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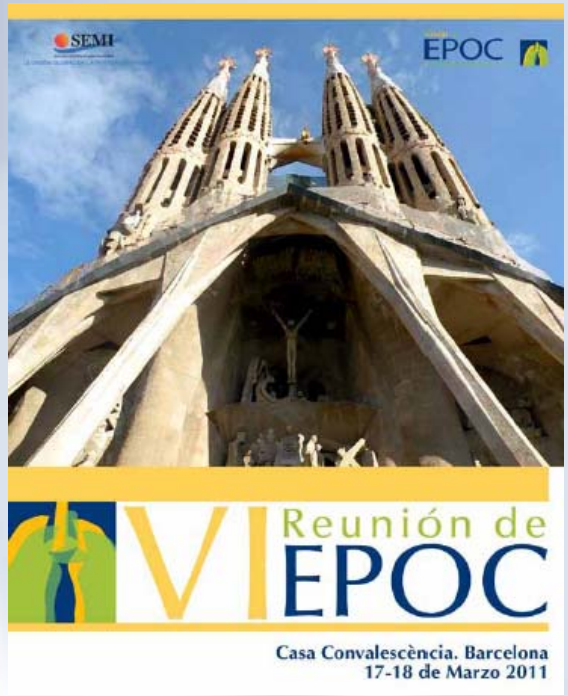


# ACTUALIZACION BIBLIOGRAFICA EN EPOC.

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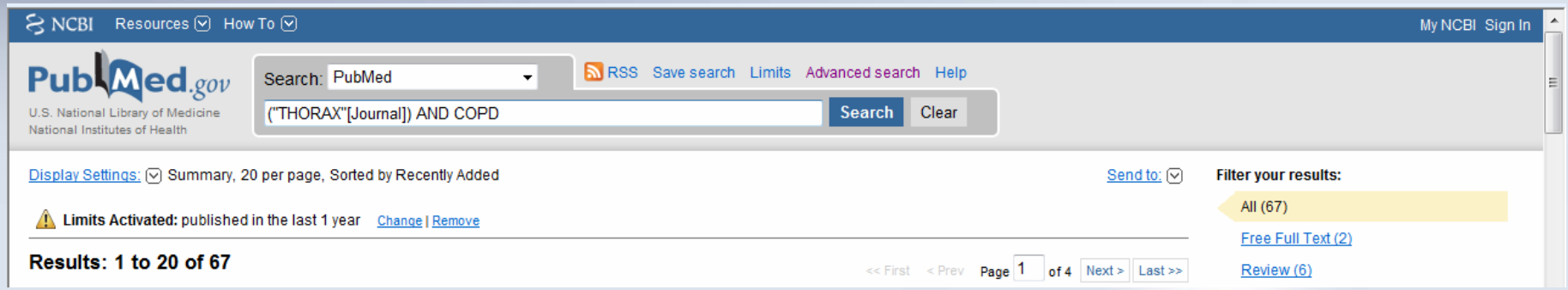


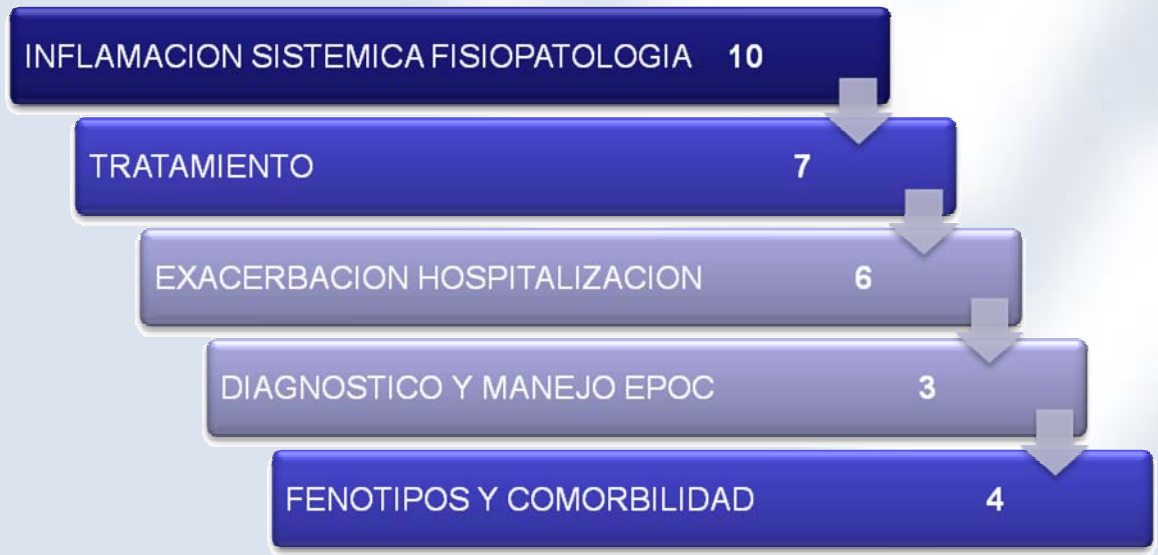


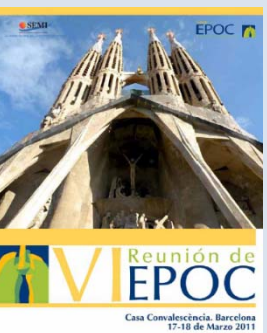


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# MANEJO AGUDIZACIÓN

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*Thorax* 2011;**66**:43-48 doi:10.1136/thx.2010.153114

**Chronic obstructive pulmonary disease**

**Original article**

## Acidosis, non-invasive ventilation and mortality in hospitalised COPD exacerbations

**C M Roberts**[1,2], **R A Stone**[1,3], **R J Buckingham**[1], **N A Pursey**[1], **D Lowe**[1] On behalf of the National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP) implementation group

### Abstract

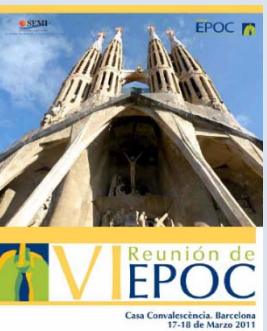
**Background** Reports of non-invasive ventilation (NIV) use in clinical practice reveal higher mortality rates than in corresponding randomised clinical trials.

**Aim** To explore factors related to chronic obstructive pulmonary disease (COPD) admissions and NIV use that may explain some of the previously reported high mortality rates.

**Methods** National UK audit of clinical care of consecutive COPD admissions from March to May 2008. Retrospective case note audit with prospective case ascertainment. Participating units completed a web-based audit proforma of process and outcomes of clinical care.

**Results** 232 hospital units collected data on 9716 patients, mean age 73, 50% male. 1678 (20%) of those with gases recorded on admission were acidotic and another 6% became acidotic later. 1077 patients received NIV, 55% had a pH<7.26 and 49% (305/618) had or were still receiving high flow oxygen. 30% (136/453) patients with persisting respiratory acidosis did not receive NIV while 11% (15/131) of acidotic admissions had a pure metabolic acidosis and did. Hospital mortality was 25% (270/1077) for patients receiving NIV but 39% (86/219) for those with late onset acidosis and was higher in all acidotic groups receiving NIV than those treated without. Only 4% of patients receiving NIV who died had invasive mechanical ventilation.

**Conclusions** COPD admissions treated with NIV in usual clinical practice were severely ill, many with mixed metabolic acidosis. Some eligible patients failed to receive NIV, others received it inappropriately. NIV appears to be often used as a ceiling of treatment including patient groups in whom efficacy of NIV is uncertain. The audit raises concerns that challenge the respiratory community to lead appropriate clinical improvements across the acute sector.

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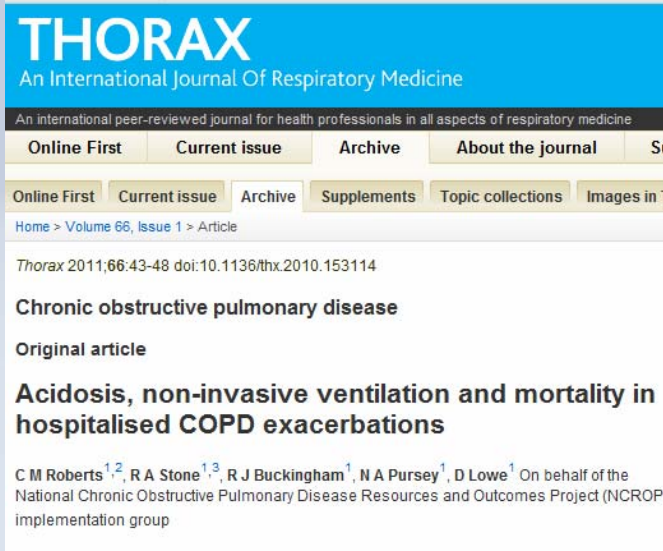
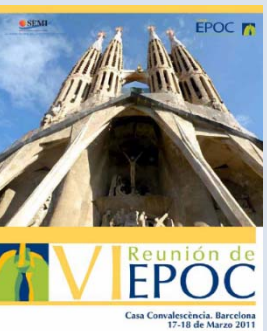



La ventilación no invasiva (VMNI) presenta evidencia científica en el tratamiento de la acidosis respiratoria Aguda en la exacerbación de la EPOC.

En el 2003 se realizó una auditoría en el Reino Unido que valoraba el uso de la VMNI en los pacientes EPOC en la práctica clínica.

En este estudio se realiza una nueva auditoría, realizada en el 2008, en relación al uso de la VMNI en los pacientes EPOC.

Se recogen 60 pacientes atendidos de forma consecutiva. Se realiza un seguimiento de 90 días posteriores al ingreso hospitalario. Variables: gasometría arterial, uso de VMNI y mortalidad.




9716 pacientes. 73 años. 51% hombres. FEV1% 42% (53% datos).

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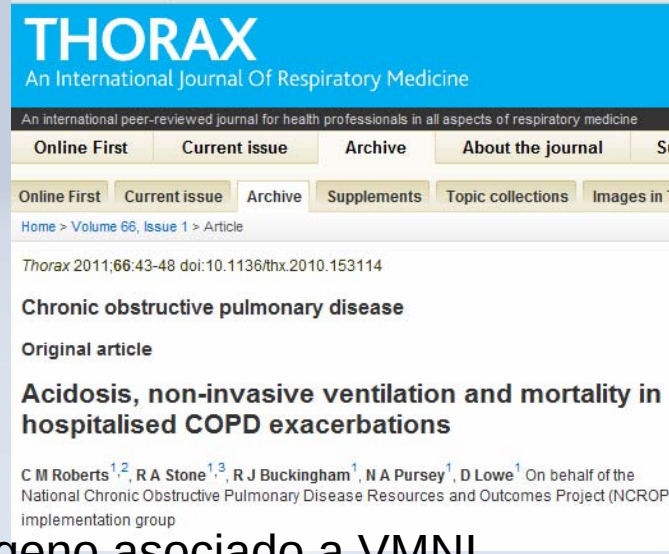



GASOMETRIA ARTERIAL

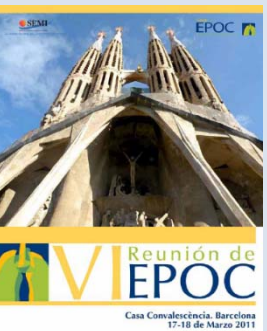
87% pacientes (20% acidosis en el ingreso)
Acidosis respiratoria en el ingreso, 45% VMNI.
50% oxigenoterapia (30% > 28%/4lx'). Alto flujo oxigeno asociado a VMNI.

VMNI

12% pacientes recibieron soporte ventilatorio (VMNI/VMI) .
70% pacientes con acidosis respiratoria recibieron VMNI.
8% de los pacientes con acidosis en el ingreso tenían una paCO2 normal (acidosis metabólica)

MORTALIDAD

Mortalidad hospitalaria en los pacientes VMNI 25%.
Mortalidad: frecuencia respiratoria, bicarbonato bajo.
Pacientes con acidosis, mortalidad 26% con VMNI y 14% sin VMNI.

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# TRATAMIENTO

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*Thorax* 2010;65:1086-1091 doi:10.1136/thx.2010.139113

**Chronic obstructive pulmonary disease**

**Original article**

## QVA149 demonstrates superior bronchodilation compared with indacaterol or placebo in patients with chronic obstructive pulmonary disease

Jan A van Noord[1], Roland Buhl[2], Craig LaForce[3], Carmen Martin[4], Francis Jones[4], Michael Dolker[5], Tim Overend[4]

### Abstract

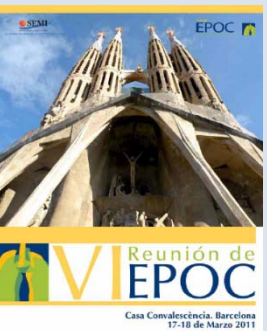
**Background** This randomised, double-blind, placebo controlled, four-period crossover study assessed the efficacy and safety of once-daily QVA149, a dual bronchodilator consisting of the long-acting $\beta_2$-agonist indacaterol and the long-acting muscarinic antagonist glycopyrronium (NVA237), in patients with moderate to severe chronic obstructive pulmonary disease (COPD).

**Methods** Patients (N=154) were randomly assigned to receive QVA149 (indacaterol/NVA237) 300/50 µg, indacaterol 300 µg, indacaterol 600 µg, or placebo, once daily for 7 days with a 7-day washout period between each treatment. The primary endpoint was trough forced expiratory volume in 1 s ($FEV_1$) (mean of 23 h 15 min and 23 h 45 min post-dose values) on day 7. Other endpoints included trough $FEV_1$ on day 1, individual time point $FEV_1$ and monitoring and recording of all adverse events.

**Results** A total of 135 (87.7%) patients completed the study (all randomly assigned patients: mean age 61.7 years, 61.4% male, post-bronchodilator $FEV_1$ 52.2% predicted, $FEV_1$/forced vital capacity 47.6%). The estimated treatment difference (95% CI) for trough $FEV_1$ on day 7 between QVA149 and placebo was 226 ml (192 to 260; p<0.001). The estimated treatment difference between QVA149 and indacaterol 300 and 600 µg was 123 ml (89 to 157; p<0.001) and 117 ml (83 to 150; p<0.001), respectively. The improvements in mean trough $FEV_1$ exceeded the predefined minimal clinically important differences of 100–140 ml for QVA149 versus placebo and indacaterol. Similar results were observed on day 1. All treatments were well tolerated.

**Conclusions** QVA149 demonstrated rapid and sustained bronchodilation with significant improvements compared with indacaterol monotherapy and placebo in patients with COPD.

**Clinical trial registration** NCT00570778.

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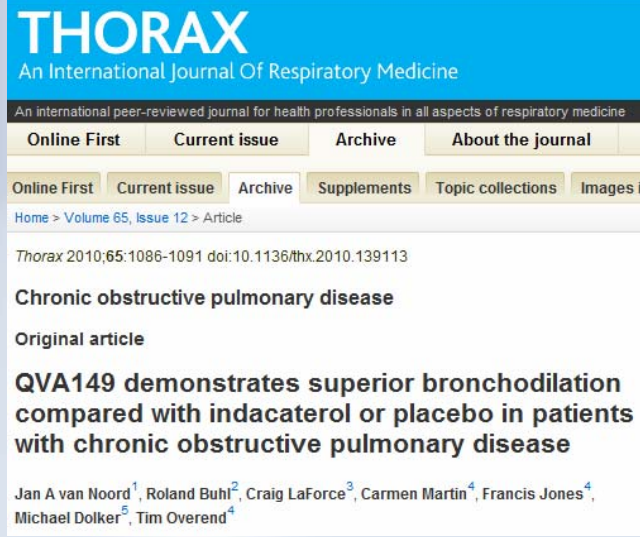
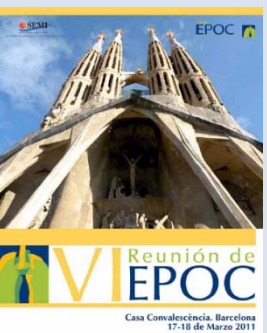
Mayor broncodilatación en la combinación (LABA/LAMA)

La combinación de LABA y LAMA de unidosis podría dar mejoría más allád e 24 horas.




QVA149 es una combinación de dos broncodilatadores de24-h, LABA (indacaterol) y LAMA (NVA237).
Objetivo: efecto broncodilatador y seguridad en pacientes EPOC moderada-severa.

Pacientes >40 años, EPOC moderada-severa, Hª tabaquismo 10 paq/año.
Criterios de exclusión: OCD, hospitalización 6 semanas previas, infección respiratoria, historia de asma.

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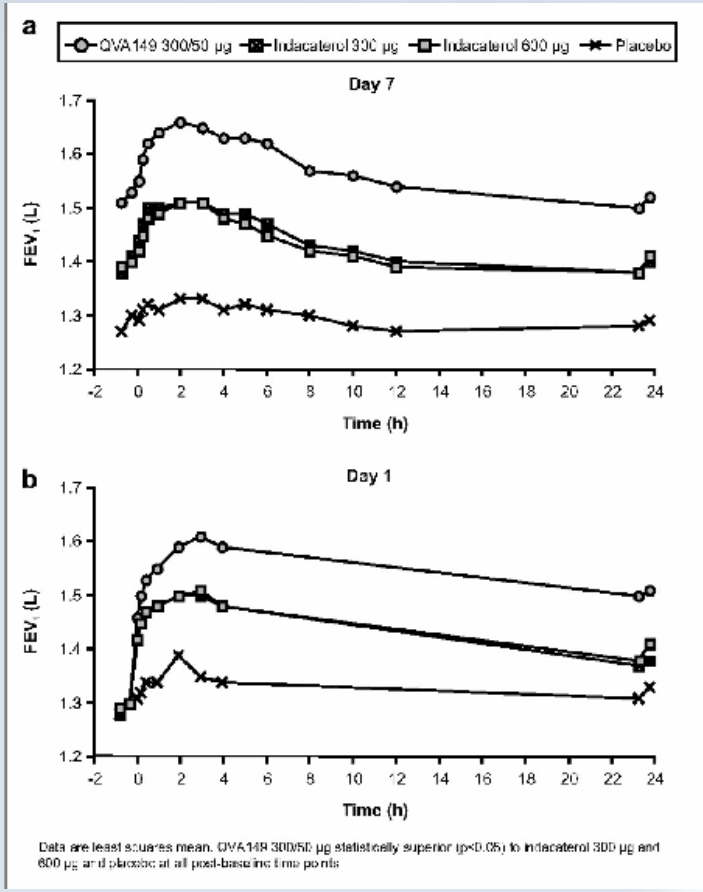


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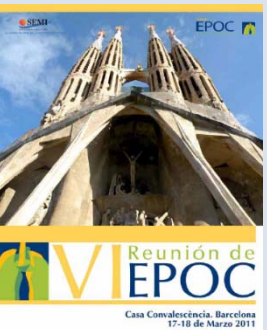


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# FENOTIPOS DE LA EPOC

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*Thorax* doi:10.1136/thx.2010.154484

## Chronic obstructive pulmonary disease

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

Judith Garcia-Aymerich[1,2,3,4], Federico P Gómez[5,6], Marta Benet[1,2,4], Eva Farrero[7], Xavier Basagaña[1,2,4], Àngel Gayete[8], Carles Paré[9], Xavier Freixa[9], Jaume Ferrer[6,10], Antoni Ferrer[2,6,11,16], Josep Roca[5,6], Juan B Gáldiz[12], Jaume Sauleda[6,13,14], Eduard Monsó[6,11,15], Joaquim Gea[2,3,6,16], Joan A Barberà[5,6], Àlvar Agustí[5,6,14], Josep M Antó[1,2,3,4] on behalf of the PAC-COPD Study Group

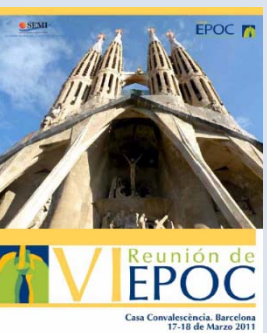
### Abstract

**Background** Chronic obstructive pulmonary disease (COPD) is increasingly considered a heterogeneous condition. It was hypothesised that COPD, as currently defined, includes different clinically relevant subtypes.

**Methods** To identify and validate COPD subtypes, 342 subjects hospitalised for the first time because of a COPD exacerbation were recruited. Three months after discharge, when clinically stable, symptoms and quality of life, lung function, exercise capacity, nutritional status, biomarkers of systemic and bronchial inflammation, sputum microbiology, CT of the thorax and echocardiography were assessed. COPD groups were identified by partitioning cluster analysis and validated prospectively against cause-specific hospitalisations and all-cause mortality during a 4 year follow-up.

**Results** Three COPD groups were identified: group 1 (n=126, 67 years) was characterised by severe airflow limitation (postbronchodilator forced expiratory volume in 1 s ($FEV_1$) 38% predicted) and worse performance in most of the respiratory domains of the disease; group 2 (n=125, 69 years) showed milder airflow limitation ($FEV_1$ 63% predicted); and group 3 (n=91, 67 years) combined a similarly milder airflow limitation ($FEV_1$ 58% predicted) with a high proportion of obesity, cardiovascular disorders, diabetes and systemic inflammation. During follow-up, group 1 had more frequent hospitalisations due to COPD (HR 3.28, p<0.001) and higher all-cause mortality (HR 2.36, p=0.018) than the other two groups, whereas group 3 had more admissions due to cardiovascular disease (HR 2.87, p=0.014).

**Conclusions** In patients with COPD recruited at their first hospitalisation, three different COPD subtypes were identified and prospectively validated: 'severe respiratory COPD', 'moderate respiratory COPD', and 'systemic COPD'.

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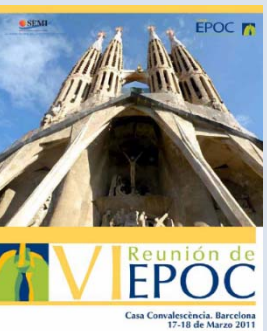
THE PHENOTYPE AND COURSE OF COPD (PAC-COPD) STUDY

342 pacientes hospitalizados por primera vez EA-EPOC.
Seguimiento 4 años.
9 hospitales docentes en España. Enero 2004-Marzo 2006.
93% hombres, 68 años, FEV1 PBD 52%

| SEVER RESPIRATORY | MODERATE RESPIRATORY | SYSTEMIC |
|---|---|---|
| • Síntomas respiratorios.<br>• Calidad de vida.<br>• Función pulmonar.<br>• Capacidad de ejercicio.<br>• Densidad pulmonar.<br>• Paredes pulmonares. | • Síntomas respiratorios.<br>• Calidad de vida.<br>• Función pulmonar.<br>• Capacidad de ejercicio.<br>• Densidad pulmonar.<br>• Paredes pulmonares. | • Síntomas respiratorios.<br>• Calidad de vida.<br>• Función pulmonar.<br>• Capacidad de ejercicio.<br>• Densidad pulmonar.<br>• Paredes pulmonares.<br>• Sobrepeso, inflamación sistémica, FRCV i DM |

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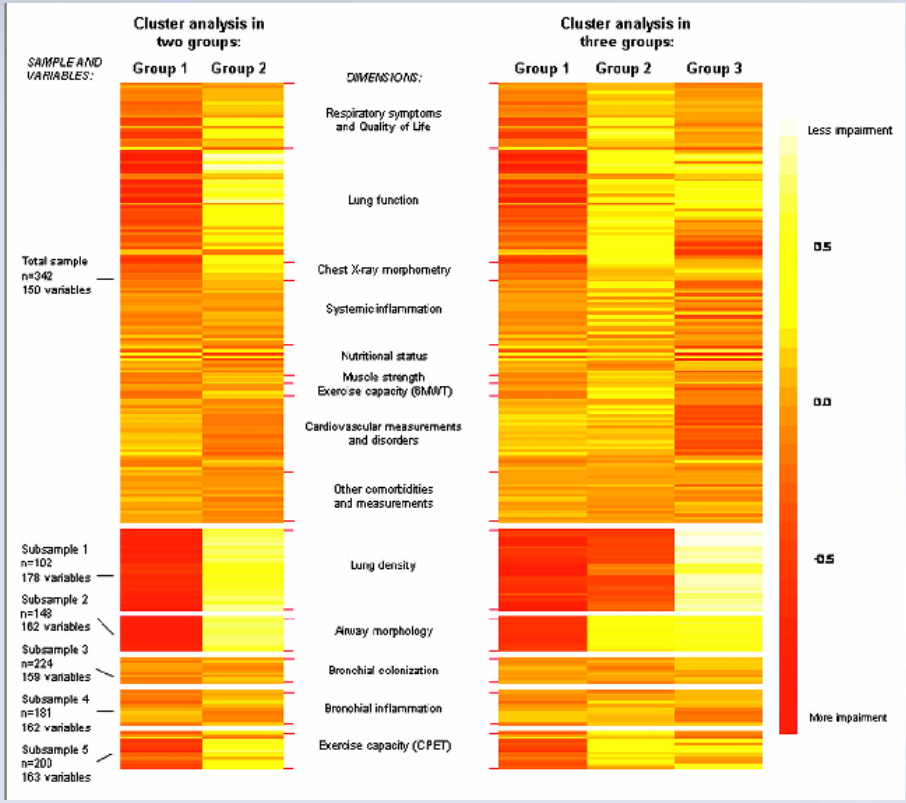


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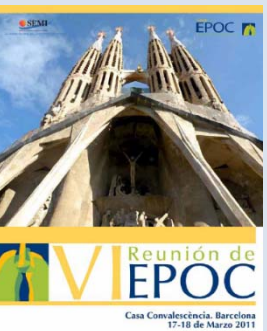
3 groups: severe airflow limitation
milder airflow limitation
comorbodity.

224 VARIABLES – 10 VARIABLES

- DYSPNOEA (MMRC)
- SGRQ-Activity
- FEV1% PREBRONCHODILATOR
- FEV1% POSTBRONCHODILATOR
- THORACIC GAS VOLUME (TGV%)
- INSIPRATORY TOTAL LUNG CAPACITY (IC/TLC)
- PaO2
- PERIPHERAL BLOOD NEUTROPHIL COUNT
- BODY WEIGHT
- BODY MASS INDEX (BMI)

ALL GROUPS SIMILAR AGE AND SMOKE STATUS.

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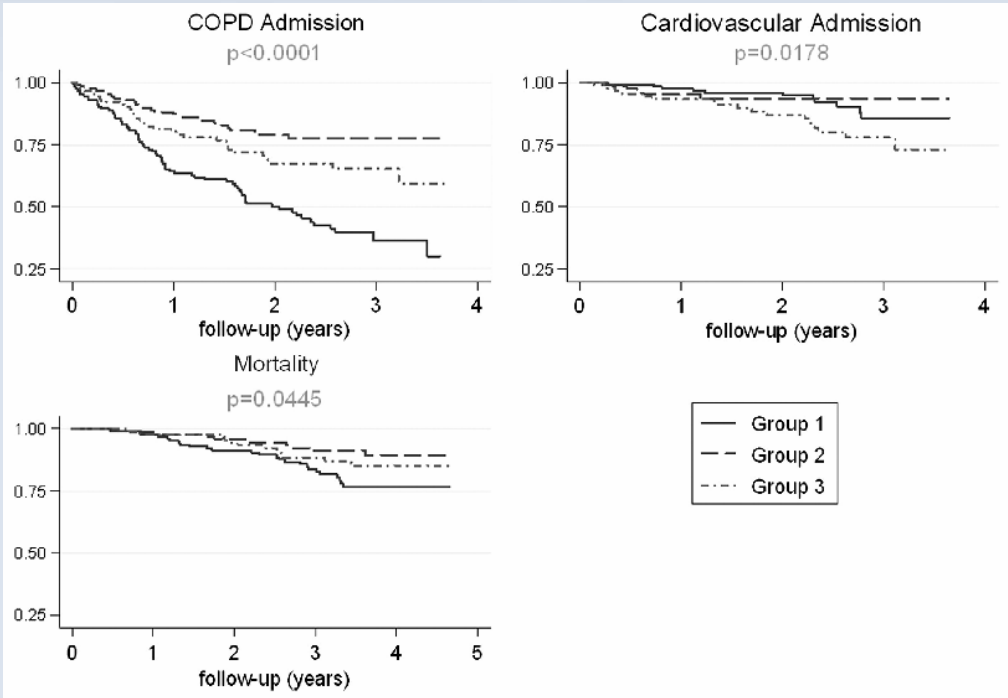


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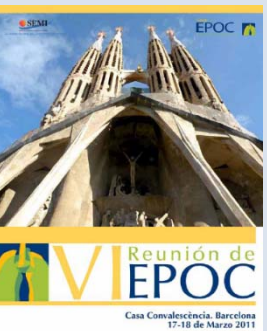
**Severe airflow limitation**

⇧ ADMISSIONS
MORTALITY

**Comorbodity.**

⇧ CARDIOVASCULAR ADMISSIONS

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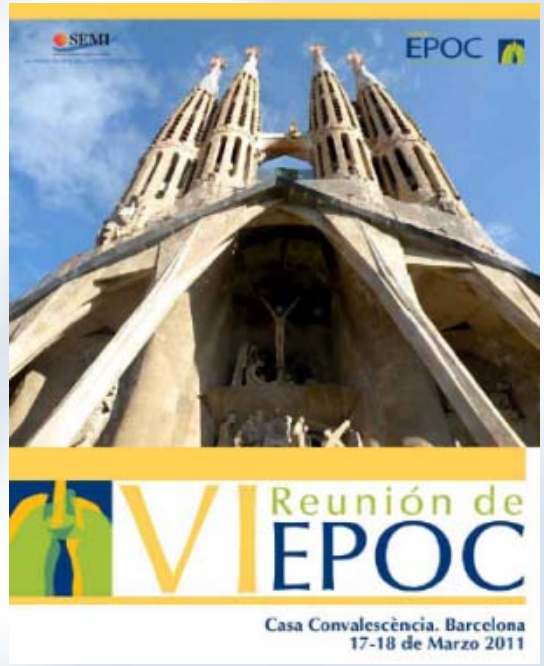


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