Faut-il prescrire des antibiotiques en urgence aux Urgences ?

RésO-InfectiO-PACA-Est

Vendredi 29 Avril 2022

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Plusieurs contraintes ….

- ❖ Administrer un traitement le plus efficace possible
- ❖ Dans les meilleurs délais
- ❖ Adaptés à chaque situation
- ❖ Préserver en même temps l'efficacité des antibiotiques (usage maitrisé)
- ❖ Contribuer à la prévention des résistance bactériennes (Réduire l'impact écologique)

↓

Définir précisément les situations qui nécessitent une antibiothérapie en urgence

-> ou tout retard de prescription est un facteur pronostic parfaitement identifié

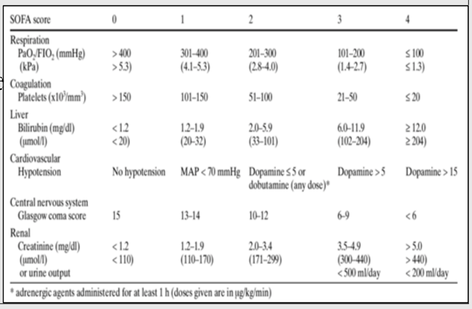
Situations évidentes

- ❖ Lorsque le **pronostic vital ou fonctionnel est en jeu**

(Ex: Purpura aigue fébrile, syndrome méningé aigue fébrile avec LCR trouble)

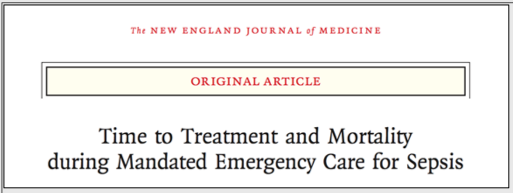
- ❖ Lorsque le patient présente une ou plusieurs défaillance d'organes *(**Sepsis ou choc septique**)*

  -> Score de SOFA



SOFA score	0	1	2	3	4
Respiration PaO$_2$/FIO$_2$ (mmHg) (kPa)	> 400 > 5.3)	301–400 (4.1–5.3)	201–300 (2.8–4.0)	101–200 (1.4–2.7)	≤ 100 ≤ 1.3)
Coagulation Platelets (x10^3/mm^3)	> 150	101–150	51–100	21–50	≤ 20
Liver Bilirubin (mg/dl) (µmol/l)	< 1.2 < 20)	1.2–1.9 (20–32)	2.0–5.9 (33–101)	6.0–11.9 (102–204)	≥ 12.0 ≥ 204)
Cardiovascular Hypotension	No hypotension	MAP < 70 mmHg	Dopamine ≤ 5 or dobutamine (any dose)*	Dopamine > 5	Dopamine > 15
Central nervous system Glasgow coma score	15	13–14	10–12	6–9	< 6
Renal Creatinine (mg/dl) (µmol/l) or urine output	< 1.2 < 110)	1.2–1.9 (110–170)	2.0–3.4 (171–299)	3.5–4.9 (300–440) < 500 ml/day	> 5.0 > 440) < 200 ml/day

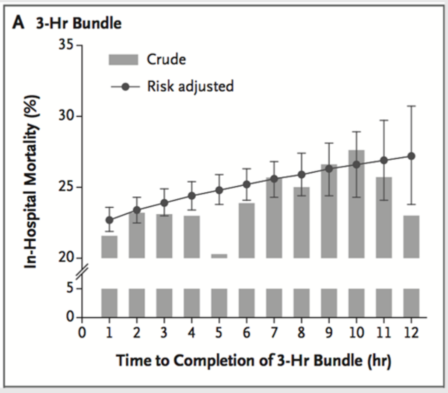
* adrenergic agents administered for at least 1 h (doses given are in µg/kg/min)

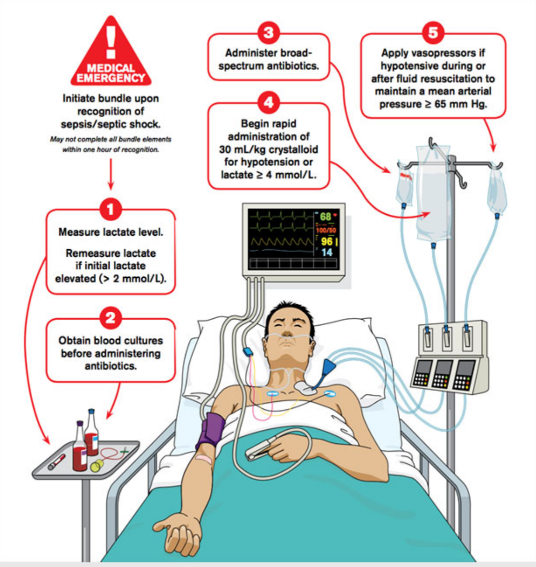


The NEW ENGLAND JOURNAL of MEDICINE

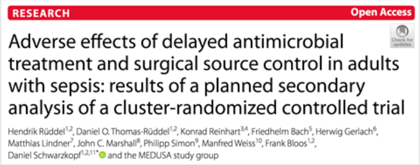
ORIGINAL ARTICLE

Time to Treatment and Mortality during Mandated Emergency Care for Sepsis




MEDICAL EMERGENCY
Initiate bundle upon recognition of sepsis/septic shock.
May not complete all bundle elements within one hour of recognition.
1
Measure lactate level.
Remeasure lactate if initial lactate elevated (> 2 mmol/L).
2
Obtain blood cultures before administering antibiotics.
3
Administer broad-spectrum antibiotics.
4
Begin rapid administration of 30 mL/kg crystalloid for hypotension or lactate ≥ 4 mmol/L.
5
Apply vasopressors if hypotensive during or after fluid resuscitation to maintain a mean arterial pressure ≥ 65 mm Hg.
68
100/50
96
14

N ENGL J MED 376;23 NEJM.ORG JUNE 8, 2017

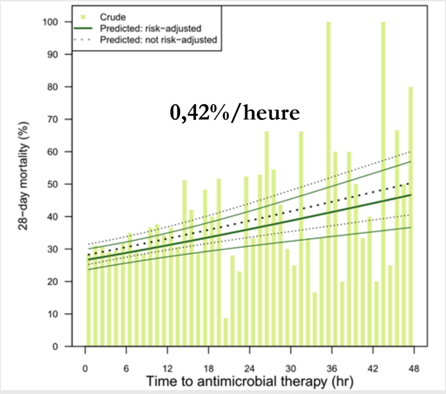


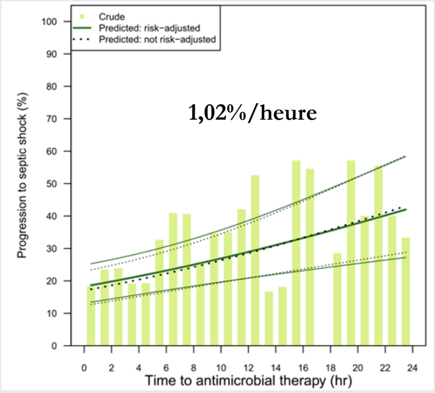
RESEARCH Open Access

Adverse effects of delayed antimicrobial treatment and surgical source control in adults with sepsis: results of a planned secondary analysis of a cluster-randomized controlled trial

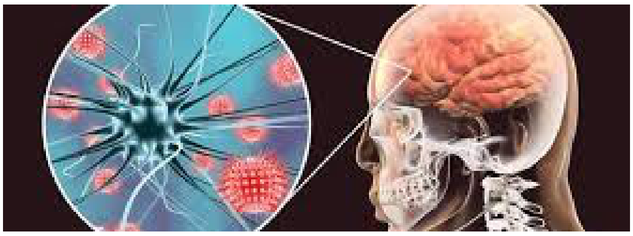
Hendrik Rüddel[1,2], Daniel O. Thomas-Rüddel[1,2], Konrad Reinhart[3,4], Friedhelm Bach[5], Herwig Gerlach[6], Matthias Lindner[7], John C. Marshall[8], Philipp Simon[9], Manfred Weiss[10], Frank Bloos[1,2], Daniel Schwarzkopf[1,2,11*] and the MEDUSA study group

U SEPSIS

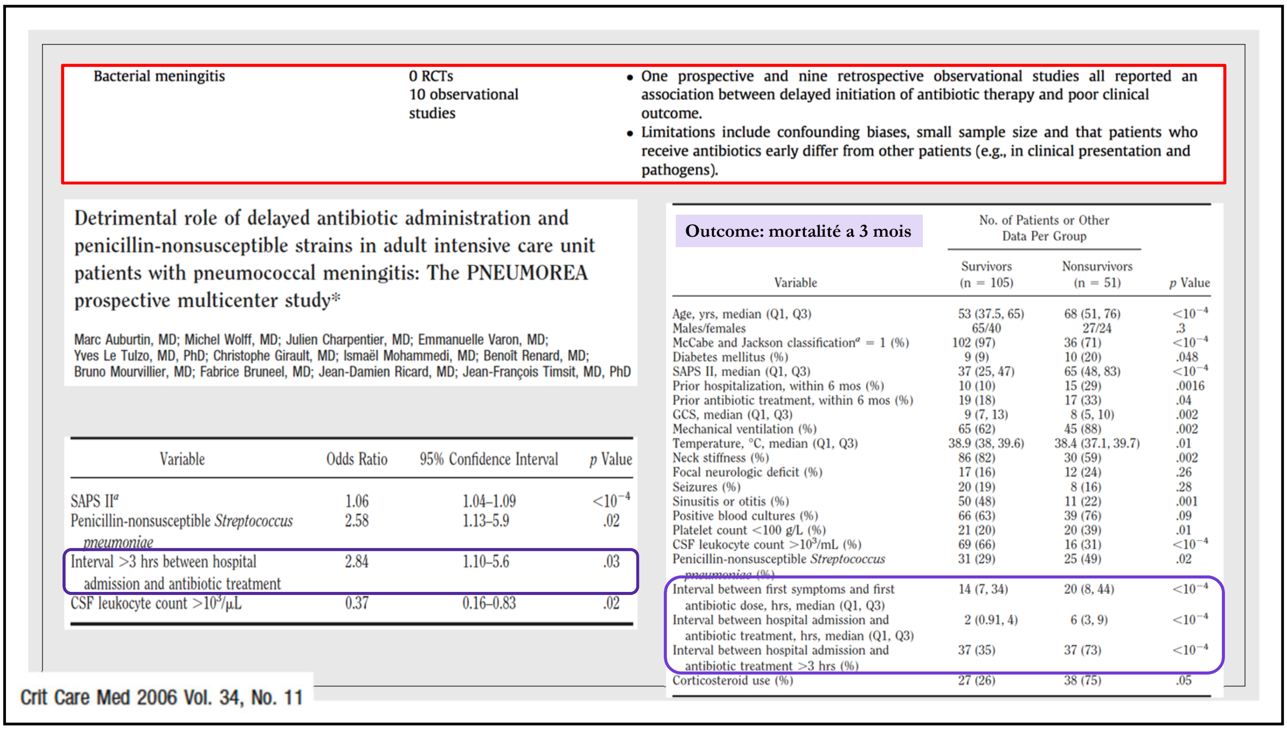




Rüddel *et al. Critical Care* *(2022) 26:51*



MÉNINGITES BACTÉRIENNES ??



Bacterial meningitis	0 RCTs 10 observational studies	• One prospective and nine retrospective observational studies all reported an association between delayed initiation of antibiotic therapy and poor clinical outcome. • Limitations include confounding biases, small sample size and that patients who receive antibiotics early differ from other patients (e.g., in clinical presentation and pathogens).

Detrimental role of delayed antibiotic administration and penicillin-nonsusceptible strains in adult intensive care unit patients with pneumococcal meningitis: The PNEUMOREA prospective multicenter study*

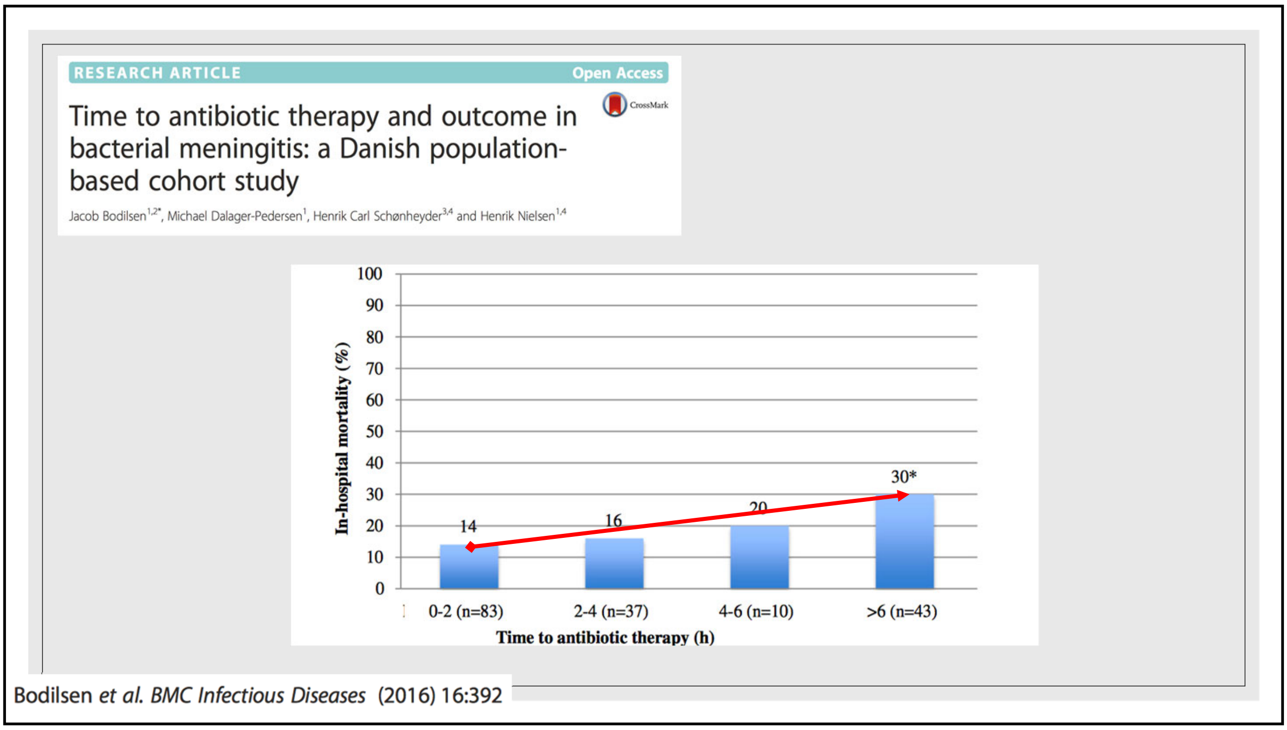
Marc Auburtin, MD; Michel Wolff, MD; Julien Charpentier, MD; Emmanuelle Varon, MD;
Yves Le Tulzo, MD, PhD; Christophe Girault, MD; Ismaël Mohammedi, MD; Benoît Renard, MD;
Bruno Mourvillier, MD; Fabrice Bruneel, MD; Jean-Damien Ricard, MD; Jean-François Timsit, MD, PhD

Variable	Odds Ratio	95% Confidence Interval	*p* Value
SAPS II[a]	1.06	1.04–1.09	$<10^{-4}$
Penicillin-nonsusceptible *Streptococcus pneumoniae*	2.58	1.13–5.9	.02
Interval >3 hrs between hospital admission and antibiotic treatment	2.84	1.10–5.6	.03
CSF leukocyte count $>10^3/\mu L$	0.37	0.16–0.83	.02

Outcome: mortalité a 3 mois

Variable	No. of Patients or Other Data Per Group: Survivors (n = 105)	No. of Patients or Other Data Per Group: Nonsurvivors (n = 51)	*p* Value
Age, yrs, median (Q1, Q3)	53 (37.5, 65)	68 (51, 76)	$<10^{-4}$
Males/females	65/40	27/24	.3
McCabe and Jackson classification[a] = 1 (%)	102 (97)	36 (71)	$<10^{-4}$
Diabetes mellitus (%)	9 (9)	10 (20)	.048
SAPS II, median (Q1, Q3)	37 (25, 47)	65 (48, 83)	$<10^{-4}$
Prior hospitalization, within 6 mos (%)	10 (10)	15 (29)	.0016
Prior antibiotic treatment, within 6 mos (%)	19 (18)	17 (33)	.04
GCS, median (Q1, Q3)	9 (7, 13)	8 (5, 10)	.002
Mechanical ventilation (%)	65 (62)	45 (88)	.002
Temperature, °C, median (Q1, Q3)	38.9 (38, 39.6)	38.4 (37.1, 39.7)	.01
Neck stiffness (%)	86 (82)	30 (59)	.002
Focal neurologic deficit (%)	17 (16)	12 (24)	.26
Seizures (%)	20 (19)	8 (16)	.28
Sinusitis or otitis (%)	50 (48)	11 (22)	.001
Positive blood cultures (%)	66 (63)	39 (76)	.09
Platelet count <100 g/L (%)	21 (20)	20 (39)	.01
CSF leukocyte count $>10^3$/mL (%)	69 (66)	16 (31)	$<10^{-4}$
Penicillin-nonsusceptible *Streptococcus pneumoniae* (%)	31 (29)	25 (49)	.02
Interval between first symptoms and first antibiotic dose, hrs, median (Q1, Q3)	14 (7, 34)	20 (8, 44)	$<10^{-4}$
Interval between hospital admission and antibiotic treatment, hrs, median (Q1, Q3)	2 (0.91, 4)	6 (3, 9)	$<10^{-4}$
Interval between hospital admission and antibiotic treatment >3 hrs (%)	37 (35)	37 (73)	$<10^{-4}$
Corticosteroid use (%)	27 (26)	38 (75)	.05

Crit Care Med 2006 Vol. 34, No. 11

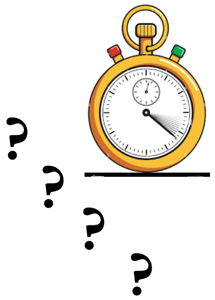


RESEARCH ARTICLE Open Access

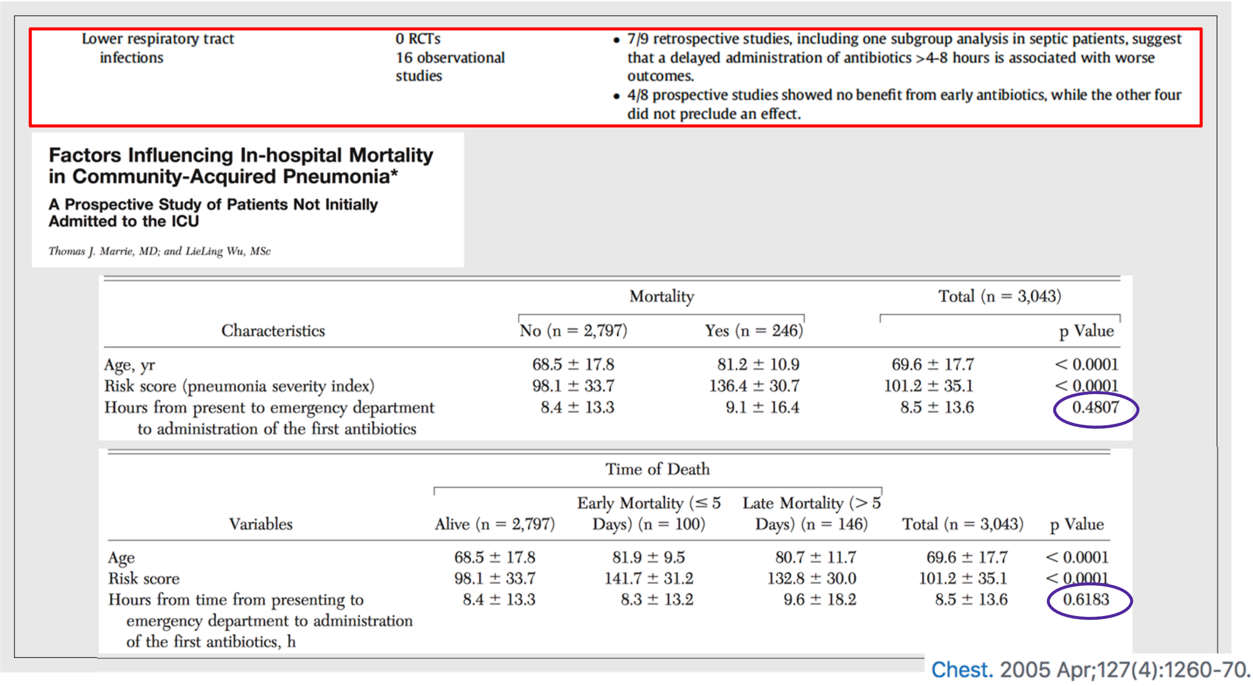
Time to antibiotic therapy and outcome in bacterial meningitis: a Danish population-based cohort study

Jacob Bodilsen[1,2*], Michael Dalager-Pedersen[1], Henrik Carl Schønheyder[3,4] and Henrik Nielsen[1,4]

Bodilsen *et al. BMC Infectious Diseases* (2016) 16:392



INFECTION RESPIRATOIRE BASSE ??



Lower respiratory tract infections	0 RCTs 16 observational studies	• 7/9 retrospective studies, including one subgroup analysis in septic patients, suggest that a delayed administration of antibiotics >4-8 hours is associated with worse outcomes. • 4/8 prospective studies showed no benefit from early antibiotics, while the other four did not preclude an effect.

Factors Influencing In-hospital Mortality in Community-Acquired Pneumonia*

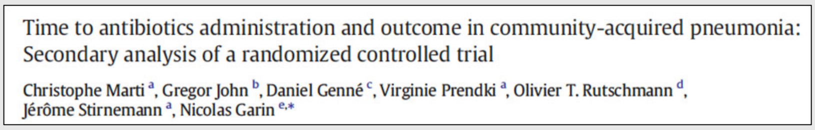
A Prospective Study of Patients Not Initially Admitted to the ICU

Thomas J. Marrie, MD; and LieLing Wu, MSc

Characteristics	Mortality: No (n = 2,797)	Mortality: Yes (n = 246)	Total (n = 3,043)	p Value
Age, yr	68.5 ± 17.8	81.2 ± 10.9	69.6 ± 17.7	< 0.0001
Risk score (pneumonia severity index)	98.1 ± 33.7	136.4 ± 30.7	101.2 ± 35.1	< 0.0001
Hours from present to emergency department to administration of the first antibiotics	8.4 ± 13.3	9.1 ± 16.4	8.5 ± 13.6	0.4807

Variables	Time of Death: Alive (n = 2,797)	Early Mortality (≤ 5 Days) (n = 100)	Late Mortality (> 5 Days) (n = 146)	Total (n = 3,043)	p Value
Age	68.5 ± 17.8	81.9 ± 9.5	80.7 ± 11.7	69.6 ± 17.7	< 0.0001
Risk score	98.1 ± 33.7	141.7 ± 31.2	132.8 ± 30.0	101.2 ± 35.1	< 0.0001
Hours from time from presenting to emergency department to administration of the first antibiotics, h	8.4 ± 13.3	8.3 ± 13.2	9.6 ± 18.2	8.5 ± 13.6	0.6183

Chest. 2005 Apr;127(4):1260-70.



Time to antibiotics administration and outcome in community-acquired pneumonia: Secondary analysis of a randomized controlled trial

Christophe Marti [a], Gregor John [b], Daniel Genné [c], Virginie Prendki [a], Olivier T. Rutschmann [d], Jérôme Stirnemann [a], Nicolas Garin [e,*]

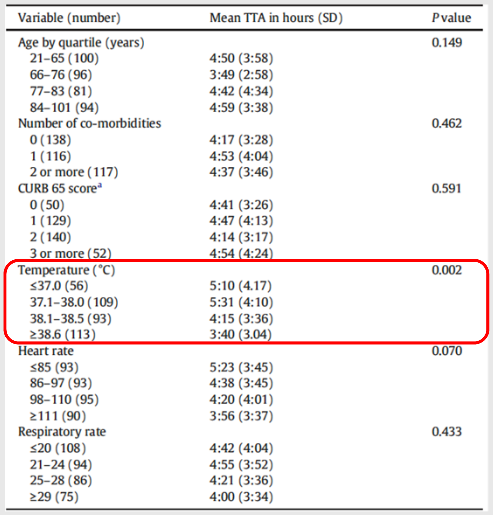
INTERNAL
MEDICINE

- Pneumopathie aigües communautaires hospitalisées **hors réanimation et soins continus**
  371 patients analysés

- **TTA »Time to antibiotics »** -> temps écoulé entre l'admission du patient aux urgences et à la première dose d'antibiotique
- TCS **« Time to clinical stability »** -> temps écoulé entre la première dose d'antibiotique et la stabilité du patient définit par (pendant au moins 24h)
  - FC < 100/Min
  - Pas > 90 mmHg
  - T°C < 38°C
  - FR < 24/Min
  - SpO2 en AA > 90%

Eur J Intern Med. 2017 Sep;43:58-61.

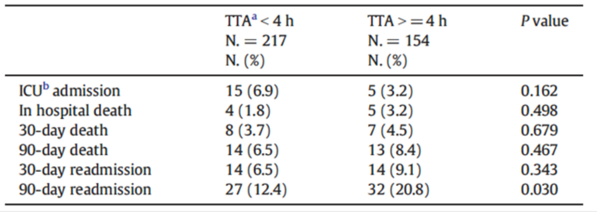
TTA moyen = 4h35 (+/- 3,48)



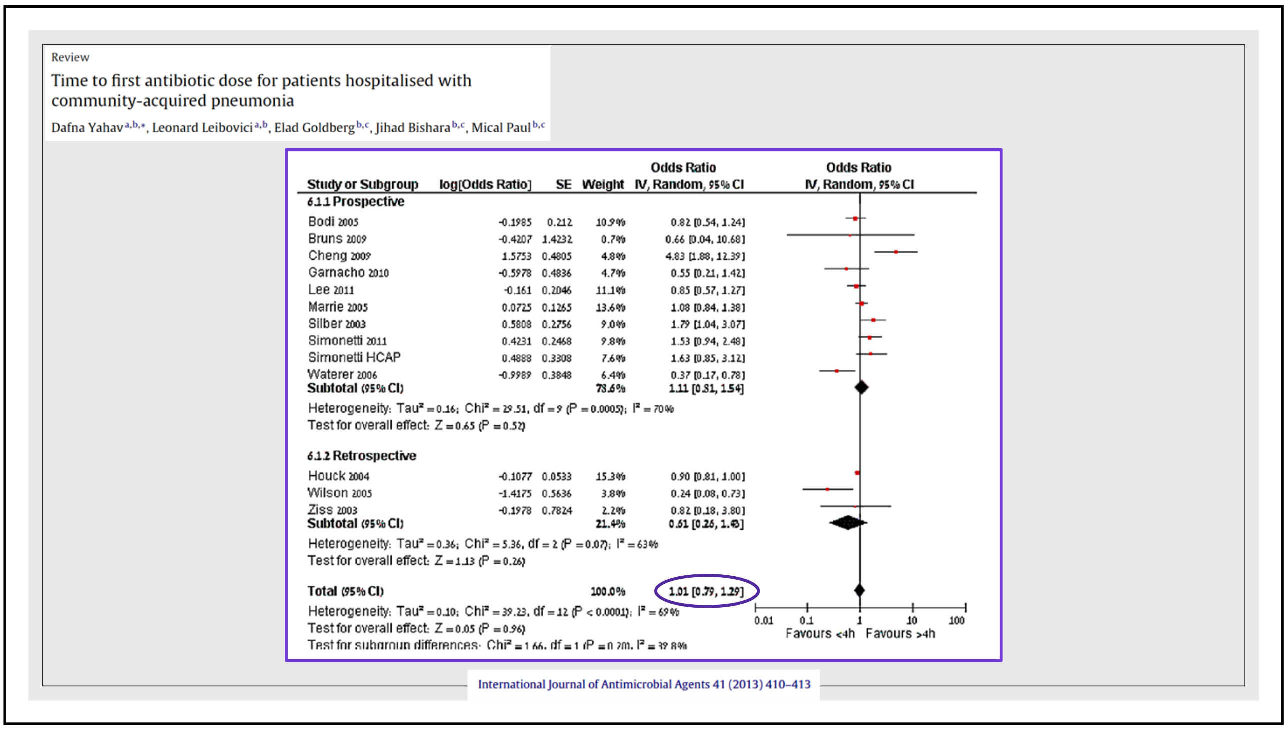
Variable (number)	Mean TTA in hours (SD)	*P* value
Age by quartile (years)		0.149
21–65 (100)	4:50 (3:58)	
66–76 (96)	3:49 (2:58)	
77–83 (81)	4:42 (4:34)	
84–101 (94)	4:59 (3:38)	
Number of co-morbidities		0.462
0 (138)	4:17 (3:28)	
1 (116)	4:53 (4:04)	
2 or more (117)	4:37 (3:46)	
CURB 65 score[a]		0.591
0 (50)	4:41 (3:26)	
1 (129)	4:47 (4:13)	
2 (140)	4:14 (3:17)	
3 or more (52)	4:54 (4:24)	
Temperature (°C)		0.002
≤37.0 (56)	5:10 (4.17)	
37.1–38.0 (109)	5:31 (4:10)	
38.1–38.5 (93)	4:15 (3:36)	
≥38.6 (113)	3:40 (3.04)	
Heart rate		0.070
≤85 (93)	5:23 (3:45)	
86–97 (93)	4:38 (3:45)	
98–110 (95)	4:20 (4:01)	
≥111 (90)	3:56 (3:37)	
Respiratory rate		0.433
≤20 (108)	4:42 (4:04)	
21–24 (94)	4:55 (3:52)	
25–28 (86)	4:21 (3:36)	
≥29 (75)	4:00 (3:34)	

Aucune association significative a été mise en évidence entre la durée d'initiation de l'antibiothérapie (TTA) et la stabilité clinique (TCS)

HR 1.009; 95% CI 0.977–1.042 en analyse multivariée



	TTA[a] < 4 h N. = 217 N. (%)	TTA > = 4 h N. = 154 N. (%)	*P* value
ICU[b] admission	15 (6.9)	5 (3.2)	0.162
In hospital death	4 (1.8)	5 (3.2)	0.498
30-day death	8 (3.7)	7 (4.5)	0.679
90-day death	14 (6.5)	13 (8.4)	0.467
30-day readmission	14 (6.5)	14 (9.1)	0.343
90-day readmission	27 (12.4)	32 (20.8)	0.030



Review

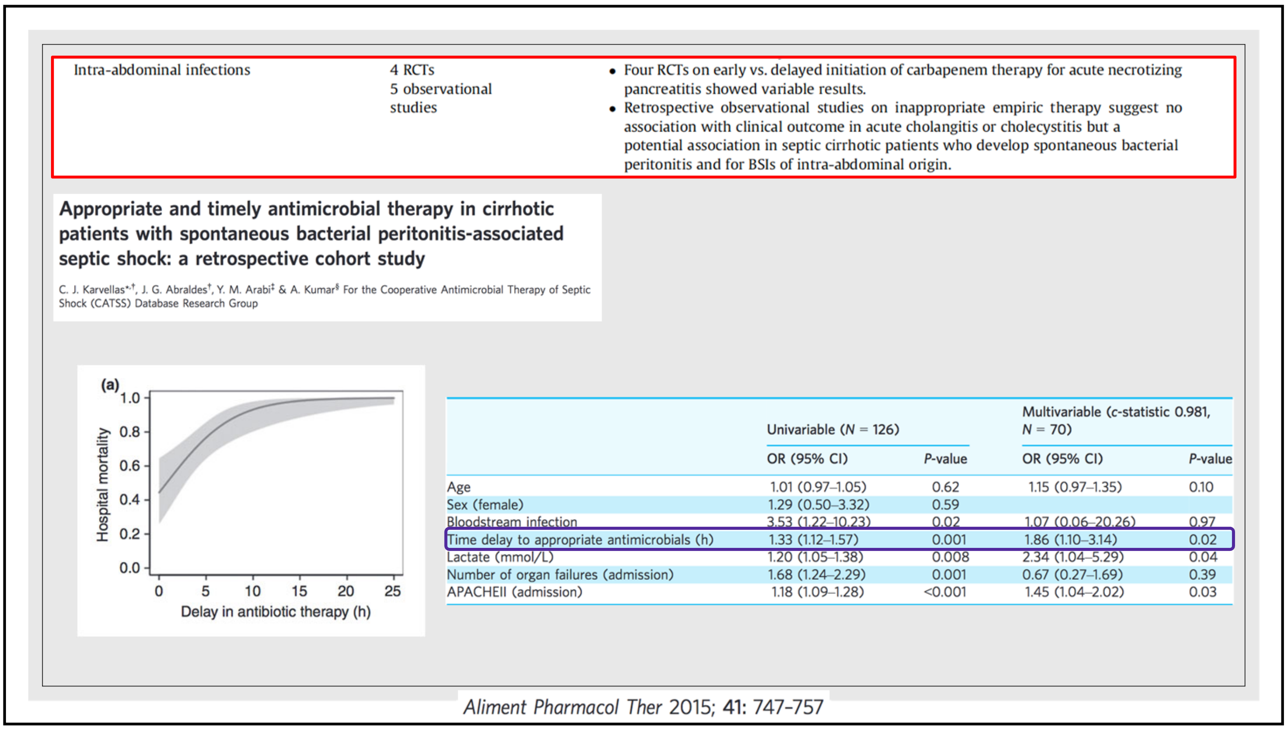
Time to first antibiotic dose for patients hospitalised with community-acquired pneumonia

Dafna Yahav[a,b,*], Leonard Leibovici[a,b], Elad Goldberg[b,c], Jihad Bishara[b,c], Mical Paul[b,c]

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI
6.1.1 Prospective				
Bodi 2005	-0.1985	0.212	10.9%	0.82 [0.54, 1.24]
Bruns 2009	-0.4207	1.4232	0.7%	0.66 [0.04, 10.68]
Cheng 2009	1.5753	0.4805	4.8%	4.83 [1.88, 12.39]
Garnacho 2010	-0.5978	0.4836	4.7%	0.55 [0.21, 1.42]
Lee 2011	-0.161	0.2046	11.1%	0.85 [0.57, 1.27]
Marrie 2005	0.0725	0.1265	13.6%	1.08 [0.84, 1.38]
Silber 2003	0.5808	0.2756	9.0%	1.79 [1.04, 3.07]
Simonetti 2011	0.4231	0.2468	9.8%	1.53 [0.94, 2.48]
Simonetti HCAP	0.4888	0.3308	7.6%	1.63 [0.85, 3.12]
Waterer 2006	-0.9989	0.3848	6.4%	0.37 [0.17, 0.78]
Subtotal (95% CI)			**78.6%**	**1.11 [0.81, 1.54]**
Heterogeneity: Tau² = 0.16; Chi² = 29.51, df = 9 (P = 0.0005); I² = 70%				
Test for overall effect: Z = 0.65 (P = 0.52)				
6.1.2 Retrospective				
Houck 2004	-0.1077	0.0533	15.3%	0.90 [0.81, 1.00]
Wilson 2005	-1.4175	0.5636	3.8%	0.24 [0.08, 0.73]
Ziss 2003	-0.1978	0.7824	2.2%	0.82 [0.18, 3.80]
Subtotal (95% CI)			**21.4%**	**0.61 [0.26, 1.43]**
Heterogeneity: Tau² = 0.36; Chi² = 5.36, df = 2 (P = 0.07); I² = 63%				
Test for overall effect: Z = 1.13 (P = 0.26)				
Total (95% CI)			**100.0%**	**1.01 [0.79, 1.29]**
Heterogeneity: Tau² = 0.10; Chi² = 39.23, df = 12 (P < 0.0001); I² = 69%				
Test for overall effect: Z = 0.05 (P = 0.96)				
Test for subgroup differences: Chi² = 1.66, df = 1 (P = 0.20), I² = 39.8%				

International Journal of Antimicrobial Agents 41 (2013) 410–413

INFECTION INTRA-ABDOMINALE ??



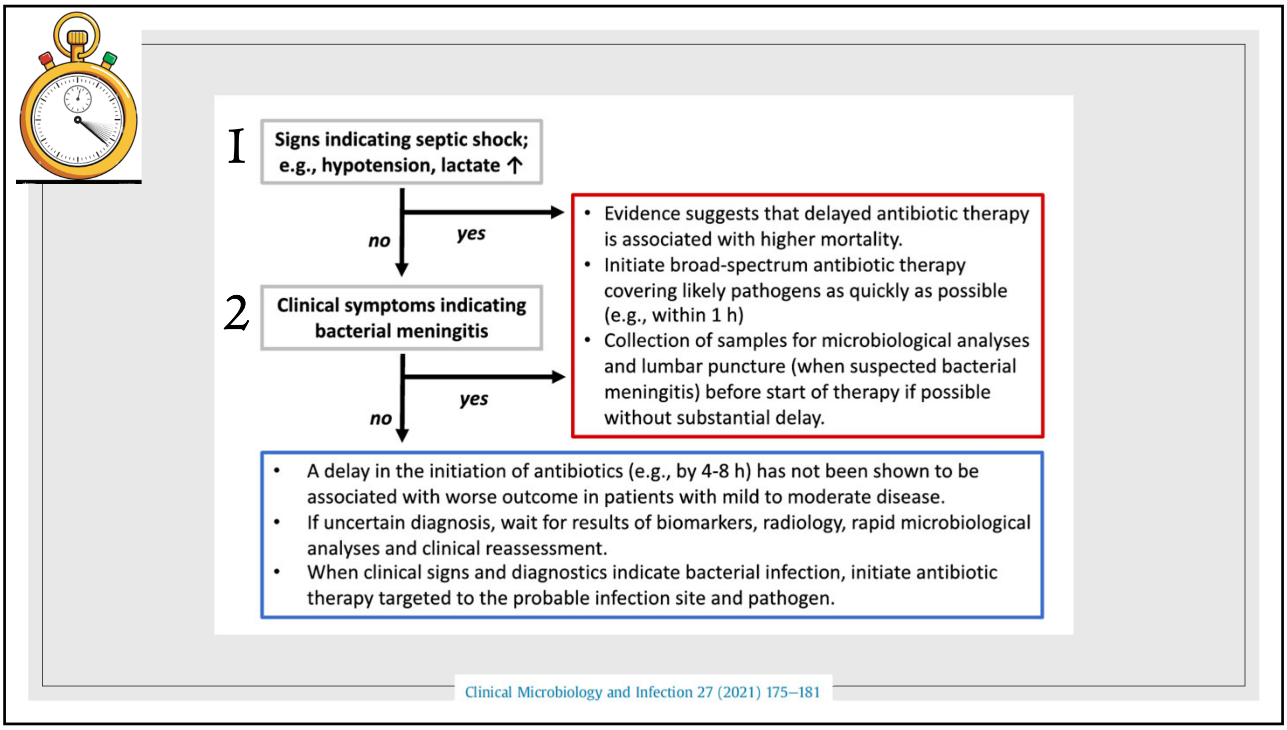
Intra-abdominal infections	4 RCTs 5 observational studies	• Four RCTs on early vs. delayed initiation of carbapenem therapy for acute necrotizing pancreatitis showed variable results. • Retrospective observational studies on inappropriate empiric therapy suggest no association with clinical outcome in acute cholangitis or cholecystitis but a potential association in septic cirrhotic patients who develop spontaneous bacterial peritonitis and for BSIs of intra-abdominal origin.

Appropriate and timely antimicrobial therapy in cirrhotic patients with spontaneous bacterial peritonitis-associated septic shock: a retrospective cohort study

C. J. Karvellas*,†, J. G. Abraldes†, Y. M. Arabi‡ & A. Kumar§ For the Cooperative Antimicrobial Therapy of Septic Shock (CATSS) Database Research Group

	Univariable (N = 126)		Multivariable (c-statistic 0.981, N = 70)	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Age	1.01 (0.97–1.05)	0.62	1.15 (0.97–1.35)	0.10
Sex (female)	1.29 (0.50–3.32)	0.59		
Bloodstream infection	3.53 (1.22–10.23)	0.02	1.07 (0.06–20.26)	0.97
Time delay to appropriate antimicrobials (h)	1.33 (1.12–1.57)	0.001	1.86 (1.10–3.14)	0.02
Lactate (mmol/L)	1.20 (1.05–1.38)	0.008	2.34 (1.04–5.29)	0.04
Number of organ failures (admission)	1.68 (1.24–2.29)	0.001	0.67 (0.27–1.69)	0.39
APACHEII (admission)	1.18 (1.09–1.28)	<0.001	1.45 (1.04–2.02)	0.03

Aliment Pharmacol Ther 2015; **41**: 747–757



1 **Signs indicating septic shock; e.g., hypotension, lactate ↑**

no / yes

2 **Clinical symptoms indicating bacterial meningitis**

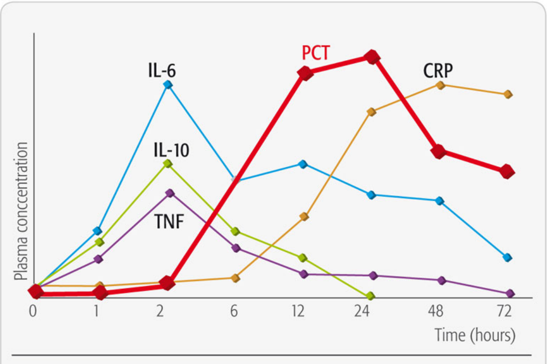
no / yes

- Evidence suggests that delayed antibiotic therapy is associated with higher mortality.
- Initiate broad-spectrum antibiotic therapy covering likely pathogens as quickly as possible (e.g., within 1 h)
- Collection of samples for microbiological analyses and lumbar puncture (when suspected bacterial meningitis) before start of therapy if possible without substantial delay.

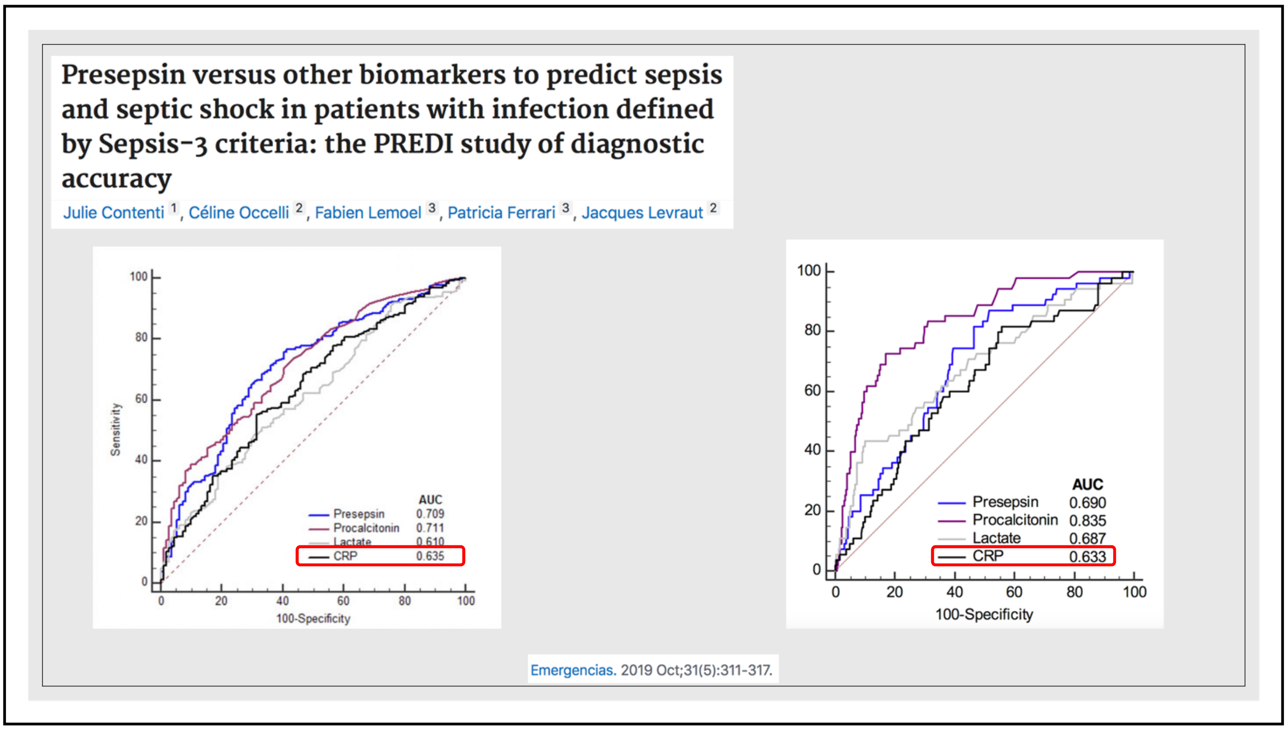
- A delay in the initiation of antibiotics (e.g., by 4-8 h) has not been shown to be associated with worse outcome in patients with mild to moderate disease.
- If uncertain diagnosis, wait for results of biomarkers, radiology, rapid microbiological analyses and clinical reassessment.
- When clinical signs and diagnostics indicate bacterial infection, initiate antibiotic therapy targeted to the probable infection site and pathogen.

Clinical Microbiology and Infection 27 (2021) 175–181

ELÉMENTS DÉCISIONNELS BIOLOGIQUES



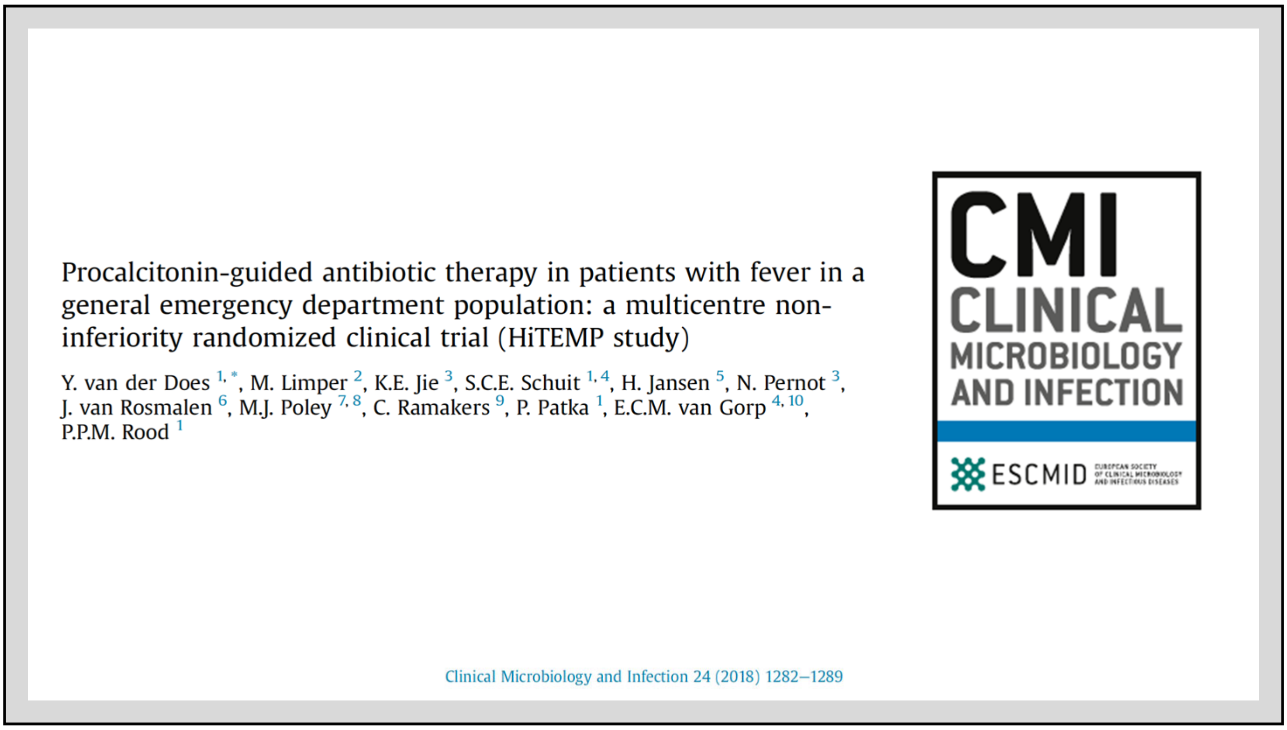
Examens biologiques non microbiologique ?



Presepsin versus other biomarkers to predict sepsis and septic shock in patients with infection defined by Sepsis-3 criteria: the PREDI study of diagnostic accuracy

Julie Contenti [1], Céline Occelli [2], Fabien Lemoel [3], Patricia Ferrari [3], Jacques Levraut [2]

Emergencias. 2019 Oct;31(5):311-317.



Procalcitonin-guided antibiotic therapy in patients with fever in a general emergency department population: a multicentre non-inferiority randomized clinical trial (HiTEMP study)

Y. van der Does [1, *], M. Limper [2], K.E. Jie [3], S.C.E. Schuit [1, 4], H. Jansen [5], N. Pernot [3], J. van Rosmalen [6], M.J. Poley [7, 8], C. Ramakers [9], P. Patka [1], E.C.M. van Gorp [4, 10], P.P.M. Rood [1]

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Clinical Microbiology and Infection 24 (2018) 1282–1289

Procalcitonin-guided antibiotic therapy in patients with fever in a general emergency department population: a multicentre non-inferiority randomized clinical trial (HiTEMP study)

01

Etude randomisée contrôlée de non-infériorité

CI: Adulte avec fièvre > 38,2 °C

02

Gp1:

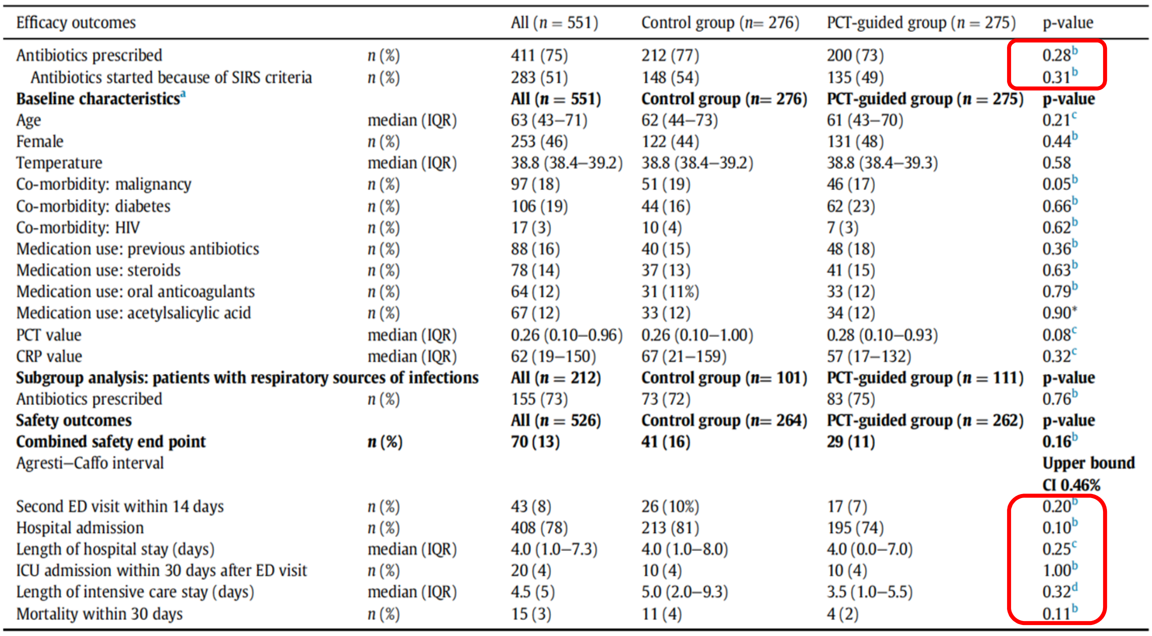
approche diagnostique standard

03

Gp2:

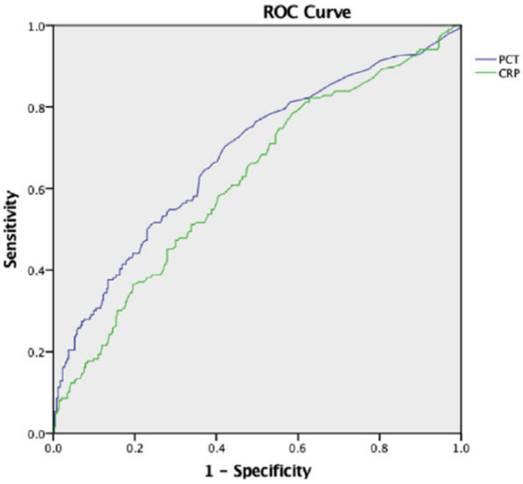
approche diagnostic basée sur la PCT

- **Antibio si PCT > 0,5 ug/l**

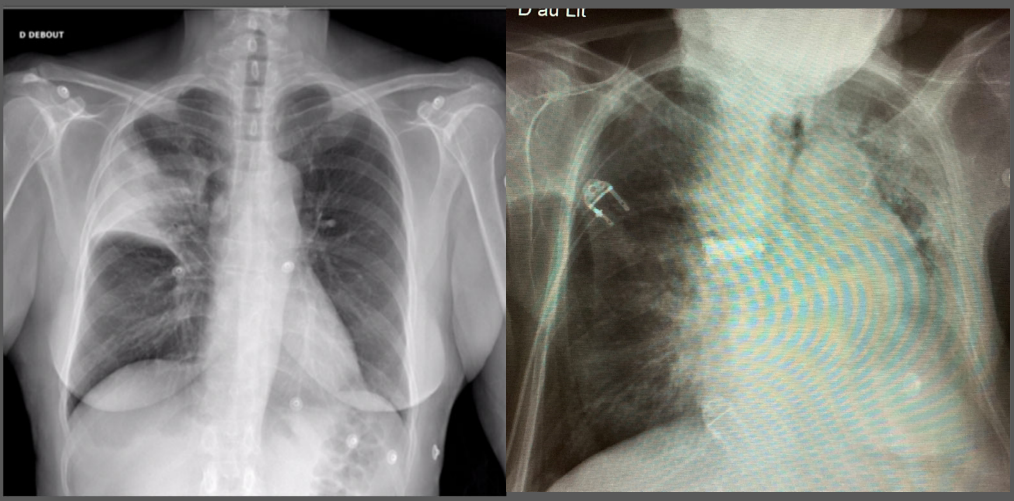


Efficacy outcomes		All (*n* = 551)	Control group (*n*= 276)	PCT-guided group (*n* = 275)	p-value
Antibiotics prescribed	*n* (%)	411 (75)	212 (77)	200 (73)	0.28[b]
Antibiotics started because of SIRS criteria	*n* (%)	283 (51)	148 (54)	135 (49)	0.31[b]
Baseline characteristics[a]		**All (*n* = 551)**	**Control group (*n*= 276)**	**PCT-guided group (*n* = 275)**	**p-value**
Age	median (IQR)	63 (43–71)	62 (44–73)	61 (43–70)	0.21[c]
Female	*n* (%)	253 (46)	122 (44)	131 (48)	0.44[b]
Temperature	median (IQR)	38.8 (38.4–39.2)	38.8 (38.4–39.2)	38.8 (38.4–39.3)	0.58
Co-morbidity: malignancy	*n* (%)	97 (18)	51 (19)	46 (17)	0.05[b]
Co-morbidity: diabetes	*n* (%)	106 (19)	44 (16)	62 (23)	0.66[b]
Co-morbidity: HIV	*n* (%)	17 (3)	10 (4)	7 (3)	0.62[b]
Medication use: previous antibiotics	*n* (%)	88 (16)	40 (15)	48 (18)	0.36[b]
Medication use: steroids	*n* (%)	78 (14)	37 (13)	41 (15)	0.63[b]
Medication use: oral anticoagulants	*n* (%)	64 (12)	31 (11%)	33 (12)	0.79[b]
Medication use: acetylsalicylic acid	*n* (%)	67 (12)	33 (12)	34 (12)	0.90*
PCT value	median (IQR)	0.26 (0.10–0.96)	0.26 (0.10–1.00)	0.28 (0.10–0.93)	0.08[c]
CRP value	median (IQR)	62 (19–150)	67 (21–159)	57 (17–132)	0.32[c]
Subgroup analysis: patients with respiratory sources of infections		**All (*n* = 212)**	**Control group (*n*= 101)**	**PCT-guided group (*n* = 111)**	**p-value**
Antibiotics prescribed	*n* (%)	155 (73)	73 (72)	83 (75)	0.76[b]
Safety outcomes		**All (*n* = 526)**	**Control group (*n*= 264)**	**PCT-guided group (*n* = 262)**	**p-value**
Combined safety end point	***n* (%)**	**70 (13)**	**41 (16)**	**29 (11)**	**0.16**[b]
Agresti–Caffo interval					**Upper bound CI 0.46%**
Second ED visit within 14 days	*n* (%)	43 (8)	26 (10%)	17 (7)	0.20[b]
Hospital admission	*n* (%)	408 (78)	213 (81)	195 (74)	0.10[b]
Length of hospital stay (days)	median (IQR)	4.0 (1.0–7.3)	4.0 (1.0–8.0)	4.0 (0.0–7.0)	0.25[c]
ICU admission within 30 days after ED visit	*n* (%)	20 (4)	10 (4)	10 (4)	1.00[b]
Length of intensive care stay (days)	median (IQR)	4.5 (5)	5.0 (2.0–9.3)	3.5 (1.0–5.5)	0.32[d]
Mortality within 30 days	*n* (%)	15 (3)	11 (4)	4 (2)	0.11[b]

ROC curve of PCT and CRP for confirmed bacterial infection (n = 529)



PCT AUC 0.681 (95%CI 0.633 – 0.730)
CRP AUC 0.619 (95%CI 0.569 – 0.669)

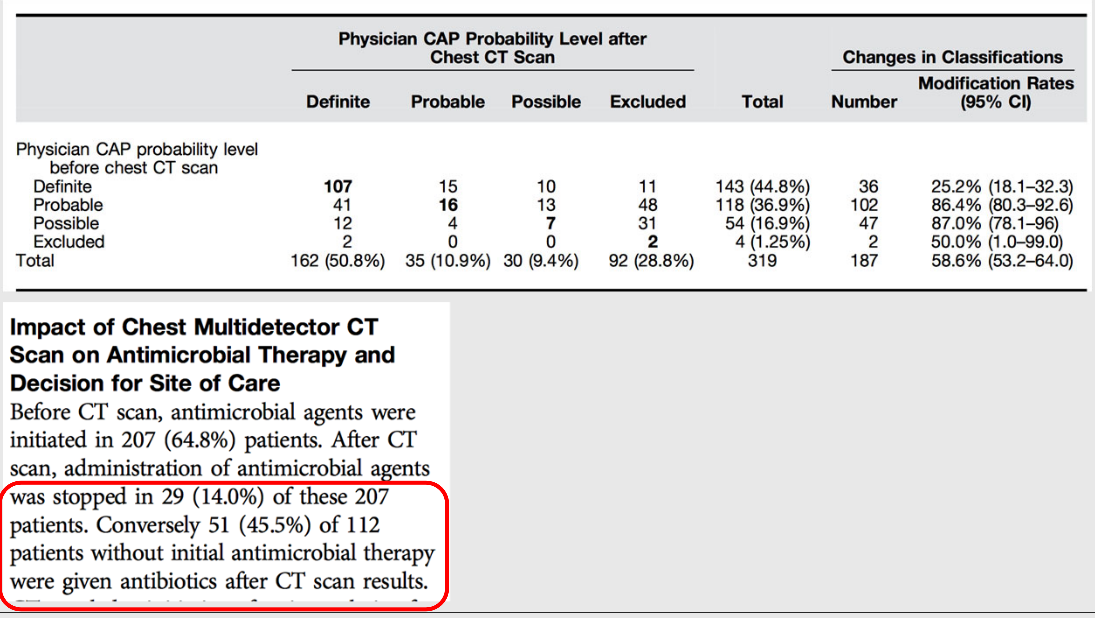

D DEBOUT
D au Lit

Autres Eléments Décisionnels
IMAGERIE

Early Chest Computed Tomography Scan to Assist Diagnosis and Guide Treatment Decision for Suspected Community-acquired Pneumonia

Yann-Erick Claessens[1], Marie-Pierre Debray[2], Florence Tubach[3], Anne-Laure Brun[4], Blandine Rammaert[5],
Pierre Hausfater[6], Jean-Marc Naccache[7], Patrick Ray[8], Christophe Choquet[9], Marie-France Carette[10],
Charles Mayaud[7], Catherine Leport[11], and Xavier Duval[12]

American Journal of Respiratory and Critical Care Medicine Volume 192 Number 8 | October 15 2015



	Physician CAP Probability Level after Chest CT Scan					Changes in Classifications	
	Definite	**Probable**	**Possible**	**Excluded**	**Total**	**Number**	**Modification Rates (95% CI)**
Physician CAP probability level before chest CT scan							
Definite	**107**	15	10	11	143 (44.8%)	36	25.2% (18.1–32.3)
Probable	41	**16**	13	48	118 (36.9%)	102	86.4% (80.3–92.6)
Possible	12	4	**7**	31	54 (16.9%)	47	87.0% (78.1–96)
Excluded	2	0	0	**2**	4 (1.25%)	2	50.0% (1.0–99.0)
Total	162 (50.8%)	35 (10.9%)	30 (9.4%)	92 (28.8%)	319	187	58.6% (53.2–64.0)

Impact of Chest Multidetector CT Scan on Antimicrobial Therapy and Decision for Site of Care

Before CT scan, antimicrobial agents were initiated in 207 (64.8%) patients. After CT scan, administration of antimicrobial agents was stopped in 29 (14.0%) of these 207 patients. Conversely 51 (45.5%) of 112 patients without initial antimicrobial therapy were given antibiotics after CT scan results.

Prélèvements bactériologiques complets

↓

Antibiothérapie probabiliste

EN URGENCE

Il n'y a aucun bénéfice à retarder le traitement devant une situation dont le diagnostic et la porte d'entrée sont identifiés.

- **Prélèvements bactériologiques**
- Attendre les résultats
  - Biologie
  - Imagerie
- **Réévaluation clinique ++++**
- **Délai de 8 à 24H pour la mise en place de l'antibiothérapie**

MERCI DE VOTRE ATTENTION