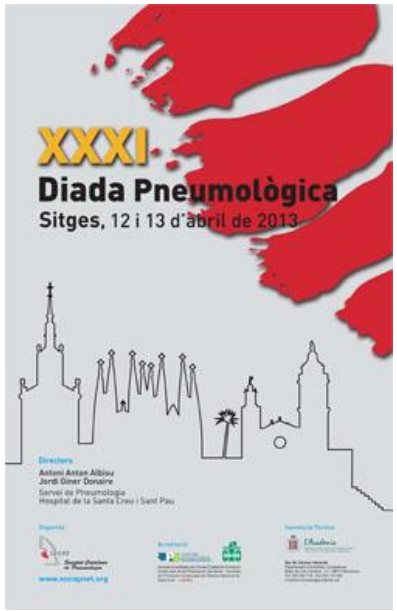
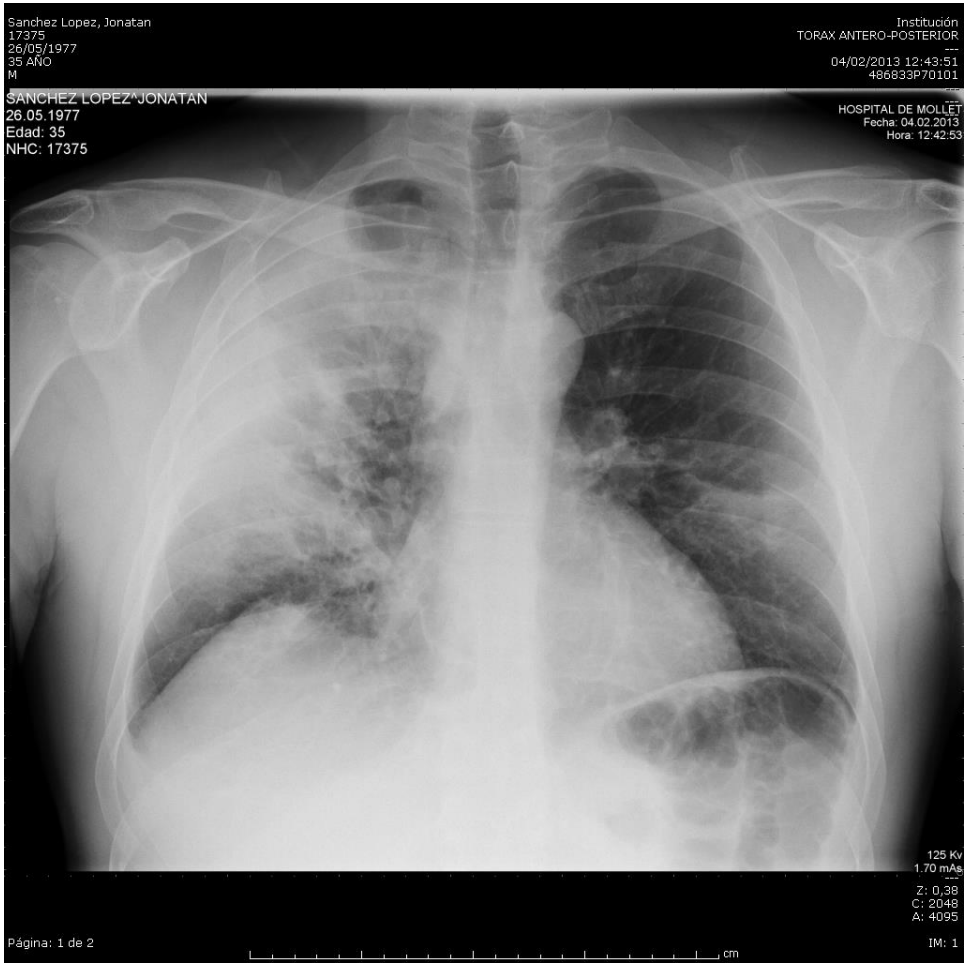
Marcadors clínics i biològics de la pneumònia greu



Elena Laserna
Neumología
H. Mollet

HospitaldeMollet



Varón 35 años
FR 29 rpm, Sat O2 89%
pO2 60, pCO2 47, pH 7.29
19.900 leucocitos (95NS)
PCR 27 mg/dL

Es grave??

Gravedad en NAC

- PSI (Fine M et al, *N Eng J Med* 1997)
- CURB-65 (Lim WS et al, *Thorax* 2003)
- Criterios IDSA/ATS 2007 (Mandell LA et al, *Clin Infect Dis* 2007)
- SMART-COP (Charles PG et al, *Clinic Infect Dis* 2008)
- CAP-PIRO (Rello J et al, *Crit Care Med* 2009)
- SCAP (España P, *Am J Respir Crit Care Med* 2006)
- …

Gravedad en NAC

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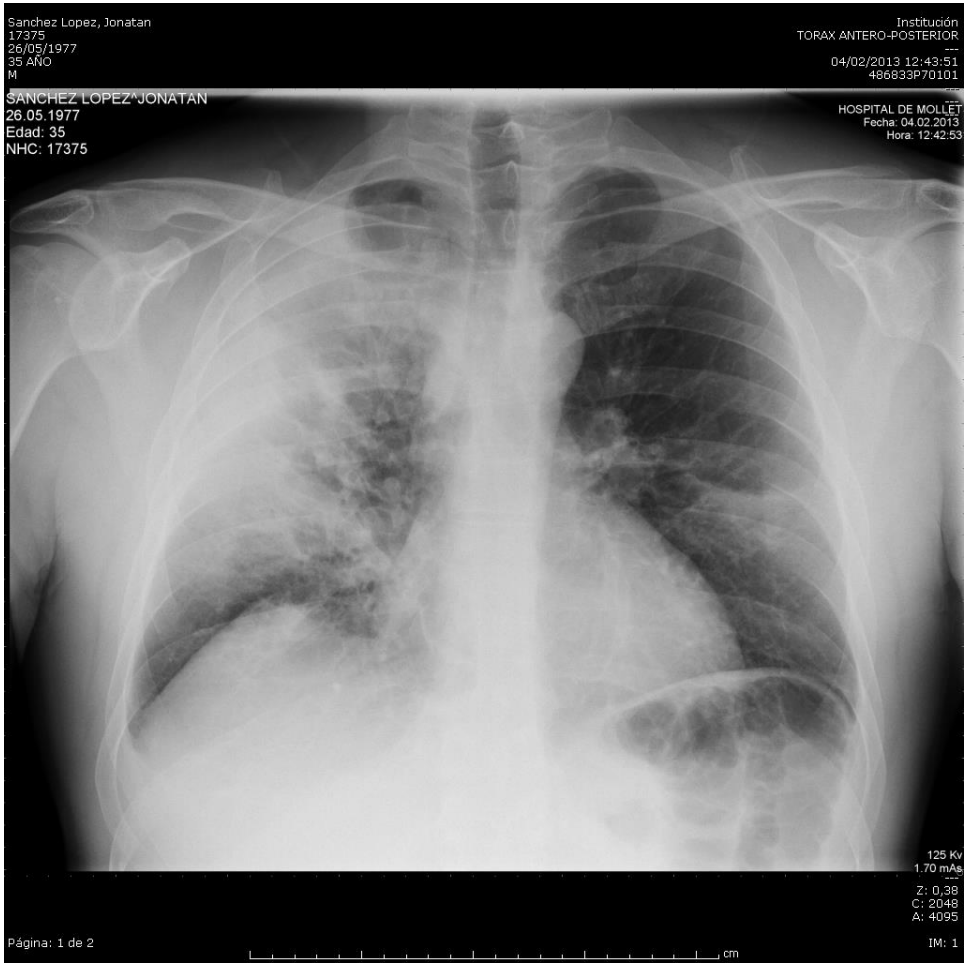

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PCR 27 mg/dL

Fine clase II
CURB-65 0
IDSA/ATS no grave

Gravedad en NAC

- PSI
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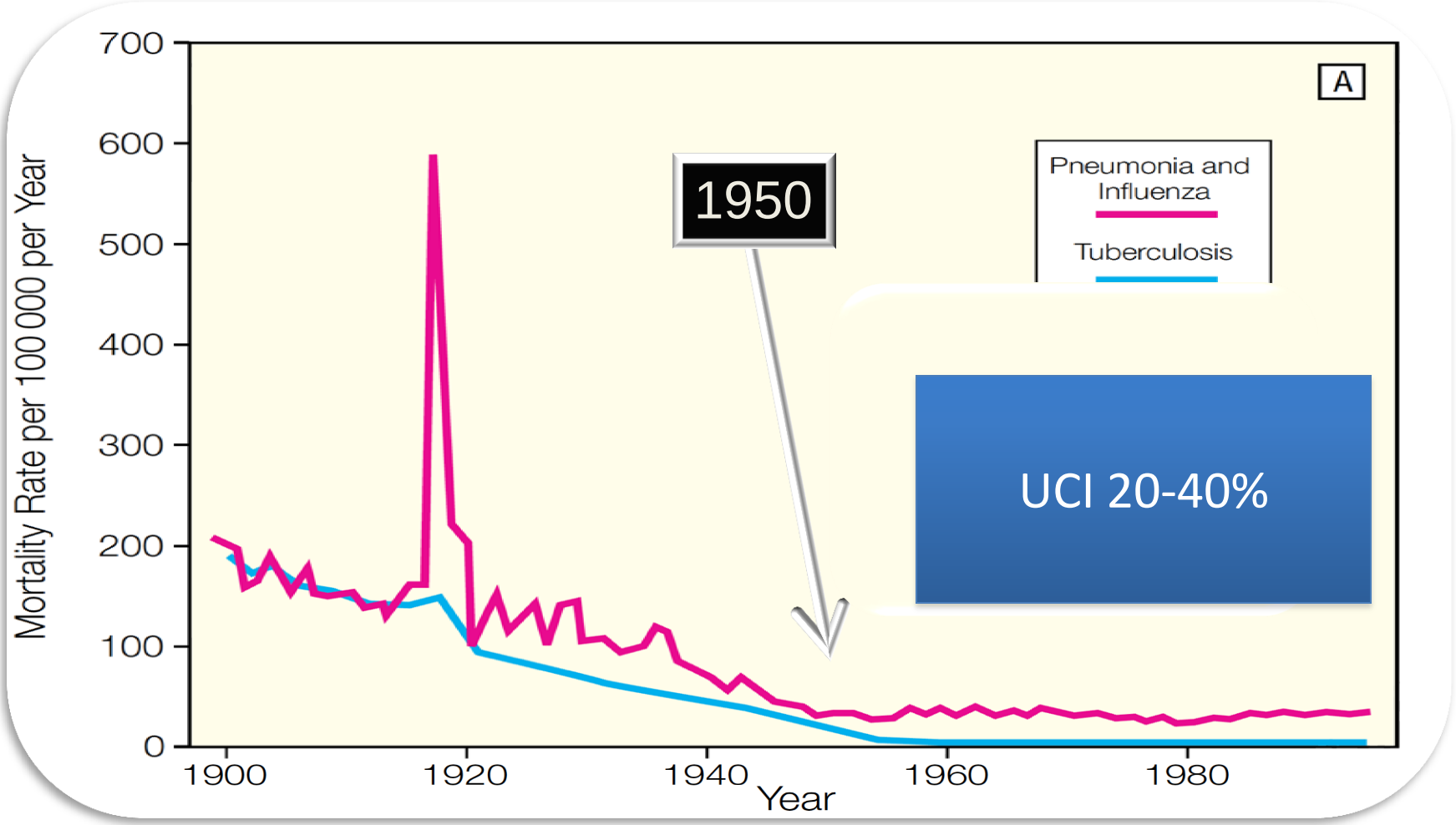
- Criterios IDSA/ATS 2007
- SMART-COP
- CAP-PIRO
- SCAP
- …

Valoran mortalidad

Mortalidad por neumonía



JAMA. 1999;281:61-66

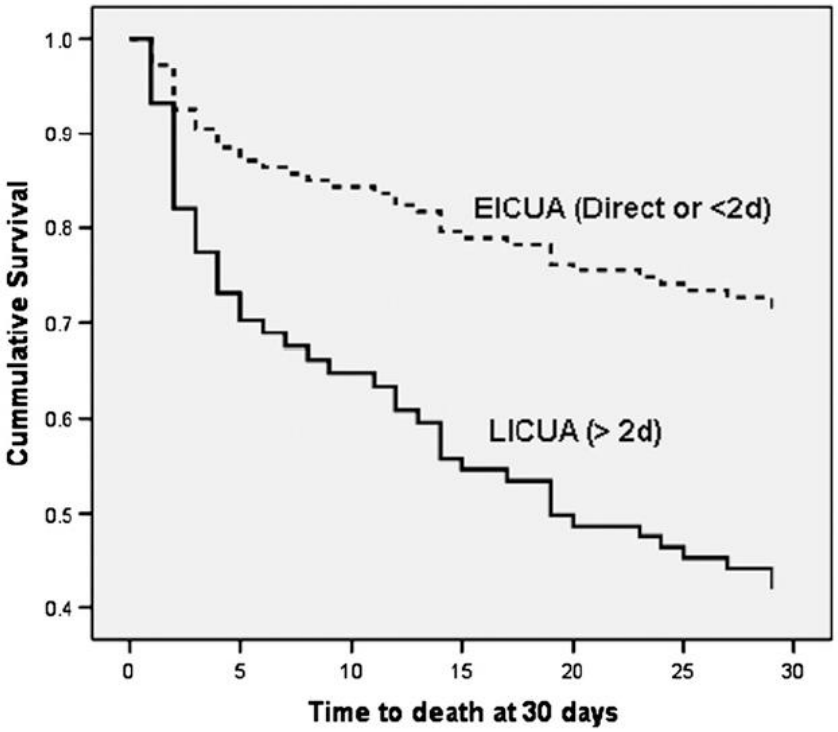
CHEST

Original Research

CRITICAL CARE MEDICINE

Late Admission to the ICU in Patients With Community-Acquired Pneumonia Is Associated With Higher Mortality

Marcos I. Restrepo, MD, MSc, FCCP; Eric M. Mortensen, MD, MSc; Jordi Rello, MD, PhD; Jennifer Brody, MD; and Antonio Anzueto, MD



Ingreso UCI <48 h

Ingreso UCI >48 h

Intensive Care Med (2011) 37:1409–1420
DOI 10.1007/s00134-011-2261-x

REVIEW

James D. Chalmers
Pallavi Mandal
Aran Singanayagam
Ahsan R. Akram
Gourab Choudhury
Philip M. Short
Adam T. Hill

Severity assessment tools to guide ICU admission in community-acquired pneumonia: systematic review and meta-analysis

- PSI
- CURB-65
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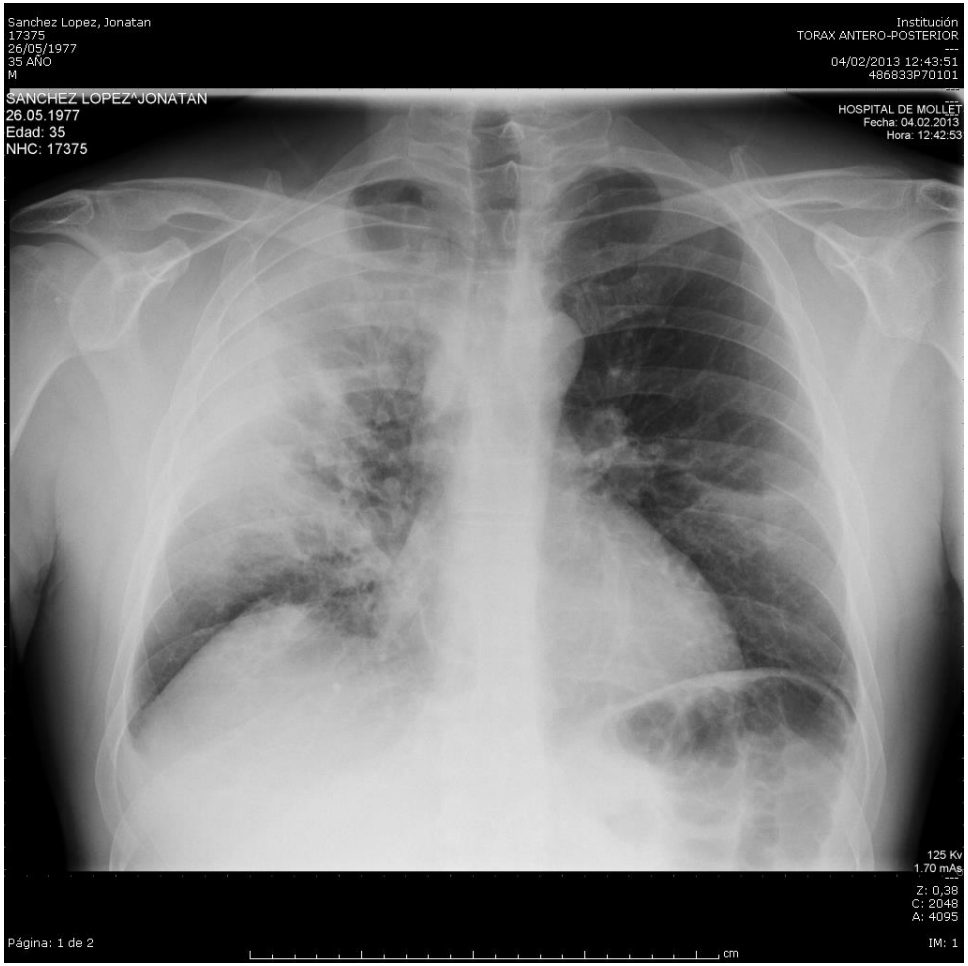
Scoring systems/ severity assessment tools	Sensitivity	Specificity	PLR	NLR	DOR
PSI					
≥I	95.7% (94.6–96.7%)	9.8% (9.3–10.3%)	1.08 (1.03–1.12)	0.47 (0.31–0.73)	2.32 (1.45–3.71)
≥III	87.7% (86.0–89.3%)	25.3% (24.6–26.0%)	1.19 (1.12–1.25)	0.48 (0.38–0.61)	2.53 (1.90–3.37)
≥IV	74.1% (72.3–75.8%)	47.9% (47.3–48.6%)	1.48 (1.38–1.59)	0.53 (0.47–0.60)	2.83 (2.34–3.42)
=V	34.4% (32.2–36.6%)	84.2% (83.7–84.7%)	2.38 (2.04–2.77)	0.79 (0.75–0.83)	3.09 (2.55–3.75)
CURB65					
≥1	98.2% (95.4–99.5%)	15.5% (14.2–16.9%)	1.20 (1.09–1.32)	0.14 (0.06–0.34)	8.33 (3.41–20.4)
≥2	85.0% (80.1–89.1%)	44.0% (42.4–45.7%)	1.58 (1.32–1.90)	0.37 (0.24–0.56)	4.35 (2.40–7.87)
≥3	50.0% (45.5–54.5%)	72.1% (71.0–73.2%)	1.70 (1.36–2.11)	0.72 (0.60–0.86)	2.40 (1.63–3.53)
≥4	28.9% (22.5–35.9%)	89.9% (88.6–91.0%)	2.09 (1.12–3.90)	0.86 (0.68–1.09)	2.42 (1.04–5.64)
=5	7.4% (4.0–12.3%)	99.0% (98.5–99.3%)	6.95 (3.49–13.9)	0.95 (0.88–1.02)	7.48 (3.60–15.5)
CRB65[a]					
≥1	94.7% (89.9–97.7%)	17.7% (16.1–19.4%)	1.13 (0.89–1.42)	0.36 (0.04–3.44)	3.18 (0.29–35.1)
≥2	61.2% (51.1–70.6%)	60.3 (58.4–62.2%)	1.62 (1.03–2.54)	0.64 (0.39–1.05)	2.78 (0.99–7.77)
=3	41.7 (35.8–47.8%)	85.1% (83.8–86.4%)	3.0 (1.44–6.25)	0.69 (0.57–0.84)	5.72 (3.79–8.63)
2001 ATS criteria[b]					
≥Criteria met	66.7% (63.3–70.0%)	84.6% (83.5–85.7%)	7.05 (4.39–11.3)	0.34 (0.26–0.44)	25.8 (13.4–49.9)
2007 ATS criteria					
≥Major or minor criteria met	61.2% (58.0–64.3)	88.6 (87.7–89.4%)	6.2 (3.3–11.7)	0.43 (0.35–0.53)	15.2 (10.3–22.2)
≥Minor criteria only	55.7% (51.5–59.9%)	91.7 (90.9–92.5%)	6.22 (4.09–9.46)	0.51 (0.38–0.67)	12.4 (6.38–24.0)

No son buenos en predecir UCI



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Grave?

UCI??

Gravedad en NAC

1) Marcadores clínicos

2) Marcadores biológicos

Gravedad en NAC

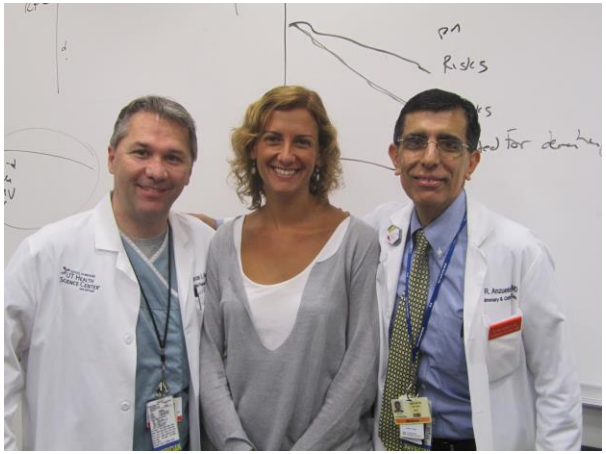
1) Marcadores clínicos

2) Marcadores biológicos

Gravedad en NAC

1) Marcadores clínicos

SCHOOL OF MEDICINE
UT HEALTH SCIENCE CENTER®
DIVISION OF PULMONARY AND CRITICAL CARE



San Antonio, TX

SOCAP
Societat Catalana de Pneumologia

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REVIEW

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Severity assessment tools to guide ICU admission in community-acquired pneumonia: systematic review and meta-analysis

- PSI
- CURB-65
- Criterios IDSA/ATS 2007
- SMART-COP

Sensibilidad 61%,
Especificidad 88%

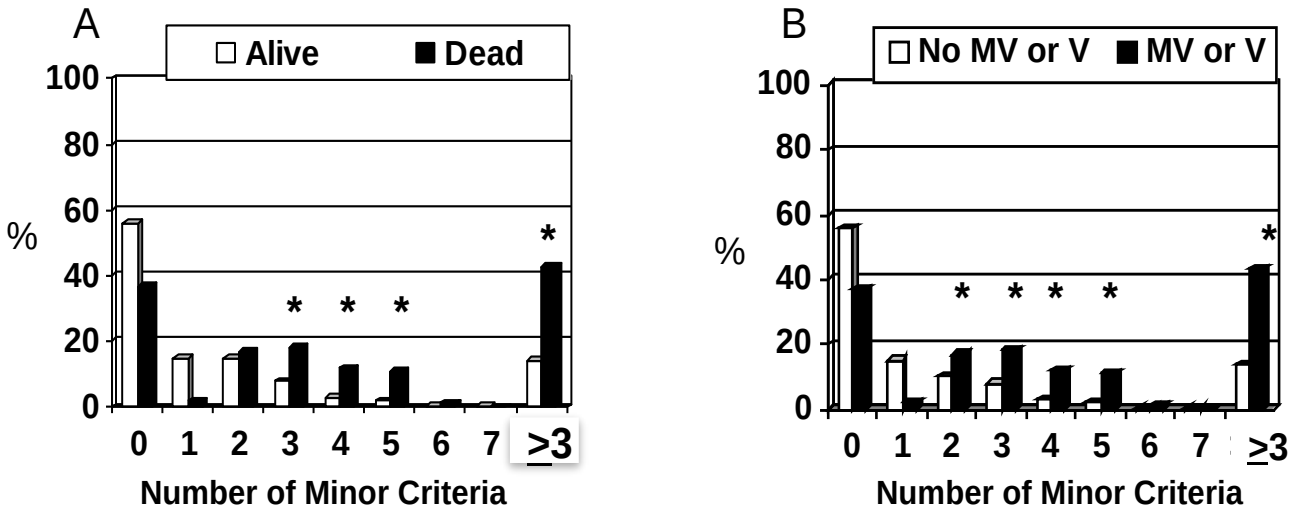
Solo ≥ **3 criterios menores**
Sensibilidad 55%,
Especificidad 91%

Criterios mayores (≥ 1):
1.VMI
2.Vasopresores
Criterios menores (≥ 3):
1.$PaO_2/FiO_2 \leq 250$
2.RR>30
3.Infiltrado bilobar
4.Confusión
5.BUN>20
6.Leucopenia
7.Hipotermia
8.Hipotensión
9.Trombocitopenia

Evaluation of the IDSA/ATS Minor Criteria for Severe Community-Acquired Pneumonia

Oriol Sibila, MD[1,2]
Eric M. Mortensen, MD, MS
Grant Redrow, MS[1]
Esmeralda Lugo, MD[1]
Elena Laserna, MD[1,5]
Antonio Anzueto, MD[1,6]
Marcos I. Restrepo, MD,

Figure 1



Hosp Pract (Minneap) 2012; 40(2): 158-164

Table 1. Description of the Clinical Characteristics, and Univariable, Multivariable, and ROC Curve Analyses of Specific IDSA/ATS Severe CAP Minor Criteria According to 30-Day Mortality

Variable	N (%)	N (%)	Univariable			Multivariable			ROC Curve	
	Alive	Dead	OR	95% CI	*P* Value	OR	95% CI	*P* Value	ROC Curve	95% CI
RR ≥ 30 bpm	72 (85.7)	12 (14.3)	1.78	0.91–3.47	0.09	1.20	0.52–2.79	0.7	0.54	0.45–0.63
Hypoxemia	131 (80.8)	31 (19.2)	3.78	1.99–7.17	< 0.001	2.69	1.35–5.37	0.005	0.65	0.57–0.74
Multilobar infiltrates	235 (86.4)	37 (13.6)	2.12	1.30–3.46	0.003	2.29	1.13–4.63	0.02	0.64	0.55–0.72
Confusion/disorientation	68 (80.0)	17 (20.0)	2.94	1.61–5.35	< 0.001	1.81	0.80–4.11	0.1	0.56	0.46–0.65
BUN level ≥ 20 mg/dL	290 (86.5)	45 (13.5)	2.42	1.46–3.98	0.001	1.24	0.61–2.51	0.5	0.58	0.50–0.67
Leukopenia	29 (70.7)	12 (29.3)	4.73	2.29–9.74	< 0.001	3.38	1.28–8.94	0.01	0.58	0.48–0.67
Hypothermia	58 (84.0)	11 (16.0)	2.04	1.01–4.09	0.04	2.23	0.87–5.74	0.09	0.55	0.45–0.64
Hypotension	179 (85.2)	31 (14.8)	2.35	1.42–3.88	0.001	1.99	0.99–4.02	0.05	0.63	0.54–0.72

Table 2. Description of the Clinical Characteristics, and Univariable, Multivariable, and ROC Curve Analyses of Specific IDSA/ATS Severe CAP Minor Criteria According to the Need for Mechanical Ventilation and/or Vasopressor Support

Variable	N (%)	N (%)	Univariable			Multivariable			ROC Curve	
	None	Both	OR	95% CI	*P* Value	OR	95% CI	*P* Value	ROC Curve	95% CI
RR ≥ 30 bpm	66 (78.6)	18 (21.4)	2.17	1.25–3.84	0.008	1.14	0.54–2.39	0.7	0.52	0.44–0.60
Hypoxemia	125 (77.2)	37 (22.8)	2.57	1.50–4.40	0.001	2.39	1.34–4.25	0.003	0.62	0.54–0.70
Multilobar infiltrates	227 (83.5)	45 (16.5)	1.77	1.15–2.73	0.009	1.35	0.76–2.40	0.3	0.55	0.48–0.63
Confusion/disorientation	65 (76.5)	20 (23.5)	2.53	1.45–4.41	0.001	2.88	1.48–5.60	0.002	0.58	0.50–0.67
BUN level ≥ 20 mg/dL	277 (82.7)	58 (17.3)	2.25	1.46–3.49	< 0.001	1.62	0.90–2.89	0.1	0.58	0.50–0.65
Leukopenia	33 (80.5)	8 (19.5)	1.81	0.81–4.05	0.1	1.25	0.44–3.51	0.7	0.52	0.44–0.60
Hypothermia	59 (85.5)	10 (14.5)	1.24	0.61–2.52	0.5	1.46	0.61–3.51	0.4	0.52	0.44–0.60
Hypotension	183 (87.1)	27 (12.9)	1.08	0.67–1.75	0.7	0.73	0.38–1.40	0.4	0.51	0.43–0.59

Sibila O, *Hosp Pract (Minneap)* 2012; 40(2): 158-164

Improving the 2007 Infectious Disease Society of America/American Thoracic Society severe community-acquired pneumonia criteria to predict intensive care unit admission

Oriol Sibila MD[a,b], G. Umberto Meduri MD[c], Eric M. Mortensen MD, MSc[d,e], Antonio Anzueto MD[a,f], Elena Laserna MD[a,g], Juan F. Fernandez MD[a,f], Ali El-Sohl MD[h], Marcos I. Restrepo MD, MSc[a,f,i,*]

- 2007 IDSA /ATS
- PSI
- CURB65
- SCAP
- CAP-PIRO
- SMART-COP

→ Variables analizadas

↓

1) Criterios M
2) Criterios m

Improving the 2007 Infectious Disease Society of America/American Thoracic Society severe community-acquired pneumonia criteria to predict intensive care unit admission

Oriol Sibila MD[a,b], G. Umberto Meduri MD[c], Eric M. Mortensen MD, MSc[d,e], Antonio Anzueto MD[a,f], Elena Laserna MD[a,g], Juan F. Fernandez MD[a,f], Ali El-Sohl MD[h], Marcos I. Restrepo MD, MSc[a,f,i,*]

Table 1 Major and minor criteria recognized by different severity scores

Severity score	Major criteria	Minor criteria
2007 IDSA/ATS (11)	• Invasive mechanical ventilation • Septic shock requiring vasopressors	• Confusion/disorientation • Uremia (BUN level 20 mg/dL) • Respiratory rate > 30 breaths/min • Hypotension requiring fluid resuscitation • PaO2/FIO2 < 250 • Multilobar infiltrates • Leucopenia (< 4000 cells/mm^3) • Thrombocytopenia (< 100,000 cells/mm^3) • Hypothermia (< 36C)
Other scores (13–17)	• Arterial pH < 7.30 (13) • Systolic blood pressure < 90 mmHg (13)	• Tachycardia > 125 beats/min (14) • Arterial pH 7.30-7.34 (14,15) • Sodium < 130 mEq/L (14) • Hematocrit < 30% (16) • Glucose > 250 mg/dL (17) • Age ≥ 65 (9) • Age ≥ 80 (13)

Parameters	No ICU N=631 n (%)	ICU N=156 n (%)	P value	AUC
Major Criteria				
Major ≥1/2	0	96 (61.5)	<0.001	0.80
Major ≥1/3	1 (0.2)	112 (71.8)	<0.001	0.86
Minor Criteria				
Minor ≥3/8	63 (10.0)	65 (41.7)	<0.001	0.65
Minor ≥3/9	75 (11.9)	72 (46.2)	<0.001	0.67
Minor ≥3/10	79 (12.5)	74 (47.4)	<0.001	0.67
Minor ≥3/11	89 (14.1)	84 (53.8)	<0.001	0.70
Minor ≥3/12	99 (15.7)	84 (53.8)	<0.001	0.69
Combination Major and Minor criteria				
Combo – Major ≥1/2 or Minor ≥3/8	63 (10.0)	132 (84.6)	<0.001	0.87
Combo – Major ≥1/2 or Minor ≥3/9	75 (11.9)	136 (87.2)	<0.001	0.87
Combo – Major ≥1/2 or Minor ≥3/10	79 (12.5)	137 (87.8)	<0.001	0.88
Combo – Major ≥1/2 or Minor ≥3/11	89 (14.1)	139 (89.1)	<0.001	0.88
Combo – Major ≥1/2 or Minor ≥3/12	99 (15.7)	139 (89.1)	<0.001	0.86
Combo – Major >1/3 or Minor >3/8	64 (10.1)	138 (88.5)	<0.001	0.89
Combo – Major >1/3 or Minor >3/9	76 (12.0)	142 (91.0)	<0.001	0.89
Combo – Major >1/3 or Minor >3/10	80 (12.7)	143 (91.7)	<0.001	0.89
Combo – Major >1/3 or Minor >3/11	91 (14.4)	145 (92.9)	<0.001	0.89
Combo – Major >1/3 or Minor >3/12	101 (16.0)	145 (92.9)	<0.001	0.88

Sibila O, *J Crit Care* 2012 (Epub Dec 19)

Parameters	No ICU N=631 n (%)	ICU N=156 n (%)	P value	AUC
Major Criteria				
Major ≥1/2	0	96 (61.5)	<0.001	0.80
Major ≥1/3	1 (0.2)	112 (71.8)	<0.001	0.86
Minor Criteria				
Combo – Major ≥1/2 or Minor ≥3/10	79 (12.5)	137 (87.8)	<0.001	0.88
Combo – Major ≥1/2 or Minor ≥3/11	89 (14.1)	139 (89.1)	<0.001	0.88
Combo – Major ≥1/2 or Minor ≥3/12	99 (15.7)	139 (89.1)	<0.001	0.86
Combo – Major >1/3 or Minor >3/8	64 (10.1)	138 (88.5)	<0.001	0.89
Combo – Major >1/3 or Minor >3/9	76 (12.0)	142 (91.0)	<0.001	0.89
Combo – Major >1/3 or Minor >3/10	80 (12.7)	143 (91.7)	<0.001	0.89
Combo – Major >1/3 or Minor >3/11	91 (14.4)	145 (92.9)	<0.001	0.89
Combo – Major >1/3 or Minor >3/12	101 (16.0)	145 (92.9)	<0.001	0.88

Conclusion: The addition of arterial pH <7.30 to the 2007 IDSA/ATS major criteria improves sensitivity and AUC to identify patients who will require ICU care.

Sibila O, *J Crit Care* 2012 (Epub Dec 19)

CHEST

Original Research

CRITICAL CARE

Hypocapnia and Hypercapnia Are Predictors for ICU Admission and Mortality in Hospitalized Patients With Community-Acquired Pneumonia

Elena Laserna, MD; Oriol Sibila, MD; Patrick R. Aguilar, MD; Eric M. Mortensen, MD; Antonio Anzueto, MD; Jose M. Blanquer, MD; Francisco Sanz, MD; Jordi Rello, MD; Pedro J. Marcos, MD; Maria I. Velez, MD; Nivin Aziz, MD; and Marcos I. Restrepo, MD, FCCP

n= 453 NAC

n= 194 $PaCO_2$ <35 mmHg

n= 189 $PaCO_2$ 35-45 mmHg

n= 70 $PaCO_2$ >45 mmHg

Chest 2012; 142: 1193-1199

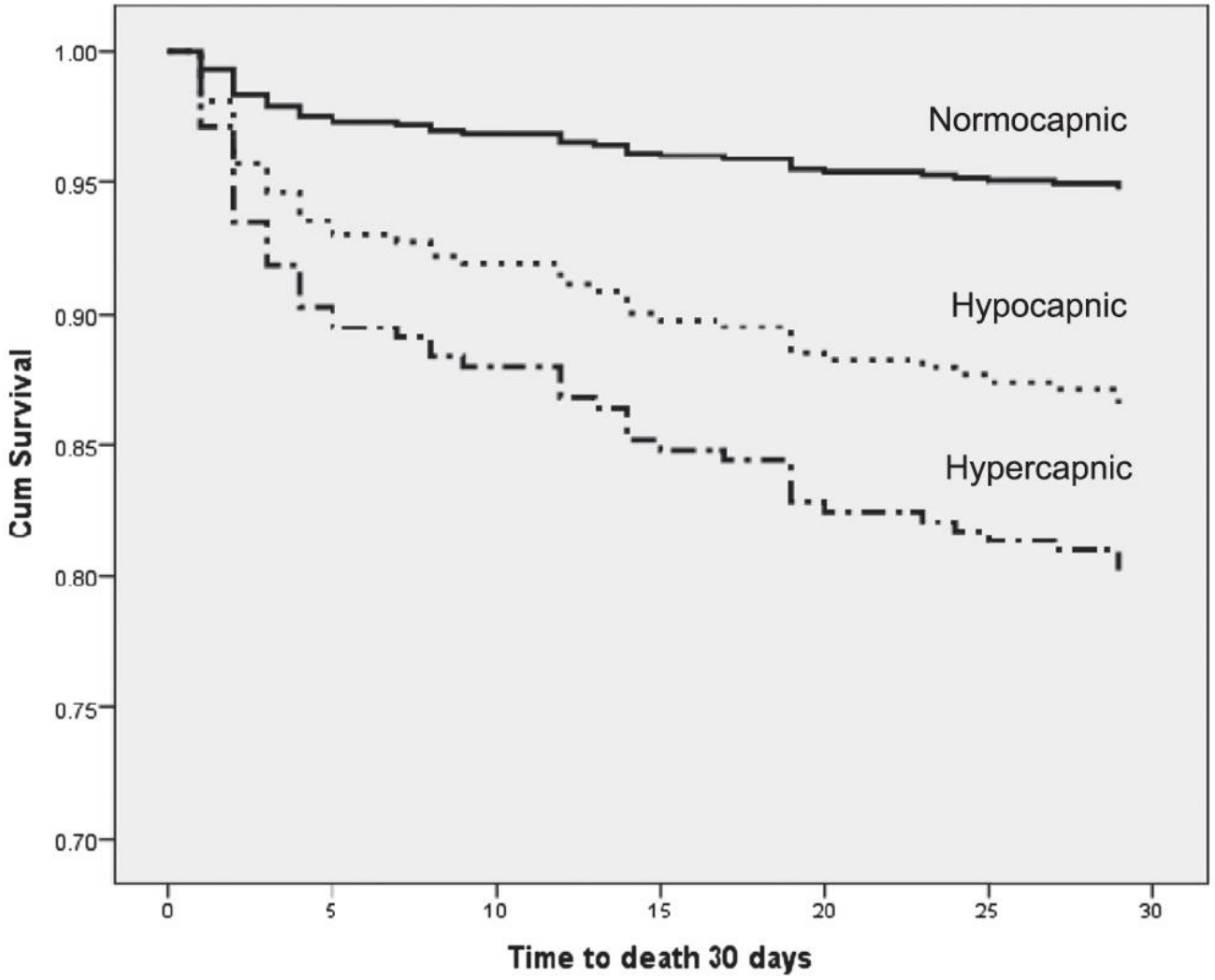
Table 3—*Comparison of 30-d Mortality, ICU Admission, and Mechanical Ventilation Among Hypocapnic ($Paco_2 < 35$ mm Hg) and Hypercapnic ($Paco_2 > 45$ mm Hg) Patients With CAP vs Normal Group*

	Univariable			Multivariable		
Outcome	OR	95% CI	*P* Value	HR	95% CI	*P* Value
Hypocapnic group						
30-d Mortality	2.77	1.30-5.92	.009	2.84	1.28-6.30	.01
ICU admission	2.59	1.58-4.26	< .001	2.88	1.68-4.95	< .001
Invasive mechanical ventilation	1.53	0.78-2.97	.2	1.49	0.75-2.95	.2
Hypercapnic group						
30-d Mortality	4.47	1.88-10.63	.001	3.38	1.38-8.30	.008
ICU admission	6.55	3.54-12.11	< .001	5.35	2.80-10.23	< .001
Invasive mechanical ventilation	2.02	0.89-4.59	.09	1.82	0.78-4.25	.17

Table 4—*Comparison of Outcomes Among Patients With CAP Without COPD According to Their Levels of $Paco_2$*

Outcome	$Paco_2 < 35$ mm Hg (n = 161)	$Paco_2$ 35-45 mm Hg (n = 132)	$Paco_2 > 45$ mm Hg (n = 34)
30-d Mortality	22 (13.7)[a]	4 (3.0)	9 (26.5)[a]
ICU admission	48 (29.8)[a]	19 (14.4)	17 (50.0)[a]
Invasive mechanical ventilation	16 (9.9)	8 (6.1)	7 (20.6)[a]

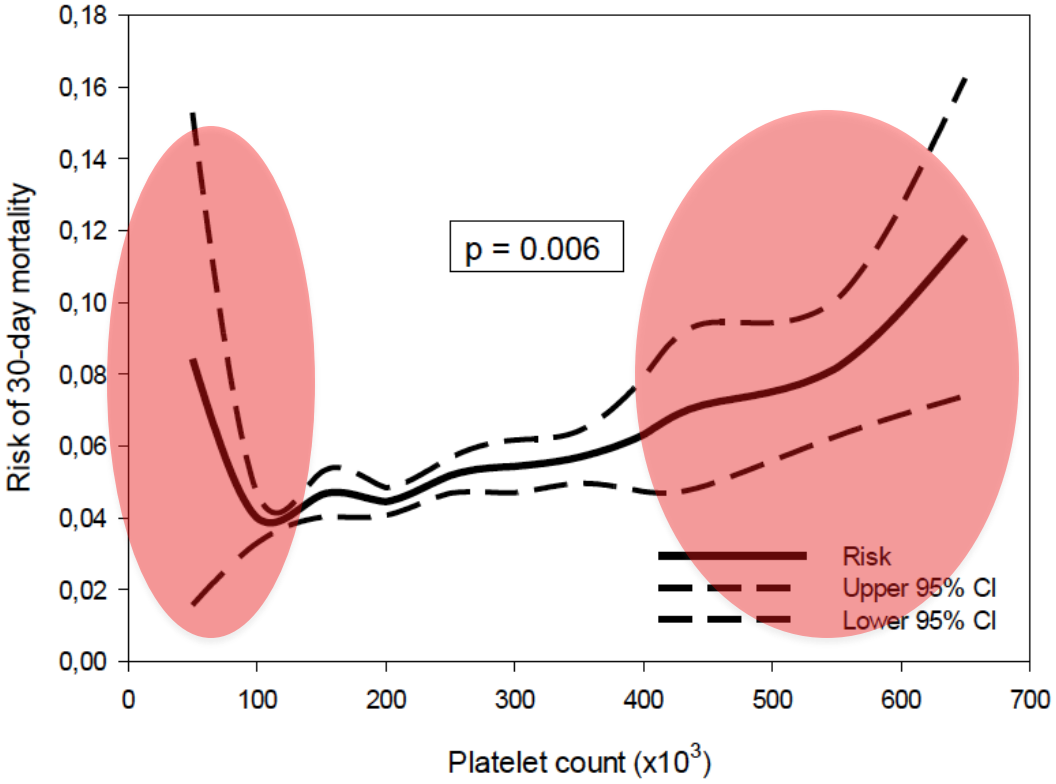
Laserna E, *Chest* 2012; 142: 1193-1199



Laserna E, *Chest* 2012; 142: 1193-1199

Thrombocytosis is a marker of poor outcome in community-acquired pneumonia

Elena Prina, MD [1,2], Miquel Ferrer, MD, PhD[1,3], Otavio T. Ranzani, MD[1,4], Eva Polverino, MD, PhD[1,3], Catia Cillóniz, PhD[1,3], Encarnación Moreno [1,3], Josep Mensa, MD[5], Beatriz Montull, MD[6], Rosario Menéndez, MD, PhD[3,6], Roberto Cosentini, MD[2], Antoni Torres, MD, PhD[1,3].



Prina E, *Chest* 2013; 143(3):767-75

Gravedad en NAC

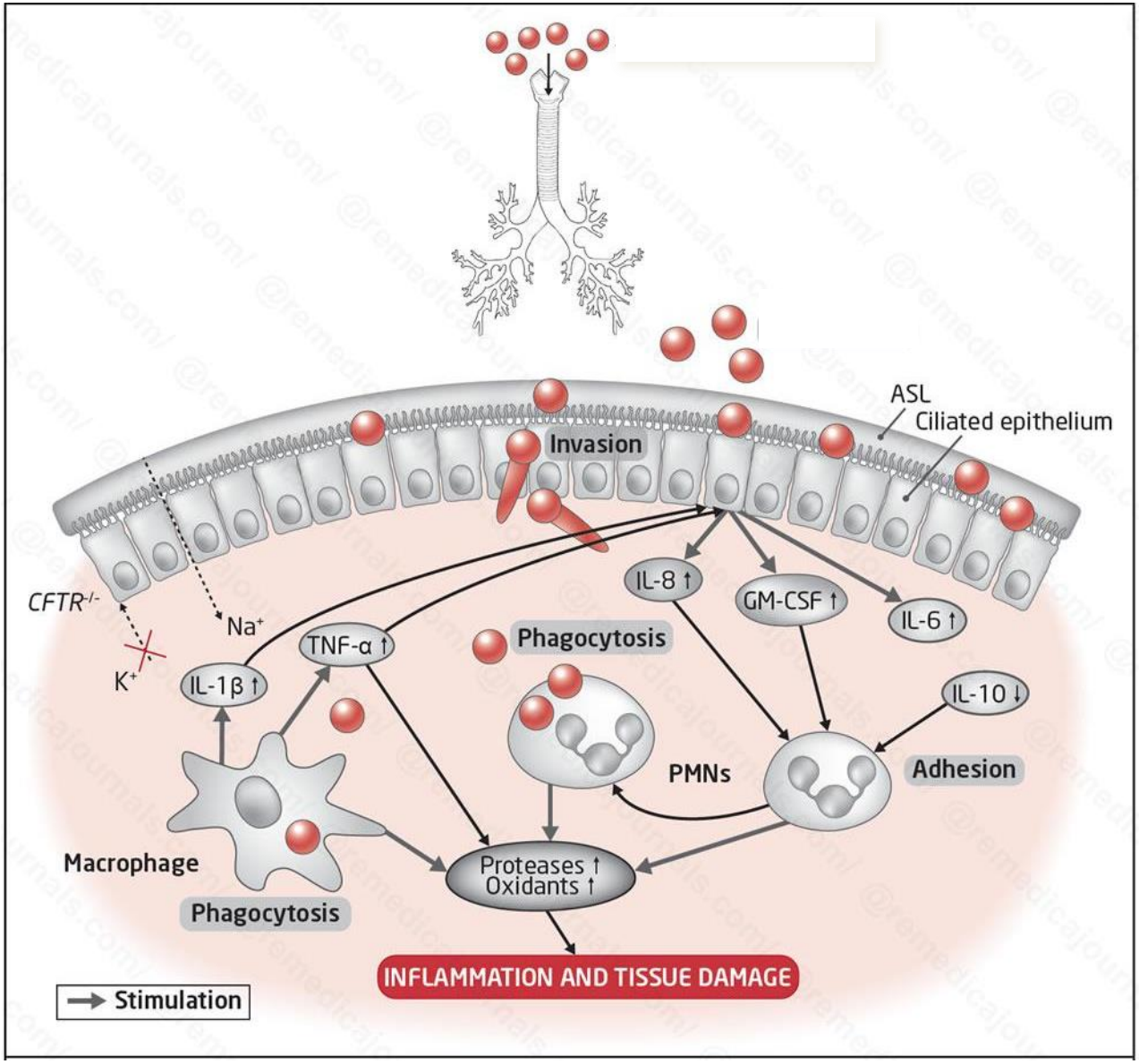
1) Marcadores clínicos

2) Marcadores biológicos

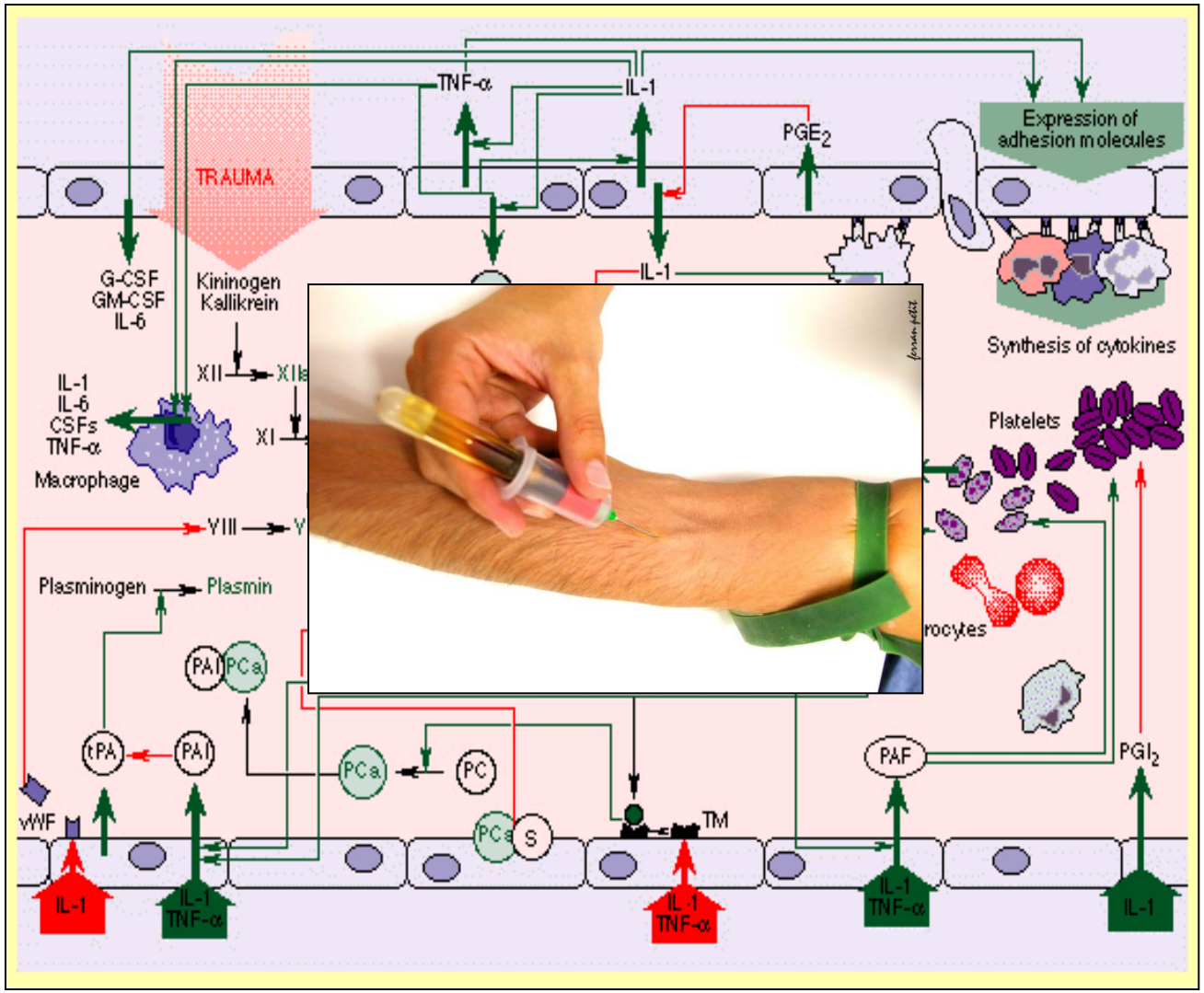
Gravedad en NAC

1) Marcadores clínicos

2) Marcadores biológicos


ASL
Ciliated epithelium
Invasion
CFTR-/-
Na+
K+
IL-1β ↑
TNF-α ↑
IL-8 ↑
GM-CSF ↑
IL-6 ↑
Phagocytosis
IL-10 ↓
PMNs
Adhesion
Macrophage
Phagocytosis
Proteases ↑
Oxidants ↑
INFLAMMATION AND TISSUE DAMAGE
Stimulation

Respuesta inflamatoria



CLINICAL RESEARCH STUDY

THE AMERICAN JOURNAL of MEDICINE®

C-Reactive Protein Is an Independent Predictor of Severity in Community-acquired Pneumonia

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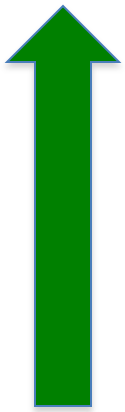
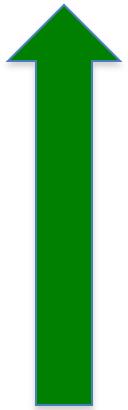
Table 5 Admission C-Reactive Protein (CRP) and Adverse Outcomes

C-Reactive Protein (mg/L)	n	Mortality (30-Day)	Invasive Ventilation and/or Inotropic Support	Complicated Pneumonia
CRP ≥400	70	18.8%	33.3%	21.7%
CRP 300-399	82	18.8%	20%	7.5%
CRP 200-299	106	9.6%	13.5%	15.4%
CRP 100-199	132	10.7%	15.2%	3.1%
CRP <100	180	1.1%	2.2%	0.6%
CRP <50	115	0.9%	0.9%	0%
CRP <10	39	0%	0%	0%





Am J Med 2008;121: 219-225

Punto de corte: PCR > 100 mg/L o 10 mg/dL

Table 6 C-Reactive Protein as a Predictor of Severity Compared with CURB65 and Pneumonia Severity Index Scores

	PPV	NPV	Sensitivity	Specificity	AUC
Prediction of 30-day mortality					
CRP ≥100 mg/L	13.3%	98.9%	96.3%	34.5%	0.70 (0.66-0.74)
CURB65 score ≥3	23.6%	97.6%	85.2%	71.1%	0.83 (0.80-0.87)
Pneumonia Severity Index ≥3	14.5%	99.1%	96.3%	40.7%	0.83 (0.80-0.87)
Prediction of mechanical ventilation and/or inotropic support					
CRP ≥100 mg/L	18.7%	97.8%	94.8%	35.7%	0.71 (0.67-0.74)
CURB65 score ≥3	22.0%	95.9%	81.6%	59.9%	0.77 (0.74-0.81)
Pneumonia Severity Index ≥3	20.7%	99%	97.4%	41.8%	0.79 (0.75-0.82)
Prediction of complicated pneumonia					
CRP ≥100 mg/L	10.5%	99.4%	97.6%	33.9%	0.76 (0.71-0.80)
CURB65 score ≥3	5.7%	94.8%	40.6%	61.5%	0.54 (0.48-0.59)
Pneumonia Severity Index ≥3	7.4%	97.1%	81.3%	37.9%	0.60 (0.55-0.65)

PPV= positive predictive value; NPV= negative predictive value; AUC= area under the receiver operator characteristic curve.

Am J Med 2008;121: 219-225

Biomarkers improve mortality prediction by prognostic scales in community-acquired pneumonia

R Menéndez,[1] R Martínez,[1] S Reyes,[1] J Mensa,[2] X Filella,[3] M A Marcos,[4] A Martínez,[1] C Esquinas,[5] P Ramirez,[6] A Torres[5]

Table 2 Median (25th to 75th percentile) of cytokines and markers according to initial severity

	PSI				
	I–II	III	IV	V	p Value
CRP (mg/dl)	15.9 (7.8–24.3)	13.6 (5.8–20.4)	15.5 (8.2–26.2)	18.7 (8.7–28.3)	0.2
PCT (ng/ml)	0.43 (0.2–1.5)	0.43 (0.25–1.6)	0.74 (0.3–2.8)	2.2 (0.8–11.8)	0.001
IL6 (pg/ml)	72 (26–202)	79 (34–208)	66 (28–185)	134 (41–383)	0.08
IL8 (pg/ml)	6 (0–17)	5 (2–11)	5 (1–16)	14 (4–32)	0.01
IL10 (pg/ml)	5 (1–15)	8 (2–20)	9 (2–23)	10 (0–36)	0.07

	CURB65				CRB65			
	0–1	2	⩾3	p Value	0–1	2	⩾3	p Value
CRP (mg/dl)	14.9 (7.1–23.4)	15.4 (8.7–23.7)	16.9 (7.6–27.7)	0.4	15.2 (7.1–23.5)	15.1 (8.4–22.7)	21.5 (8.5–30.5)	0.08
PCT (ng/ml)	0.41 (0.24–1.4)	0.86 (0.29–4.3)	1.46 (0.44–6.2)	0.001	0.43 (0.23–1.71)	0.95 (0.37–3.59)	2.79 (0.92–16.15)	0.0001
IL6 (pg/ml)	71 (34–179)	79 (29–236)	93 (28–315)	0.5	71 (30–174)	77 (30–214)	137 (30–432)	0.054
IL8 (pg/ml)	6 (1–14)	5 (2–15)	9 (2–31)	0.02	6 (2–15)	5 (2–16)	13 (2–36)	0.093
IL10 (pg/ml)	5 (1–17)	10 (3–31)	9 (1–22)	0.04	5 (1–18)	9 (2–23)	11 (5–40)	0.005

Thorax 2009, 64; 587-591

Punto de corte:
PCR 250 mg/L o 25 mg/dL

Table 4 Mortality according to initial severity and level of CRP in mg/dl

	CRP <25	CRP ⩾25
CRB65		
0–1	3/200 (1.5%)	2/53 (3.77%)
2	10/90 (11.1%)	3/24 (12.5%)
⩾3	8/30 (26.6%)	9/22 (40.9%)
CURB65		
0–1	1/148 (0.7%)	1/41 (2.4%)
2	4/92 (4.3%)	2/26 (7.7%)
⩾3	16/80 (20%)	11/32 (34.4%)
PSI		
I–II	0/86	0/25
III	2/76 (2.6%)	0/13
IV	8/114 (7%)	6/39 (15.4%)
V	11/44 (25%)	8/22 (36.4%)

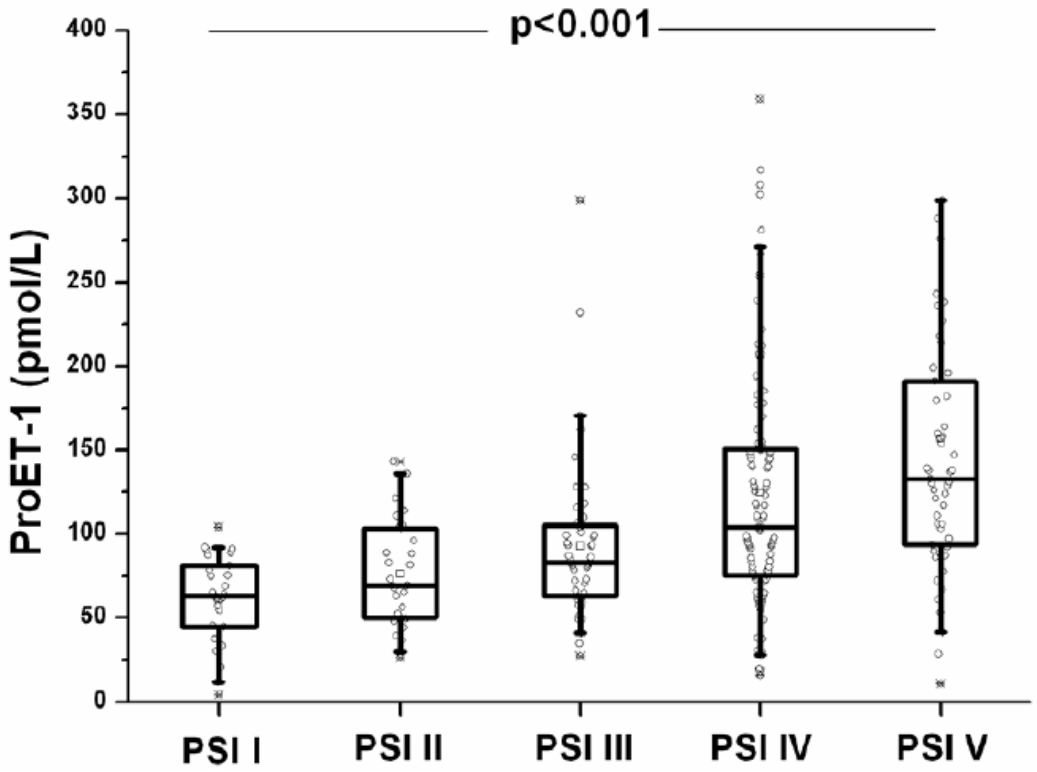
Table 5 Areas under the receiver operating characteristic curve (AUC) of the different models to predict 30-day mortality

	AUC (95% CI)
PSI	0.81 (0.75 to 0.87)
PSI+CRP*	0.85 (0.80 to 0.91)
PSI+PCT	0.83 (0.77 to 0.89)
PSI+CRP+PCT*	0.85 (0.79 to 0.91)
PSI+CRP+IL6*	0.86 (0.80 to 0.92)
PSI+CRP+IL8*	0.87 (0.82 to 0.93)
CRB65	0.79 (0.72 to 0.87)
CRB65+CRP†	0.85 (0.79 to 0.90)
CRB65+ PCT	0.83 (0.76 to 0.89)
CRB65+CRP+PCT†	0.86 (0.80 to 0.92)
CRB65+CRP+IL6†	0.86 (0.80 to 0.92)
CRB65+CRP+IL8†	0.88 (0.81 to 0.93)
CURB65	0.82 (0.76 to 0.89)
CURB65+CRP‡	0.86 (0.81 to 0.92)
CURB65+PCT	0.84 (0.77 to 0.90)
CURB65+CRP+PCT‡	0.86 (0.79 to 0.92)
CURB65+CRP+IL6‡	0.87 (0.82 to 0.92)
CURB-65+CRP+IL8‡	0.88 (0.83 to 0.93)
PSI+CRB65+CRP*†	0.87 (0.81 to 0.92)
PSI+CRB65+CRP+IL6*†	0.88 (0.82 to 0.93)
PSI+CURB65+CRP*‡	0.88 (0.83 to 0.93)
PSI+CURB65+CRP+IL6*‡	0.88 (0.83 to 0.94)

Menendez R *Thorax* 2009, 64; 587-591

Nuevos biomarcadores

- 1) Precursor Endotelina-1



Predictor independiente mortalidad y UCI

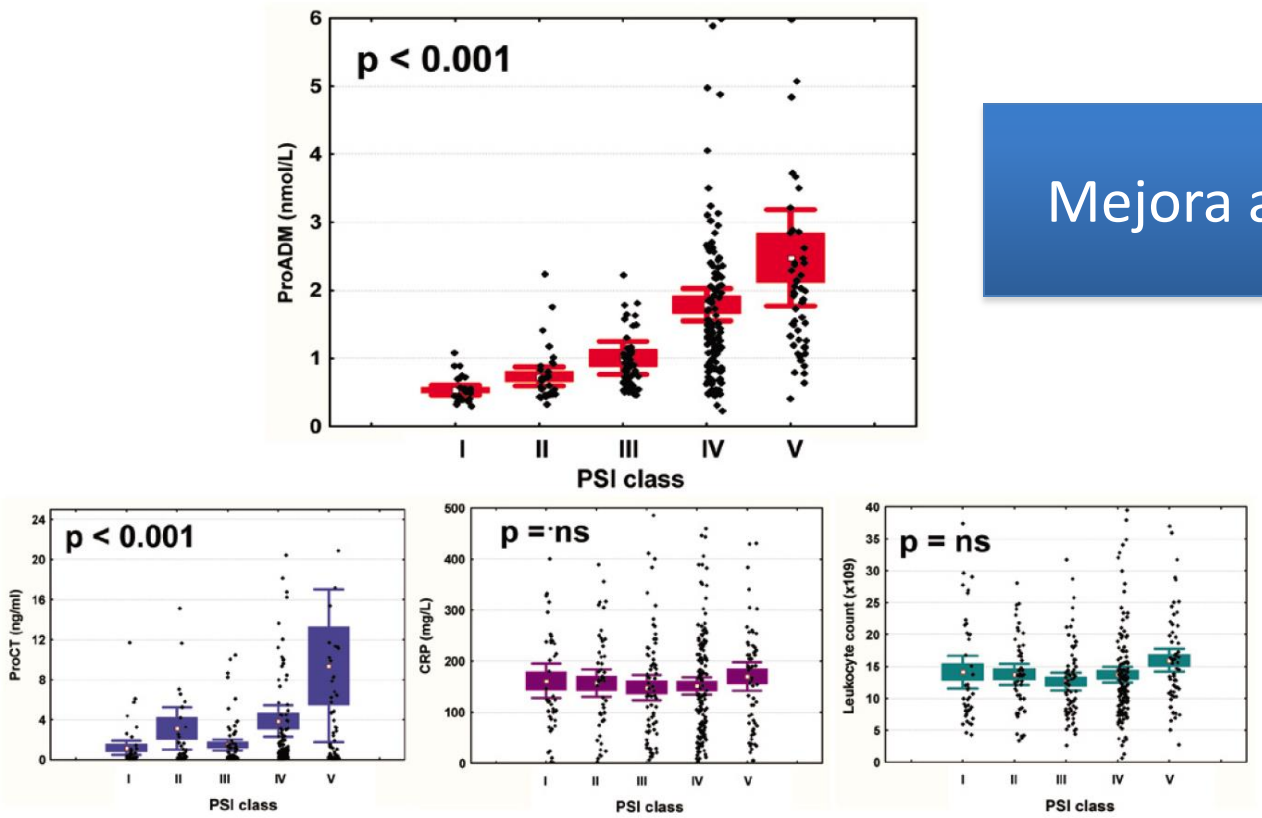
Mejor que PCR y PCT

Mejora al CURB65

Schuetz P, *BMC Infectous Diseases* 2008; 8: 22

Nuevos biomarcadores

- <u>2) Pro-adrenomedulina</u>

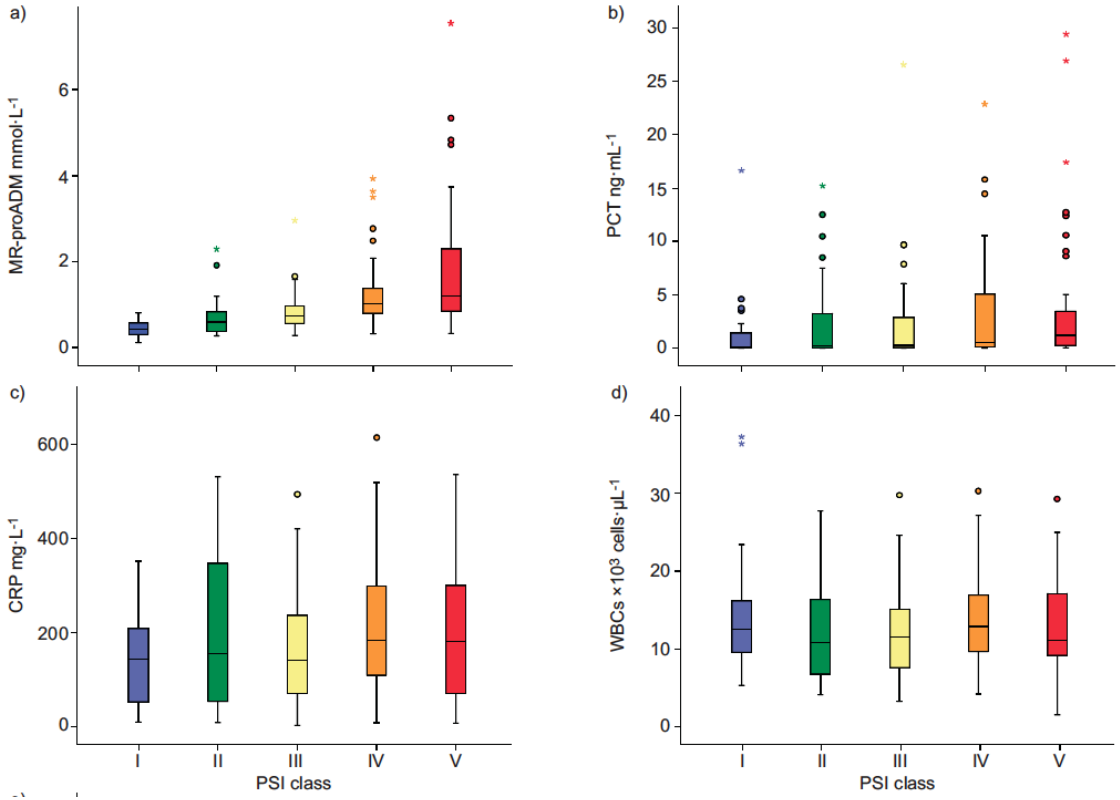


Mejora al PSI

Christ-Crain M, *Crit Care* 2006; 10: R96

Nuevos biomarcadores

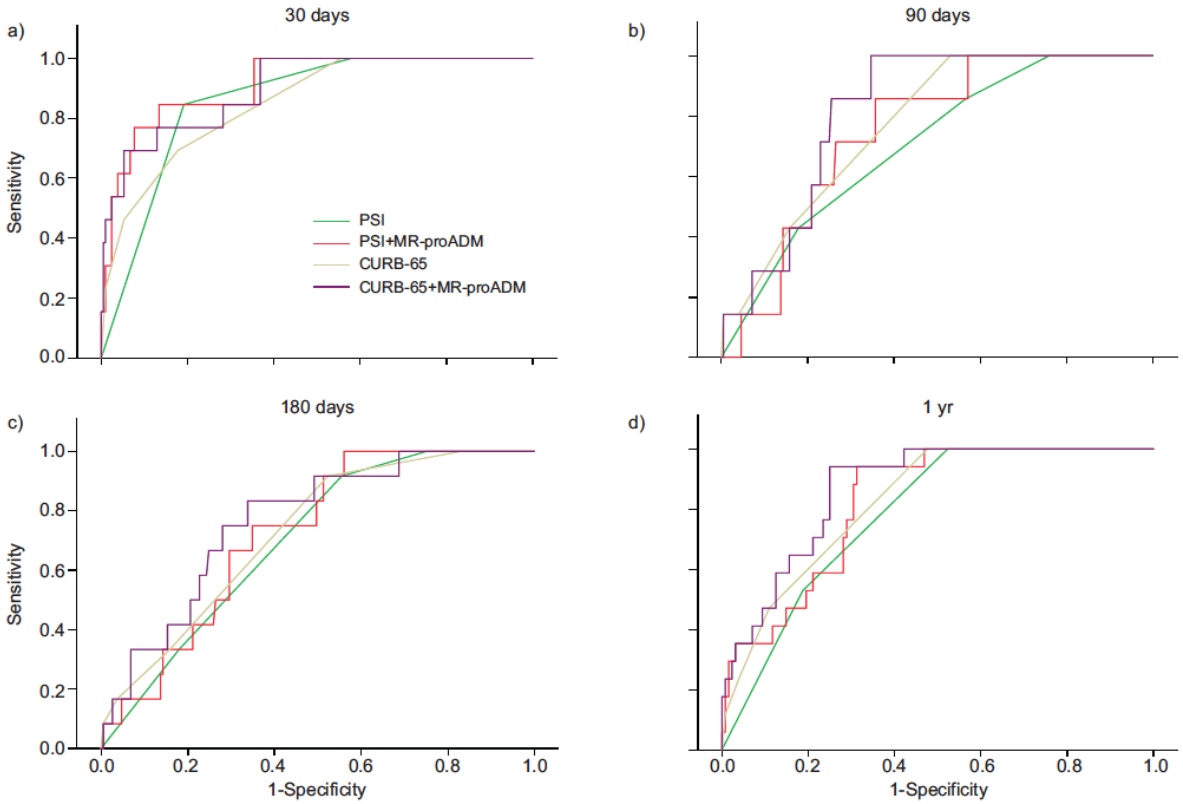
- <u>2) Pro-adrenomedulina</u>



Bello S, *Eur Respir J* 2012; 39: 1144-1155

Nuevos biomarcadores

- 2) Pro-adrenomedulina



Mejora al PSI y al CURB65

Bello S, *Eur Respir J* 2012; 39: 1144-1155

Gravedad en NAC

1) Marcadores clínicos

2) Marcadores biológicos

3) Conclusiones

Gravedad en NAC

1) Marcadores clínicos

2) Marcadores biológicos

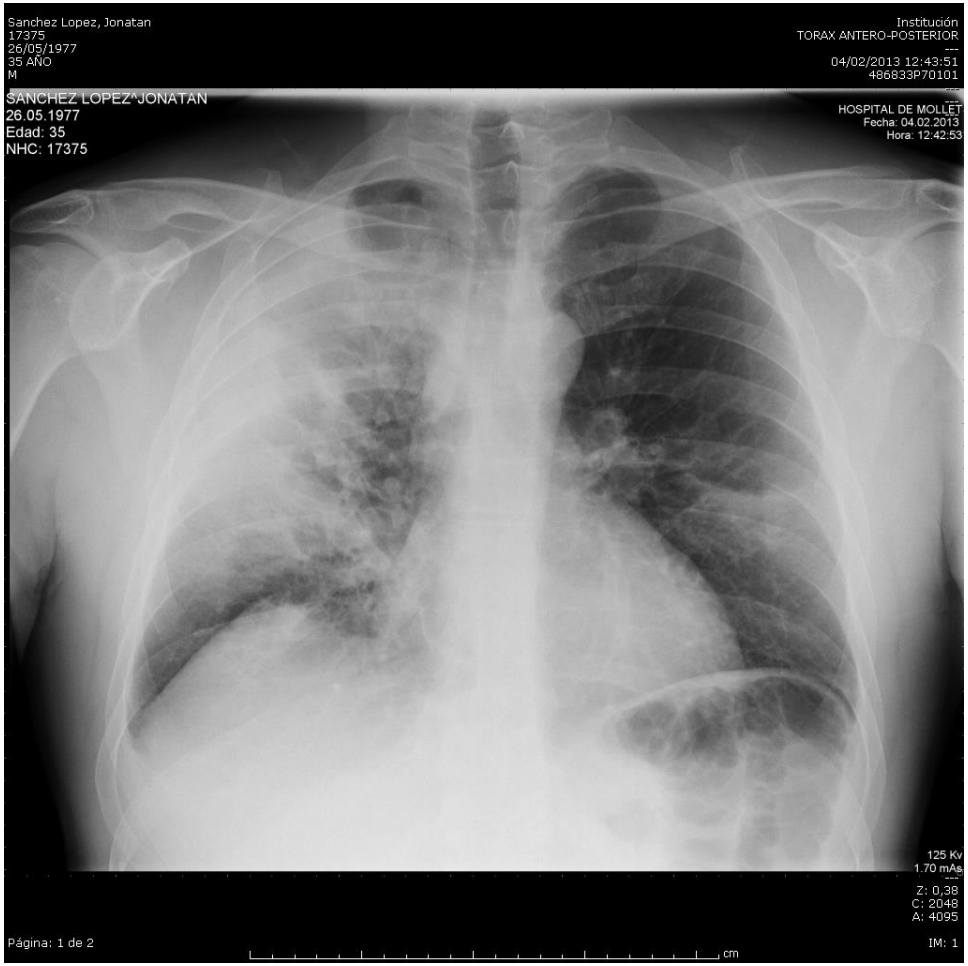
3) Conclusiones

Marcadores clínicos

1) Escalas actuales “limitadas”
2) Valor desigual criterios clínicos
3) pH <7.30 ingreso UCI
4) pCO2 anormal
5) Trombocitosis

Marcadores biológicos

1) Ningún biomarcador es “perfecto”
2) Mejoran escalas
3) PCR > 25 mg/dL
4) Nuevos biomarcadores?



Varón 35 años

FR 29 rpm. Sat O2 89%

pO2 60. pCO2 47. pH 7.29

19.900 leucocitos (95NS)

PCR 27 mg/dL

HospitaldeMollet

Muchas gracias!

e.laserna@hospitalmollet.cat