

Supplements

Table S1. Rome proposal criteria for classifying the severity of ECOPD

Severity	Criteria for assessing ECOPD severity
Mild	<ul style="list-style-type: none"> • Dyspnea VAS <5 • RR <24 breaths/min • HR <95 bmp • Resting SaO₂ ≥ 92%* and change ≤3% • CRP <10 mg/L
Moderate (at least three out of five)[†]	<ul style="list-style-type: none"> • Dyspnea VAS ≥5 • RR ≥24 breaths/min • HR ≥95 bpm • Resting SaO₂ <92%* and/or change >3% • CRP ≥10 mg/L
Severe	<ul style="list-style-type: none"> • ABG demonstrate hypercapnia and acidosis (PaCO₂ >45 mmHg and pH <7.35)

* : Patient breathing ambient air or the usual oxygen prescription.

† : In addition, if obtained, ABG may show hypoxemia (PaO₂ ≤60 mmHg), hypercapnia (PaCO₂ >45 mmHg) or both, but no acidosis (pH >7.35)

ECOPD= exacerbation of chronic obstructive pulmonary disease; VAS= visual analog scale; RR= respiratory rate; HR= heart rate; CRP= C-reactive protein; ABG=arterial blood gases

Table S2. Between-group differences of Rome proposal criteria within ECOPD severity classes

Group comparisons	Mild-Moderate [±]	Mild-Severe [±]	Moderate-Severe [±]	P value [†]
HR, bpm	<0.001	<0.001	0.190	<0.001
RR, breaths/min	0.001	<0.001	0.292	<0.001
Resting SaO ₂ %	0.010	<0.001	0.063	<0.001
CRP levels, mg/L	<0.001	<0.001	0.131	<0.001
ABG PaO ₂ , mmHg	0.017	0.161	1.000	0.022
ABG PaCO ₂ , mmHg	1.000	<0.001	<0.001	<0.001
pH	1.000	<0.001	<0.001	<0.001

ABG, arterial blood gas; bpm, beats per minute; CRP, C-reactive protein; HR, heart rate; RR, respiratory rate; SaO₂, oxygen saturation measured in arterial blood gas;

† Kruskal-Wallis

± Dunn's Bonferroni

Table S3. Between-group differences of clinical parameters

Characteristics (n)	Mild/Moderate [‡]	Mild/Severe [‡]	Moderate/Severe [‡]	P value [†]
Lung function				
FEV ₁ litres	0.944	0.011	0.015	0.004
FEV ₁ pred%	0.623	0.007	0.023	0.004
FEV ₁ / FVC	0.350	0.014	0.143	0.013
Body box				
RV/TLC pred%	0.131	0.003	0.122	0.004
Diffusion				
DLCO/SB pred%	1.000	0.376	0.007	0.009
Comorbidities				
Charlson's index	0.029	0.238	1.000	0.035
Vital signs				
Temperature, C	<0.001	0.648	0.003	<0.001
Extra FiO ₂ (46/177/91)	1.000	0.004	<0.001	<0.001
Physical examination				
Use of accessory muscles (3/15/16)	0.056	0.051	1.000	0.031*
Elevated CVP (20/62/37)	1.000	0.111	0.031	0.040*
Troponin >14 ng/L (52/204/108)	0.133	0.043	0.139	0.041 ^o
Chest X-ray				
Consolidation (51/204/108)	0.002	0.013	0.613	0.003 ^o
Signs of congestion (51/204/108)	0.312	0.017	0.009	0.002 ^o

Data represent the p-values for between-group differences. Three groups were compared with each other: mild/moderate, mild/severe and moderate/severe. BMI, body mass index; BP, blood pressure; CCI, Charlson's comorbidity index; CVP, central venous pressure; DLCO/SB, single-breath diffusing capacity of the lung for carbon monoxide; ECG, electrocardiogram; FEV₁, forced expiratory volume in 1s; FEV₁/VC, ratio FEV₁/VC; FiO₂, fraction of inspired oxygen; NT-proBNP, brain natriuretic peptide; pred%, percentage of predicted value; RV/TLC, ratio residual volume and total lung capacity; SpO₂, oxygen saturation measured by pulse oximetry.

† Kruskal-Wallis, unless otherwise stated

± Dunn's Bonferroni, unless otherwise stated

^o Chi-square

* Fisher's exact test

Bonferroni-adjusted p-values 0.05/3=0.017