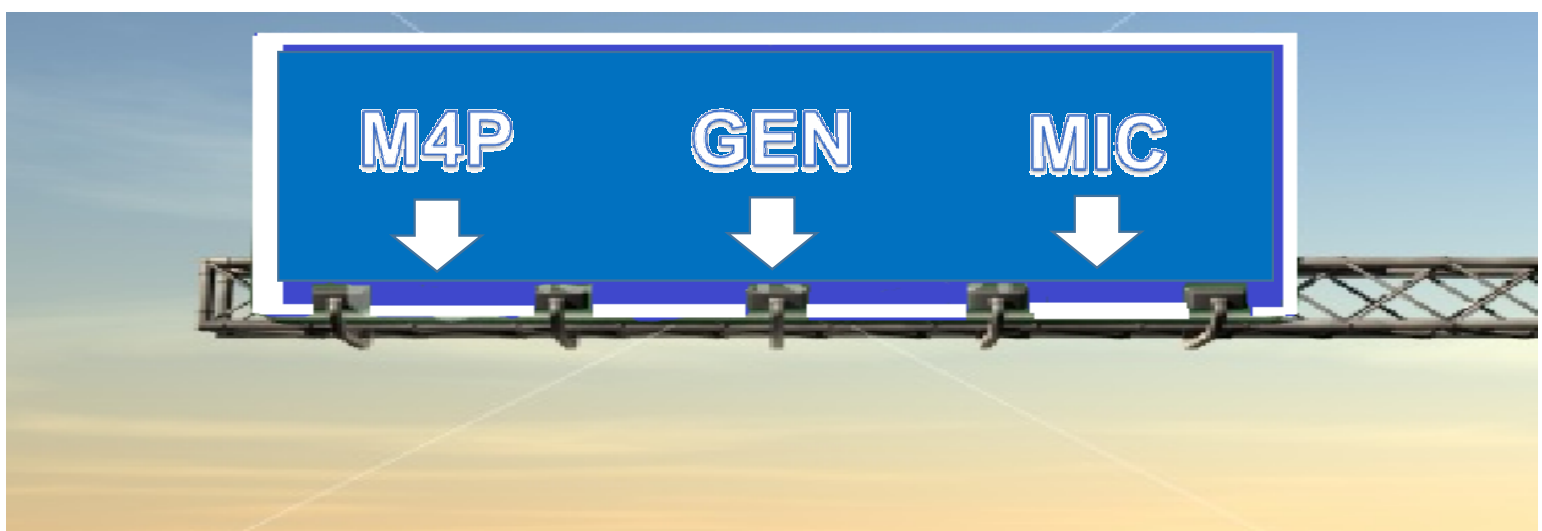
Pamplona, (España), 3 Mar. (EFE). — Las redacciones de los periódicos del futuro serán salas de computadoras sin máquinas de escribir. El sistema de fotocomposición es el primer paso de una nueva tecnología periodística: el periódico integrado.

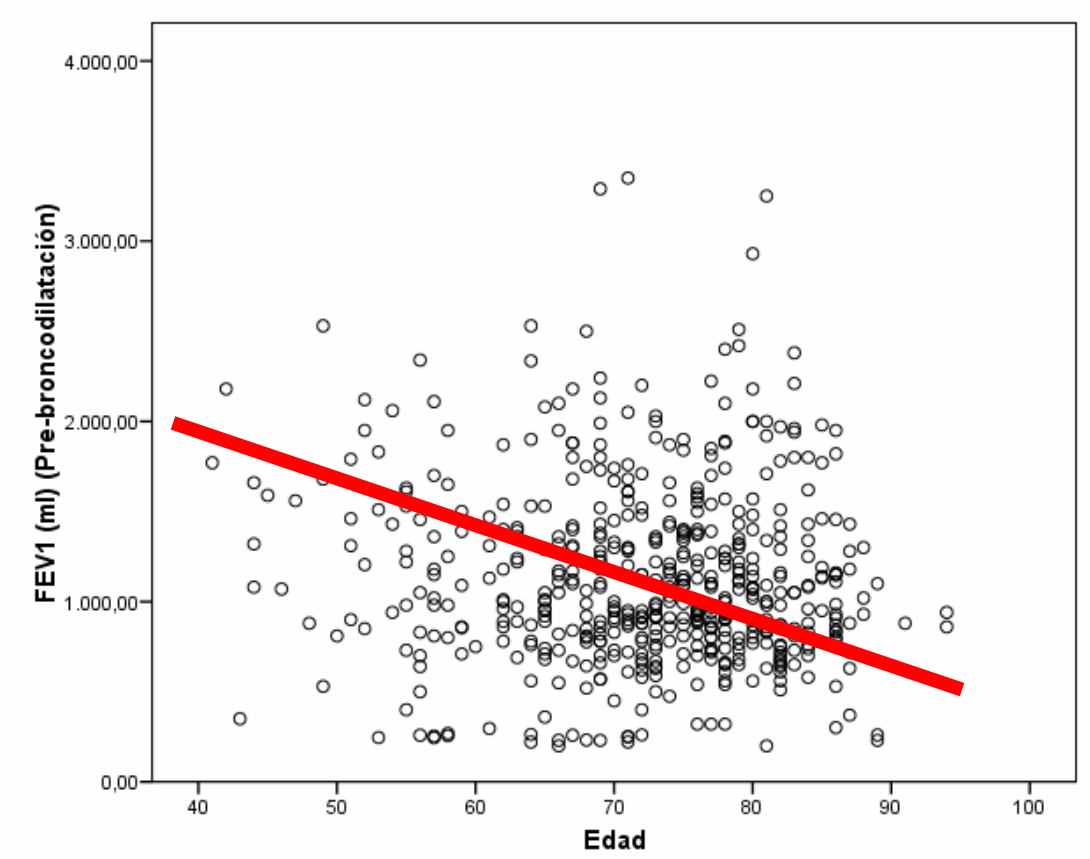
Esta afirmación fue hecha por el profesor alemán Fredich Burrhardt, Director General de I.F.R.A. (Asociación de Editores Europeos), en el transcurso de una conferencia que pronunció hoy en la Universidad de Navarra, sobre la "tecnología periodística".

El doctor Burrhardt agregó que "este periódico integrado desempeñará sus funciones de manera totalmente electrónica, lo que constituirá una manera nueva de trabajar dentro de una década o, quizá, menos".

"El redactor" —explicó— escribirá su noticia en una computadora y, tras apretar un botón, estará impresa en el periódico. Las agencias de noticias podrán mandar páginas completas a los periódicos, que éstos podrán utilizar íntegramente".

El conferenciante indicó que existen tres motivos por los que los periódicos tendrán que utilizar esta nueva tecnología: para que el producto sea lo más barato posible, para adaptar el contenido a los lectores y poder cambiar sus costumbres según las nuevas estructuras de la sociedad.




FEV1 (ml) (Pre-broncodilatación)
4.000,00
3.000,00
2.000,00
1.000,00
0,00
40
50
60
70
80
90
100
Edad

Patterns of Functional Decline at the End of Life.
Lunney JR. JAMA 2003

Palliative Medicine 2007; **21:** 95–99

Dying trajectories in heart failure

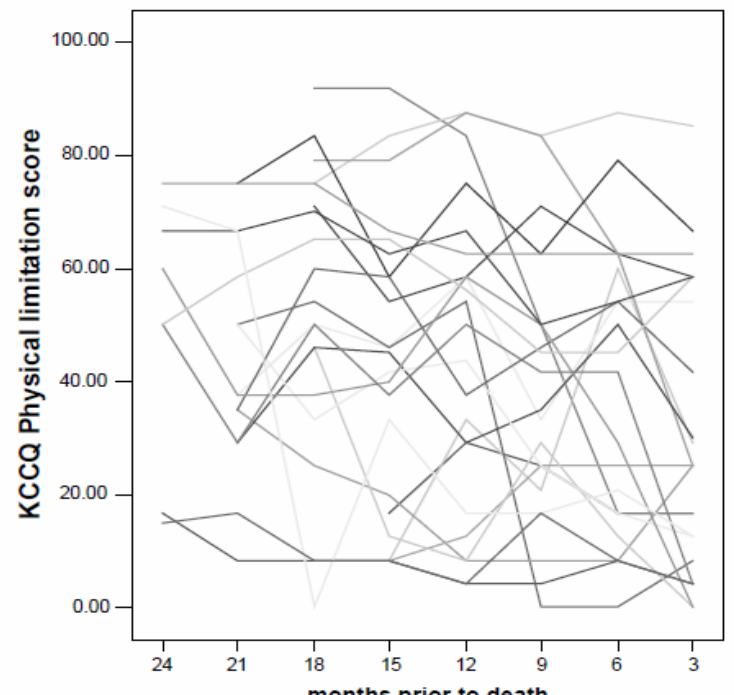


Figure 1 Trajectories showing KCCQ physical limitation scores of 27 patients for 24 months prior to death

Preparing for Precision Medicine

Reza Mirnezami, M.R.C.S., Jeremy Nicholson, Ph.D., and Ara Darzi, M.D.

N ENGL J MED 366;6 NEJM.ORG FEBRUARY 9, 2012

OPEN ACCESS Freely available online

PLOS | COMPUTATIONAL BIOLOGY

Review

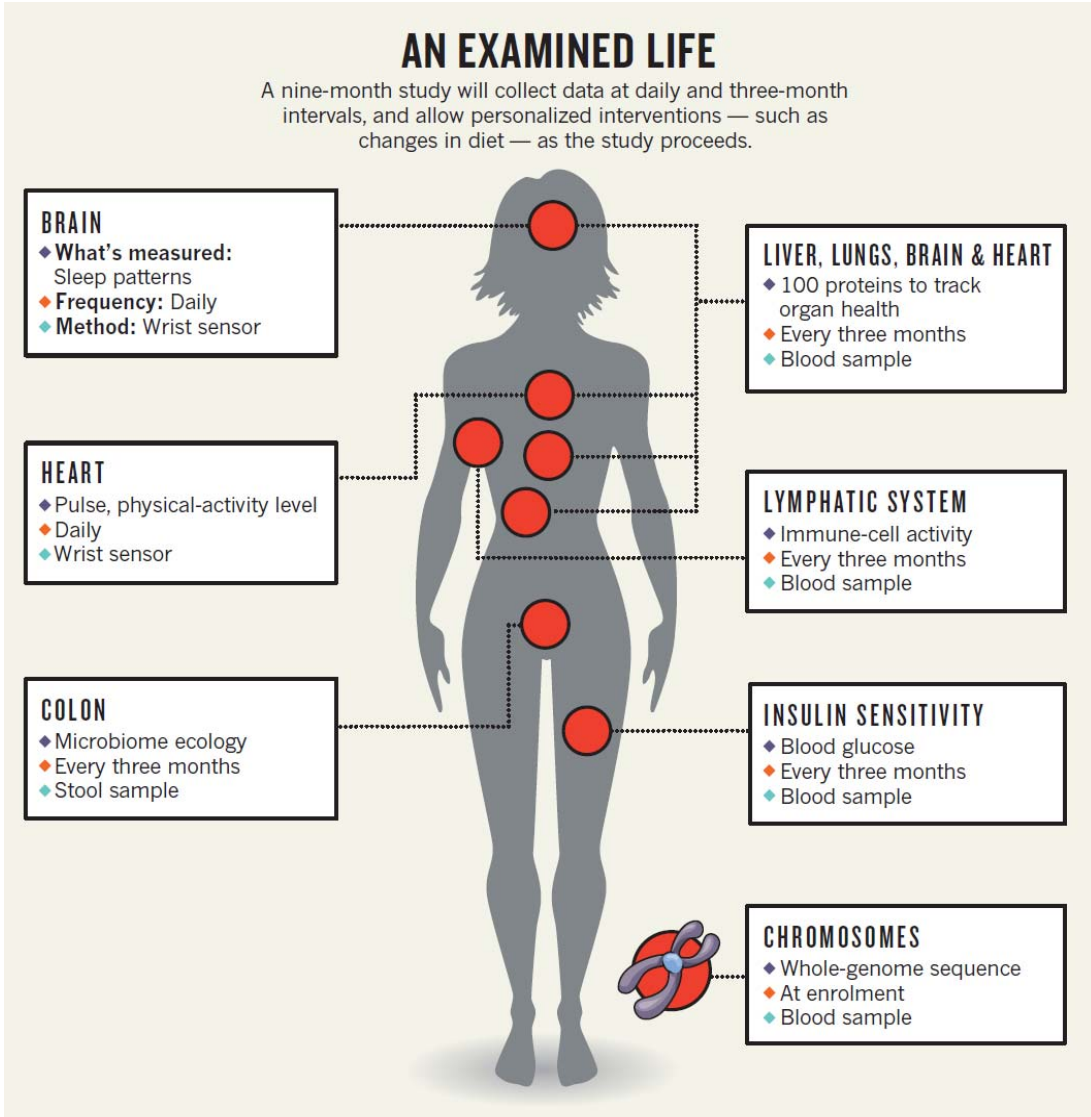
Towards Structural Systems Pharmacology to Study Complex Diseases and Personalized Medicine

Lei Xie[1,2*], Xiaoxia Ge[1], Hepan Tan[1], Li Xie[3], Yinliang Zhang[3], Thomas Hart[4], Xiaowei Yang[5], Philip E. Bourne[3]

Revisión

Medicina P4: el futuro a la vuelta de la esquina

Patricia Sobradillo[a,b,c,*], Francisco Pozo[a,d] y Álvar Agustí[a,b,c,e]



COCOMICS-1

CHEST Original Research
COPD

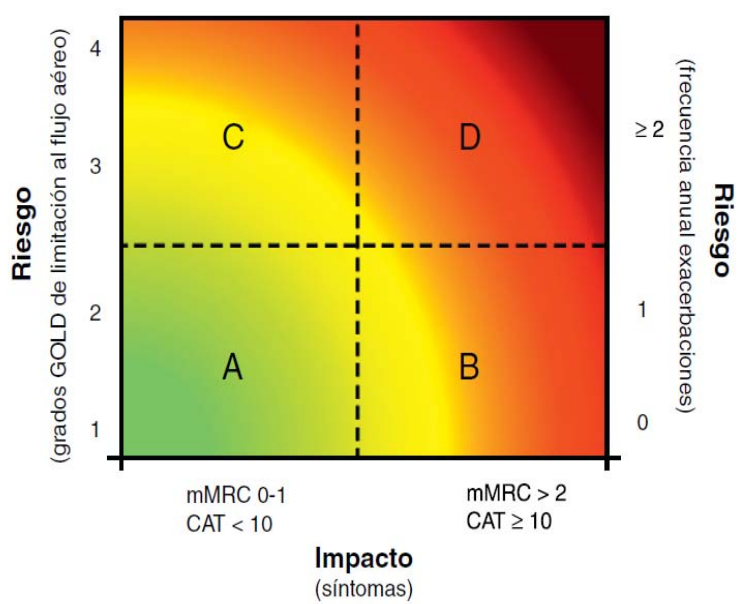
Distribution and Prognostic Validity of the New Global Initiative for Chronic Obstructive Lung Disease Grading Classification

CLASIFICACIÓN

Estadio	Criterio*
I: Leve	$FEV_1/FVC < 0.70$, $FEV_1 \geq 80\%$ teórico
II: Moderada	$FEV_1/FVC < 0.70$, $50\% \leq FEV_1 < 80\%$ teórico
III: Grave	$FEV_1/FVC < 0.70$, $30\% \leq FEV_1 < 50\%$ teórico
IV: Muy grave	$FEV_1 < 30\%$ teórico *o*

(GOLD) 2013. Available from: http://www.goldcopd.org.

* Post-broncodilatador

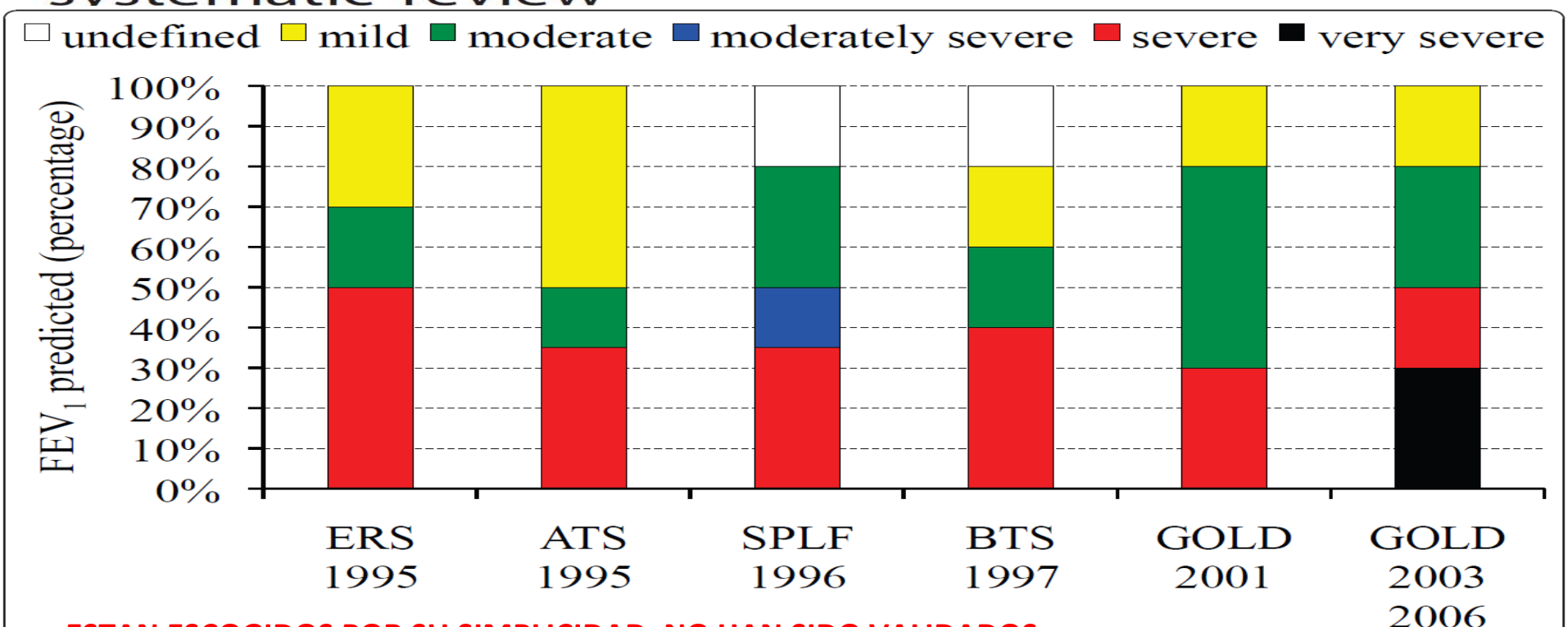


Atsou *et al. BMC Medicine* 2011, **9**:7
http://www.biomedcentral.com/1741-7015/9/7

BMC Medicine

RESEARCH ARTICLE Open Access

Variability of the chronic obstructive pulmonary disease key epidemiological data in Europe: systematic review



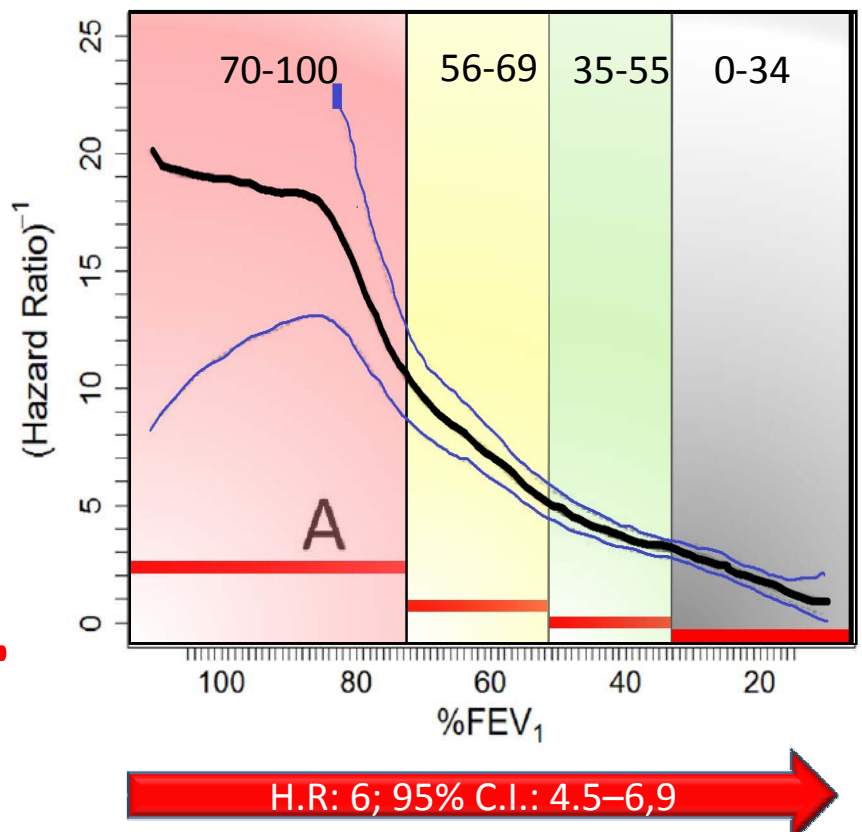
ESTAN ESCOGIDOS POR SU SIMPLICIDAD, NO HAN SIDO VALIDADOS.
HISTORICAMENTE SE HAN UTILIZADO DIFERENTES PUNTOS DE CORTE.

OPEN ACCESS Freely available online

PLOS | ONE

Finding the Best Thresholds of FEV_1 and Dyspnea to Predict 5-Year Survival in COPD Patients: The COCOMICS Study

Pere Almagro[1]*, Pablo Martinez-Camblor[2], Joan B. Soriano[3], Jose M. Marin[4], Inmaculada Alfageme[5], Ciro Casanova[6], Cristobal Esteban[7], Juan J. Soler-Cataluña[8], Juan P. de-Torres[9], Bartolome R. Celli[10], Marc Miravitlles[11]



Supervivencia a 5 años:

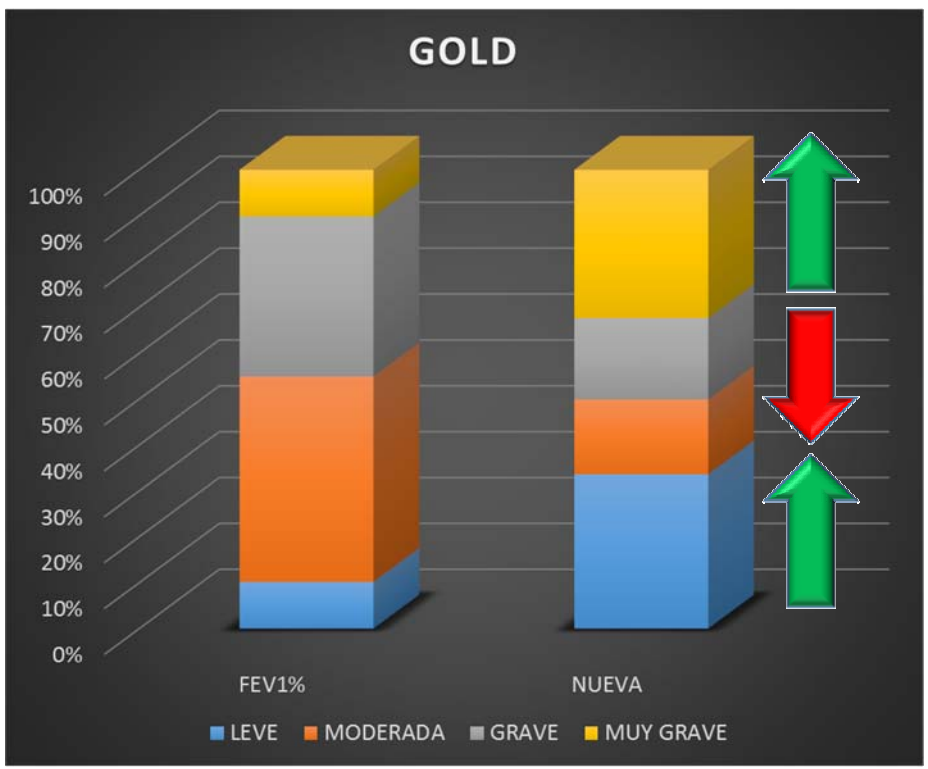
0,89 (0,86-0,92)

0,46 (0,42-0,51)

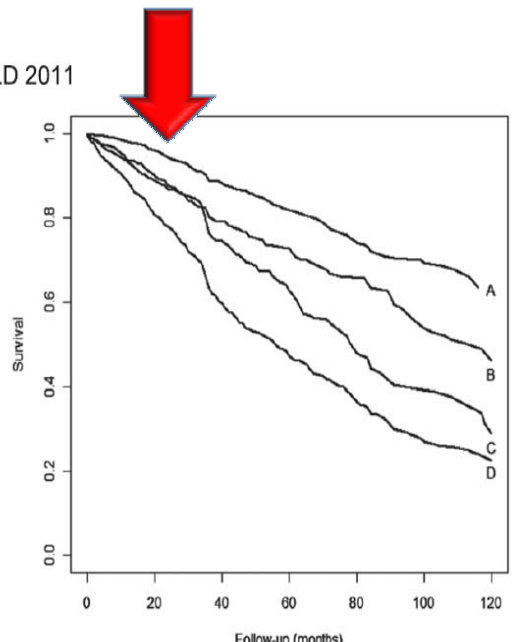
CHEST Original Research
COPD

Distribution and Prognostic Validity of the New Global Initiative for Chronic Obstructive Lung Disease Grading Classification

Joan B. Soriano, MD; Inmaculada Alfageme, MD; Pere Almagro, MD; Ciro Casanova, MD; Cristobal Esteban, MD; Juan J. Soler-Cataluña, MD; Juan P. de Torres, MD; Pablo Martinez-Camblor, PhD; Marc Miravitlles, MD; Bartolome R. Celli, MD, FCCP; and Jose M. Marin, MD



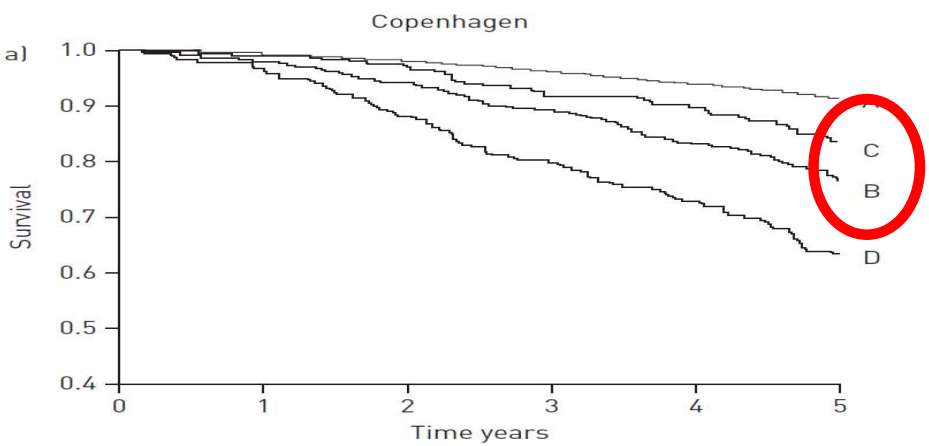
B New GOLD 2011

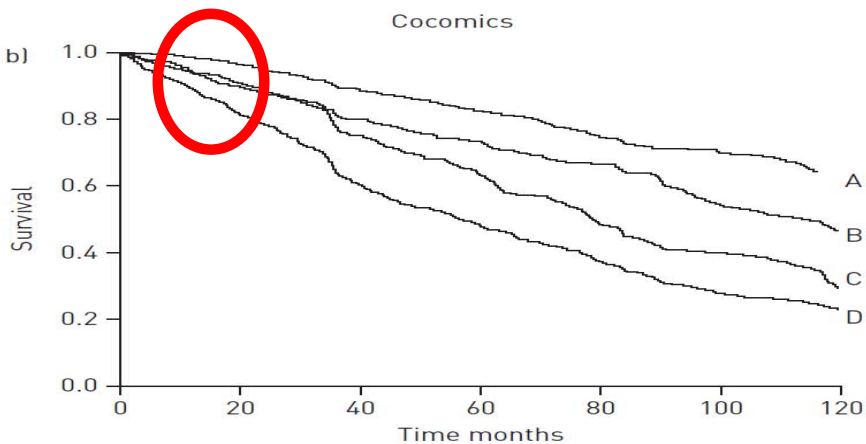


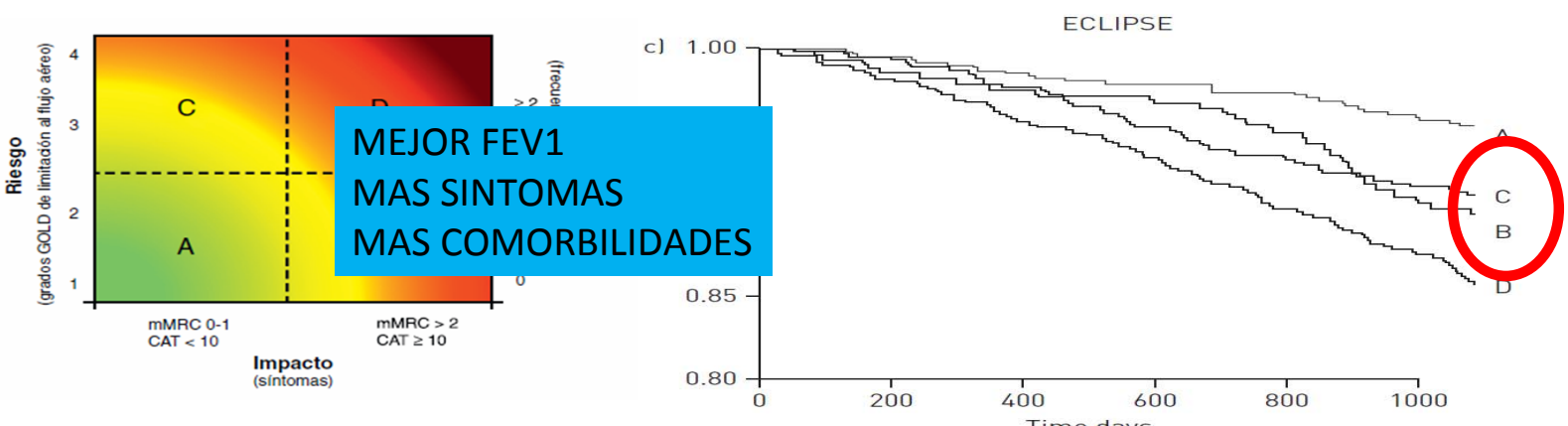
Cox model adjusted by cohort (differences between stages B and C disappears).

	HR (95% CI)
COPD new GOLD B	1.70 (1.38-2.10)
COPD new GOLD C	1.69 (1.39-2.08)
COPD new GOLD D	2.79 (2.35-3.32)

FAQs about the GOLD 2011 assessment proposal of COPD: a comparative analysis of four different cohorts







MEJOR FEV1
MAS SINTOMAS
MAS COMORBILIDADES

Agustí A, ERJ 2013

COPDGene Study

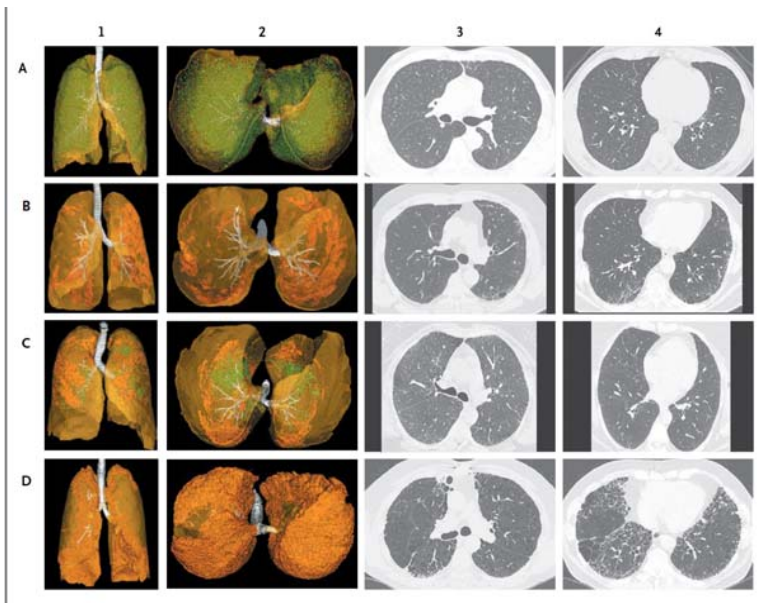
- Cohort: Over 10,000 individuals with COPD or at risk of developing COPD
- Objective: to analyze genetic variations to identify the primary genes that determine why some individuals are more susceptible to developing COPD than others.
- Identifying genetic factors that contribute to this disease will help us understand the biological mechanisms involved, which will ultimately lead to better treatments and improved outcomes for patients.

COPDGene
COPD Genetic Epidemiology

The NEW ENGLAND JOURNAL of MEDICINE

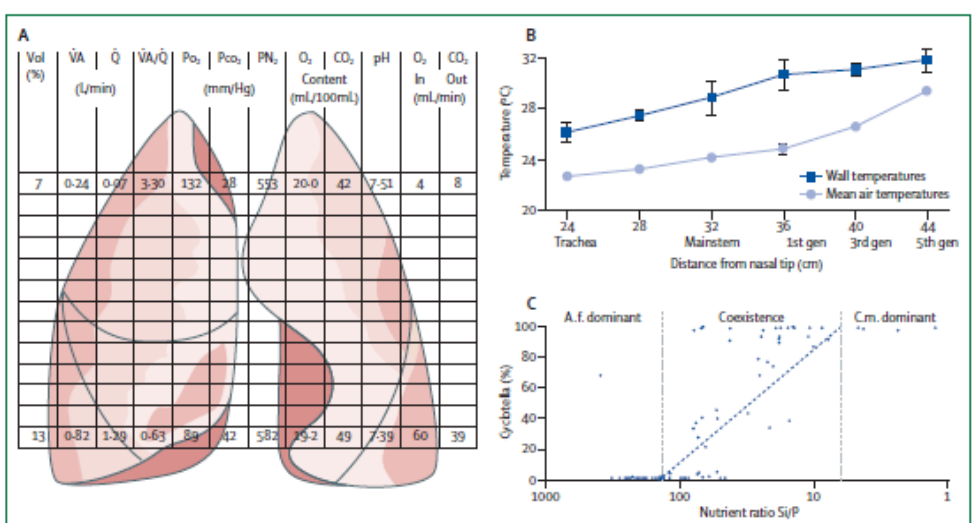
ESTABLISHED IN 1812 MARCH 10, 2011 VOL. 364 NO. 10

Lung Volumes and Emphysema in Smokers with Interstitial Lung Abnormalities



Towards an ecology of the lung: new conceptual models of pulmonary microbiology and pneumonia pathogenesis

Robert P Dickson, John R Erb-Downward, Gary B Huffnagle



	Microbial source
Aminoglycosides	*Streptomyces* spp (bacteria)
Aztreonam	*Chromobacterium violaceum* (bacteria)
Bacitracin	*Bacillus subtilis* (bacteria)
Carbapenems	*Streptomyces* spp (bacteria)
Cephalosporins	*Acremonium* spp (fungi)
Chloramphenicol	*Streptomyces* spp (bacteria)
Colistin, polymyxin B	*Bacillus polymyxa* (bacteria)
Echinocandins	*Papularia sphaerosperma* (fungi)
Glycopeptides (eg, vancomycin)	*Amycolatopsis orientalis* (bacteria)
Ivermectin	*Streptomyces* spp (bacteria)
Lincosamides (eg, clindamycin)	*Streptomyces* spp (bacteria)
Lipopeptides (eg, daptomycin)	*Streptomyces* spp (bacteria)
Macrolides	*Streptomyces* spp (bacteria)
Metronidazole	*Streptomyces* spp (bacteria)
Mupirocin	*Pseudomonas fluorescens* (bacteria)
Oxazolidononeς (eg, linezolid)	*Streptomyces* spp (bacteria)
Penicillins	*Penicillium* spp (fungi)
Polyenes (eg, amphotericin)	*Streptomyces* spp (bacteria)
Rifampicin	*Amycolatopsis rifamycinica* (bacteria)
Tetracyclines	*Streptomyces* spp (bacteria)

Table 1: **Antimicrobials of microbial origin**

CASE BASED DISCUSSIONS

COPD, end of life and Ceiling of Treatment

D Robin Taylor

Taylor DR. *Thorax* 2014;**69**:497–499.

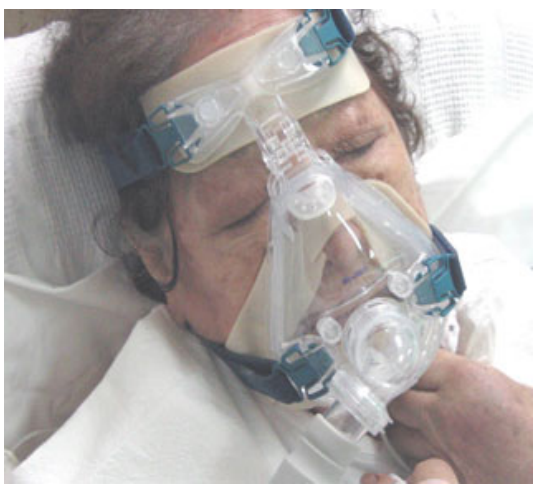
La posibilidad de que un paciente este al final de la vida, no entra en las mentes de aquellos para los que la mortalidad hospitalaria es la medida para valorar la calidad de la asistencia.

A menos que seamos capaces de diferenciar las muertes potencialmente prevenibles de las inevitables, los datos de mortalidad serán malinterpretados, generando sentimientos de culpa y tratamientos fútiles.

The Hospital-Dependent Patient

David B. Reuben, M.D., and Mary E. Tinetti, M.D.

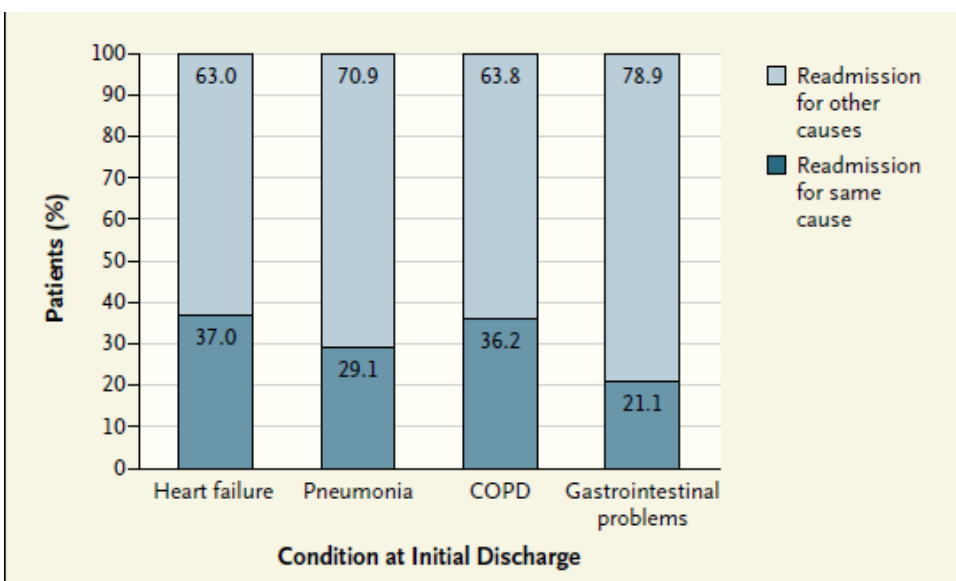
N ENGL J MED 370;8 NEJM.ORG FEBRUARY 20, 2014



El paciente hospital-dependiente en cierta forma es una consecuencia de los avances de la medicina. Antes, estos pacientes fallecían antes, mientras que con los métodos actuales sobreviven a múltiples exacerbaciones graves.

Post-Hospital Syndrome — An Acquired, Transient Condition of Generalized Risk

Harlan M. Krumholz, M.D.



PULMONARY PERSPECTIVE

Penalizing Hospitals for Chronic Obstructive Pulmonary Disease Readmissions

Laura C. Feemster[1,2] and David H. Au[1,2]

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Lack of validation of ICD-9 codes used to identify index hospitalizations for AECOPD
Lack of evidence that decreasing readmissions leads to improved outcomes
Uncertainty regarding preventability of readmissions
Penalization of safety-net hospitals and potential to worsen health disparities
Limitations in risk-adjustment techniques
Lack of evidence on how to best prevent avoidable readmissions
Susceptibility to gaming

Chronic Obstructive Pulmonary Disease Is Just One Component of the Complex Multimorbidities in Patients with COPD

El manejo de los pacientes con varias enfermedades crónicas es la tarea más importante para la comunidad médica, abandonando el concepto de enfermedad única.

Neumólogos, internistas en general y los estudiantes de medicina deben ser entrenados en el manejo de las enfermedades crónicas.

Los pacientes con EPOC y otras enfermedades crónicas deben ser revisados por un clínico experto para coordinar un cuidado complejo.

Clini EM, Beghé B, LM Fabbry AMJRCCM2013


GRACIAS