

Supplementary tables

	Placebo Group (n=198)	Dexamethasone group (n=203)
<i>Streptococcus pneumoniae</i>	35 (18) ¹	40 (20) ²
<i>Legionella spp.</i>	15 (8) ³	12 (6) ⁴
<i>Haemophilus influenzae</i>	8 (4) ⁵	7 (3) ⁶
<i>Mycoplasma pneumoniae</i>	6 (3)	6 (3)
<i>Chlamydia psittaci</i>	4 (2)	2 (1)
<i>Staphylococcus aureus</i>	4 (2) ⁷	1 (0) ⁸
Influenza A/B virus	9 (5) ⁹	8 (4)
Other pathogen*	3 (2) ¹⁰	5 (2) ¹¹
Other viruses†	5 (3)	6 (3)
Unidentified	109 (55)	116 (57)

*Other pathogens: *Coxiella burnetti*, *Pneumocystis jiroveci*, *Escheria coli*, group A streptococci, *Haemophilus haemolyticus*, *chlamydia pneumoniae*, *Neisseria meningitidis*

†Other viruses: Parainfluenza virus, Rhinovirus, Respiratory syncytial virus, human metapneumovirus (hMPV).

¹Mixed infection with: influenza A virus (n=1), *Moraxella catarrhalis* (n= 1), hMPV (n=1), Rhinovirus (n=2), *H. influenzae* (n = 1), *H. influenza* and Rhinovirus (n=1).

²Mixed infection with: *S. aureus* (n=1), Influenza type A (n=2), *H. influenza* (n=1), *E. coli* (n=1)

³Mixed infection with: hMPV (n=1), Influenza type B (n=1)

⁴Mixed infection with: *S. pneumoniae* (n=1)

⁵Mixed infection with: *S. aureus* (n=2), Influenza type A (n=1)

⁶Mixed infection with: *Klebsiella pneumoniae* and *E. coli* (n=1), Influenza type A virus (n=2)

⁷Mixed infection with: *Pseudomonas aeruginosa* and Rhinovirus (n=1)

⁸Mixed infection with: Rhinovirus (n=1)

⁹Mixed infection with: *Candida albicans* (n=1)

¹⁰Mixed infection with: Rhinovirus (n=1), *M. pneumoniae* (n=1)

¹¹Mixed infection with: Rhinovirus (n=1)

Table E1 Etiological diagnosis for all enrolled patients

	Dexamethasone group (n= 203)	Placebo group (n= 198)
Penicillin monotherapy*	81 (40)	80 (40)
Cephalosporin monotherapy	31 (15)	28 (14)
Fluoroquinolone, macrolide or doxycycline monotherapy	5 (3)	10 (5)
Penicillin combined with a fluoroquinolone, macrolide or doxycycline	38 (19)	37 (19)
Cephalosporin combined with a fluoroquinolone, macrolide or doxycycline	36 (18)	32 (16)
Other	10 (5)	10 (5)
Unknown	2 (1)	1 (1)
Data are number (%). *Penicillin, amoxicillin or amoxicilline/clavuanicacid.		

Table E2 Initial antibiotic regimen at time of hospital admission

Endpoint	Dexamethasone (n=180)	Placebo (n=166)	risk ratio (95% CI)	p-value
Length of stay (days)				
All patients	4.5 (4.2 to 4.8)	5.0 (4.6 to 5.4)		0.021*
PSI class I-III	4.0 (3.6 to 4.4)	5.0 (4.5 to 5.5)		0.054*
PSI class IV-V	5.5 (4.4 to 6.6)	6.5 (5.5 to 7.5)		0.16*
Secondary ICU admission				
All patients	4 (2)	12 (7)	RR 0.31 (0.10 to 0.93)	0.027‡
PSI class I-III	0 (0)	6 (6)	-	0.009‡
PSI class IV-V	4 (6)	6 (9)	RR 0.65 (0.19 to 2.18)	0.48‡
30-day mortality				
All patients	3 (2)	7(4)	RR 0.40 (0.10 to 1.50)	0.16‡
PSI class I-III	0(0)	2 (2)	-	0.13‡
PSI class IV-V	3 (5)	5 (8)	RR 0.58 (0.14 to 2.33)	0.44‡

Data are median (95% CI) or number (%). ICU = Intensive care unit. PSI = Pneumonia Severity Index. RR = Risk ratio.

*Gehan-Breslow-Wilcoxon test. ‡Chi-squared test. Numbers analysed: PSI I-III placebo (n= 102) and dexamethasone (n=114). PSI IV-V: placebo (n= 64) and dexamethasone (n=66).

Table E3: Overview of primary and secondary endpoints for the per-protocol population.

Endpoint	Dexamethasone	Placebo	risk ratio (95% CI)	p-value
Length of stay (days)				
Initial CRP at admission				
CRP < 210 mg/l	4.5 (4.0 to 5.0)	5.0 (4.6 to 5.4)		0.28*
CRP ≥ 210 mg/l	5.0 (4.4 to 5.6)	5.5 (4.9 to 6.1)		0.046*
Pneumococcal urinary antigen test result				
Positive	5.0 (3.9 to 6.1)	6.0 (5.2 to 6.8)		0.45*
Negative	4.5 (4.1 to 4.9)	5.0 (4.5 to 5.5)		0.034*
Secondary ICU admission				
Initial CRP at admission				
CRP < 210 mg/l	3 (3)	6 (6)	RR 0.54 (0.14 to 2.11)	0.37‡
CRP ≥ 210 mg/l	2 (2)	8 (9)	RR 0.22 (0.05 to 1.01)	0.031‡
Pneumococcal urinary antigen test result				
Positive	0 (0)	0 (0)	-	-
Negative	4 (3)	11 (7)	RR 0.38 (0.12 to 1.17)	0.078‡
30-day mortality				
Initial CRP at admission				
CRP < 210 mg/l	3 (3)	5 (5)	RR 0.65 (0.16 to 2.65)	0.54‡
CRP ≥ 210 mg/l	1 (1)	2 (2)	RR 0.44 (0.04 to 4.77)	0.49‡
Pneumococcal urinary antigen test result				
Positive	0 (0)	1 (4)	-	0.26‡
Negative	4 (3)	5 (3)	RR 0.84 (0.23 to 3.06)	0.79‡

Data are median (95% CI) or number (%). ICU = Intensive care unit. RR = Risk ratio. CRP = C-reactive protein. Numbers analysed (dexamethasone/placebo): CRP < 210 mg/l (96/104), CRP ≥ 210 mg/l (107/94), Positive pneumococcal urinary

antigen test result (32/26), negative pneumococcal urinary antigen test result (154/161). *Grehan-Breslow-Wilcoxon test.
‡Chi-squared test.

Table E4 Overview primary and secondary endpoints for subgroup analyses

Patients	Age	PSI class	Reason for ICU admission
Placebo			
1	42	3	Respiratory failure
2	82	4	Respiratory failure
3	75	3	Respiratory failure
4	81	4	Respiratory failure
5	67	3	Observation after VATS ¹ for empyema
6	85	3	Respiratory failure
7	69	2	Observation after VATS for empyema
8	66	3	Respiratory failure
9	59	4	Respiratory failure
10	58	4	Respiratory failure
11	85	4	Sepsis; Hypotension
12	65	4	Respiratory failure
13	56	4	Respiratory failure
14	80	5	Sepsis; Hypotension
Dexamethasone			
1	76	4	Respiratory failure
2	52	4	Respiratory failure
3	85	5	Arrhythmia with hypotension
4	85	4	Respiratory failure
5	80	4	Respiratory failure and pulmonary hemorrhage

¹Video assisted thoracic surgery

Table E5 Reasons for ICU admission.

Patients	Age	PSI risk class	Cause of death
Placebo			
1	82	4	Respiratory failure; Severe legionella pneumonia
2	75	3	Respiratory failure; post-obstruction pneumonia newly diagnosed lung tumor
3	67	3	Died after VATS ¹ for empyema
4 [*]	58	4	Sepsis; Respiratory failure
5	85	4	Sepsis
6	77	4	Respiratory failure due to influenza pneumonia and congestive heart failure
7	84	4	Respiratory failure after opting for palliative care
8	81	4	Died 3 days after discharge; unknown cause of death
Dexamethasone			
1 [*]	76	4	Died after ICU discharge due to multiple complications
2	80	4	Respiratory failure; Pulmonary hemorrhage
3	79	3	Strangulated femoral hernia after readmission
4	82	4	Respiratory failure; pulmonary infection and congestive heart failure
5	94	5	Died 10 days after discharge; unknown cause of death

^{*}Died in hospital after 30 days of hospital admission. ¹Video assisted thoracic surgery.

Table E6 Cause of death

Patients	Age	PSI risk class	Reason for readmission
Placebo			
1	52	3	Antrum gastritis
2	70	3	Mediastinitis
3	44	1	Hospital-acquired pneumonia; urticarial reaction to amoxicillin/clavulanic acid
4	90	4	Urosepsis
5	54	3	Relapse of pulmonary infection
6	71	4	Psychiatric complaints
7	40	1	Bronchiolitis
8	67	3	Relapse of pulmonary infection
9	71	5	Relapse of pulmonary infection
Dexamethasone			
1	79	3	Strangulated femoral hernia
2	82	4	Relapse of pulmonary infection and congestive heart failure
3	69	5	Congestive heart failure
4	74	3	Relapse of pulmonary infection
5	56	2	Altered mental status
6	84	4	Hospital-acquired pneumonia

7	61	2 Angina Pectoris
8	46	1 Relapse of pulmonary infection
9	76	4 Relapse of pulmonary infection
10	61	2 Elective cardioversion for atrial fibrillation
11	85	5 Fever of unknown origin
12	54	2 Urine retention
13	56	2 Relapse of pulmonary infection
14	61	3 Chest pain caused by pleurisy
15	61	5 Ischemic cerebrovascular accident
16	84	4 Fatigue
17	27	1 Relapse of pulmonary infection
18	71	4 Dehydration and altered mental status
19	64	4 Relapse of pulmonary infection
20	85	4 Acute decompensated heart failure

Table E7 Reasons for readmission < 30 days of admission