



Actualités en Réanimation: Méningo-encéphalites bactériennes

Lyon, 20 Novembre 2025

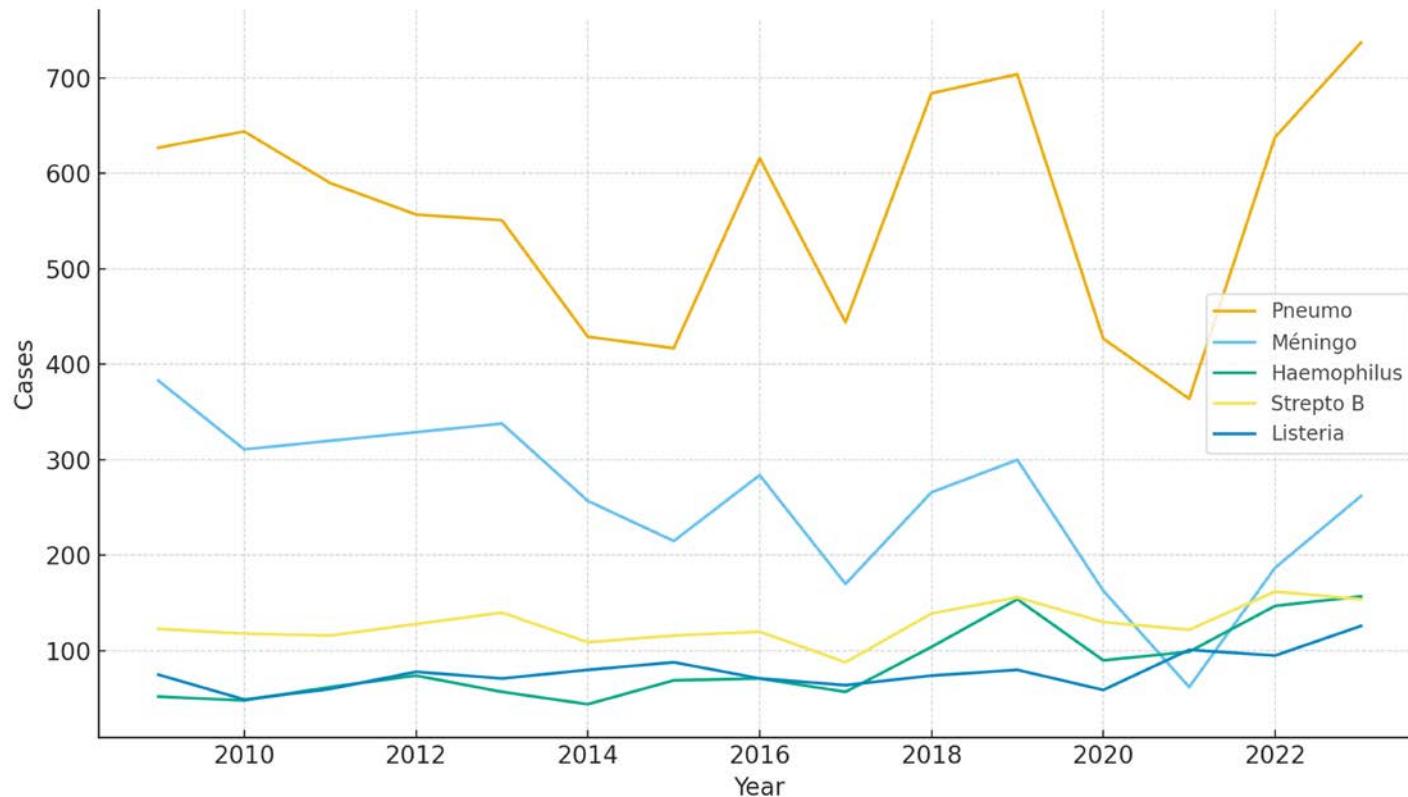
Bruno Mourvillier
Médecine Intensive Réanimation Polyvalente
Bâtiment Christian Cabrol, CHU Reims
bmourvillier@chu-reims.fr

Plan

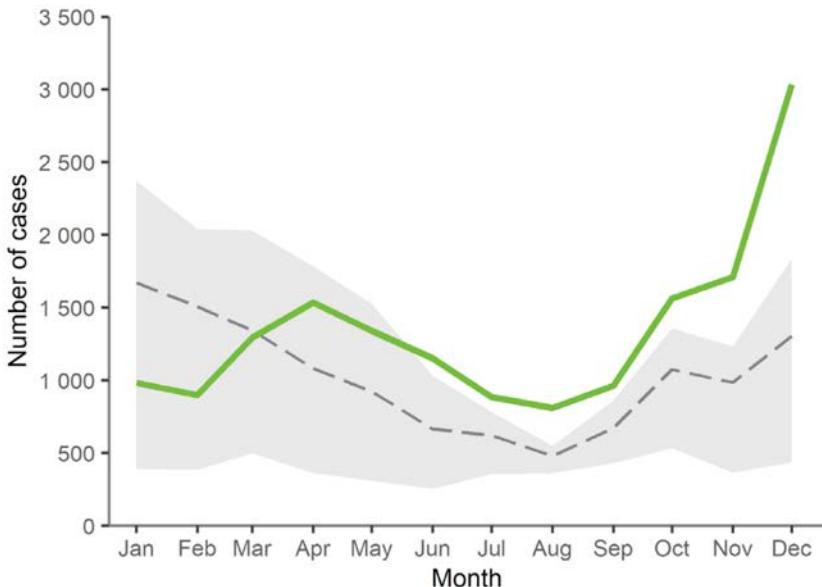
- Epidémiologie
- Diagnostic
- Optimisation prise en charge
- Neuroréanimation
- Antibiothérapie
- Pronostic

Evolution du nombre de méningites bactériennes en métropole

Données Epibac



Infections invasives à Pneumocoque en Europe



- Méningites 16.5%
- Pneumonies 41.2%
- Bactériémies 37.7%
- Autres 4.6%

Clinical features, etiologies, and outcomes in adult patients with meningoencephalitis requiring intensive care (EURECA): an international prospective multicenter cohort study (Sonneville, ICM 2022)

Characteristics and prognostic factors of bacterial meningitis in the intensive care unit: a prospective nationwide cohort study (DVDB, AIC 2023)

599 patients admis en réanimation

Categories	n (%)
Acute bacterial meningitis	247 (41.8)
<i>Streptococcus pneumoniae</i>	148 (25)
<i>Neisseria meningitidis</i>	17 (2.9)
<i>Listeria monocytogenes</i>	14 (2.4)
Other causes*	68 (11.5)
Characteristics at ICU admission	
Time from hospital to ICU admission, days	1 [1—3]
Reason for ICU admission	
Altered mental status ^a	431 (73.2)
Seizures / status epilepticus	88 (14.9)
Sepsis / respiratory failure	43 (7.3)
Other	27 (4.6)
SAPS II, points	42 [30—57]
GCS score < 8, indicating coma	202 (34.3)
Non-neurologic organ failure	
Respiratory SOFA > 2 ^b	97 (16.5)
Cardiovascular SOFA > 2 ^c	136 (23.1)
Renal SOFA > 2 ^d	48 (8.1)
Liver SOFA > 2 ^e	7 (1.2)
Coagulation SOFA > 2 ^f	23 (3.9)

Characteristic	ICU, N = 1369
Positive blood culture	957/1197 (80%)
Causative pathogen	
<i>S. pneumoniae</i>	1,071/1369 (78%)
<i>N. meningitidis</i>	124/1369 (9%)
<i>L. monocytogenes</i>	36/1369 (3%)
<i>H. influenzae</i>	27/1,369 (2%)
Clinical course	
Pneumonia	247/1268 (19%)
Circulatory shock	220/1272 (17%)
Respiratory failure	470/1300 (36%)
Mechanical ventilation	715/1329 (54%)
Seizures	230/1313 (18%)

Post-hoc analysis of a multicentre prospective cohort study on prognostic factors in community-acquired bacterial meningitis admitted to the ICU

210 patients - 27 services de réanimation

Reason(s) for admission in ICU

- Altered mental status	153/210 (72.9%)
- Hemodynamic failure	22/210 (10.5%)
- Respiratory distress	16/210 (7.6%)
- Sepsis or septic shock	4/210 (1.9%)
- Purpura	12/210 (5.7%)
- Acute renal failure	2/210 (1.0%)
- Seizure	4/210 (1.9%)
- Cardiorespiratory arrest	1/210 (0.5%)
- Patient monitoring (no failure)	16/210 (7.6%)

Multivariate logistic regression model on factors associated with admission to ICU

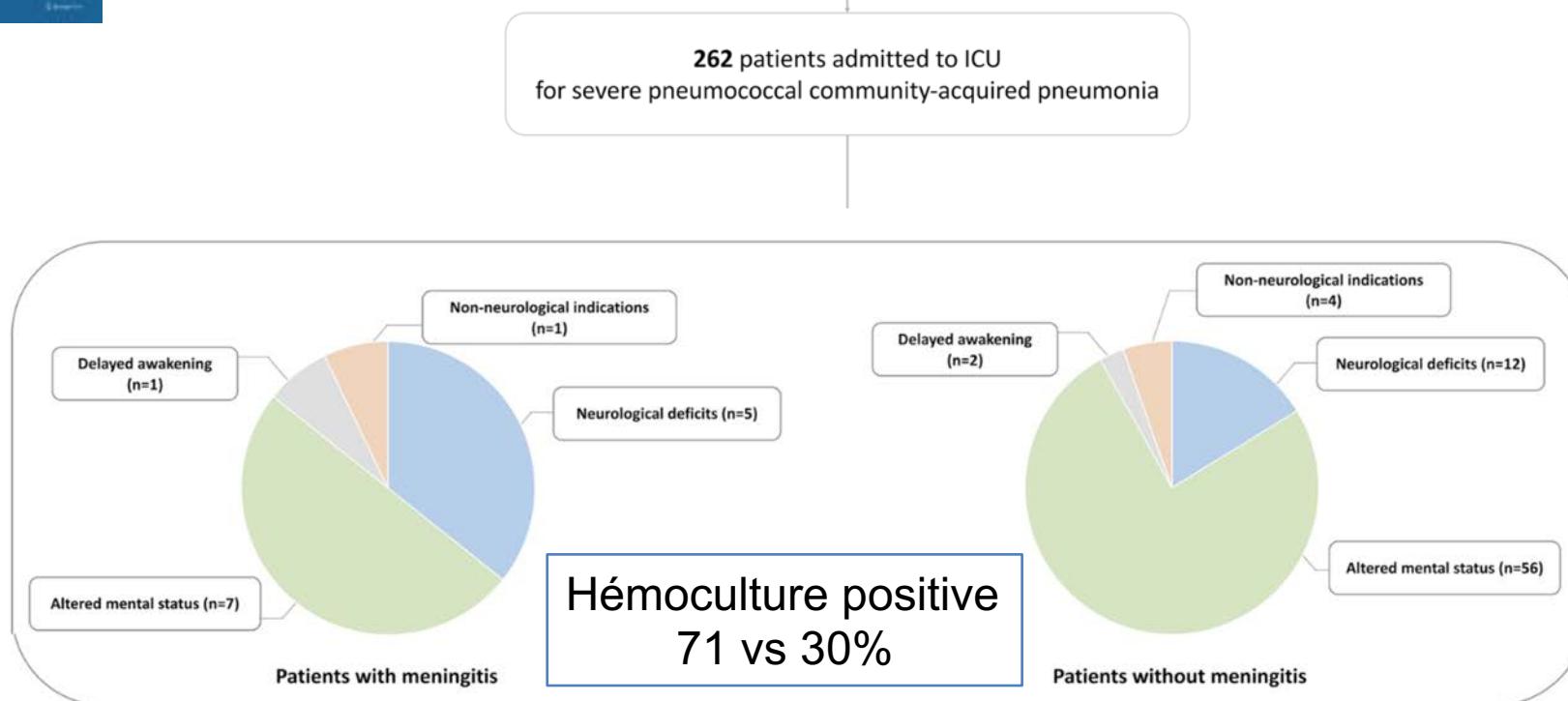
	OR [95% IC]	p value
Alteration of consciousness	7.51 [3.65 – 15.42]	p < 0.001
Microbiological culture on CSF		
- N. meningitidis vs other bacteria	3.45 [1.15– 10.00]	p = 0.028



Clinique

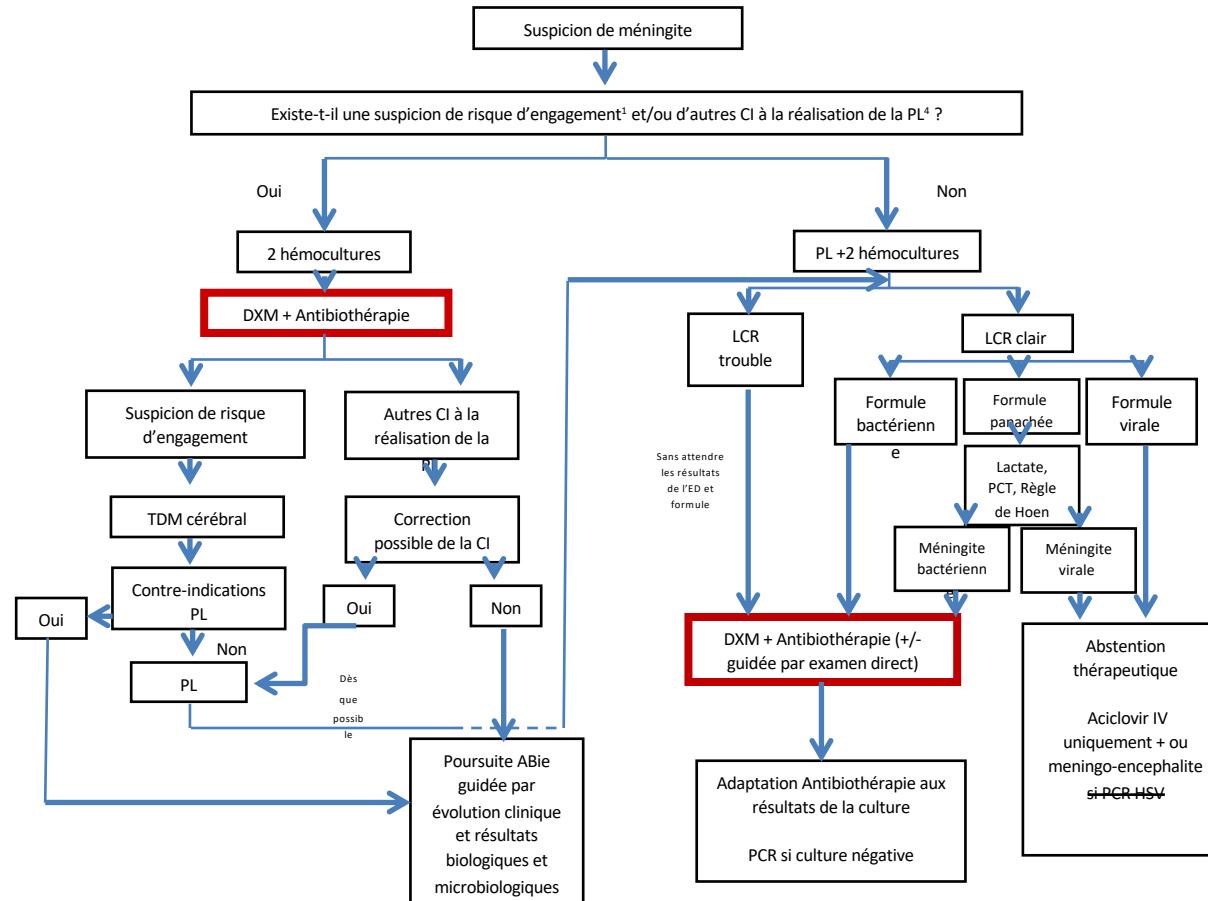
Country	Netherlands ICU ¹	France ²	Netherlands ³	Netherlands Pneumo ³	Netherlands Méningo ³
Observation period	06-22	13-15	06-23	06-23	06-23
Number of patients	1573/2709	533	2974	2029	329
Headache	78%	71%	80%	79%	91%
Nausea/vomiting	54%	-	-	-	-
Neck stiffness	71%	63%	72%	74%	76%
Rash	10%	-	-	52%	-
Temperature	74% (>38.0°)	38.5 (37.7-39.3)	72% (>38.0°)	74% (>38.0°)	51% (>38.0°)
Altered mental status	85%	71%	71%	80%	47%
Coma	32%	26%	21%	25%	10%
Focal neurologic deficits	32%	34%	23%	26	11%
Triad of fever, neck stiffness and altered mental status (GCS<14)	47%	-	39%	45%	19%

Meningitis in critically ill patients admitted to intensive care unit for severe community-acquired pneumococcal pneumonia



Dexamethasone

- DXM recommandée chez adulte et enfant dans les pays de haut niveau socio-économique (grade A)
- Adulte: 10mgx4, Enfant: 0,6mg/kg/j en 4 doses
- 4 jours pour tout le monde
- En même temps que 1ere dose Antibiotique (grade A)
- Jusqu'à 4h après la première dose (grade C)
- Traitement à poursuivre si Pneumocoque ou Haemophilus (grade B)



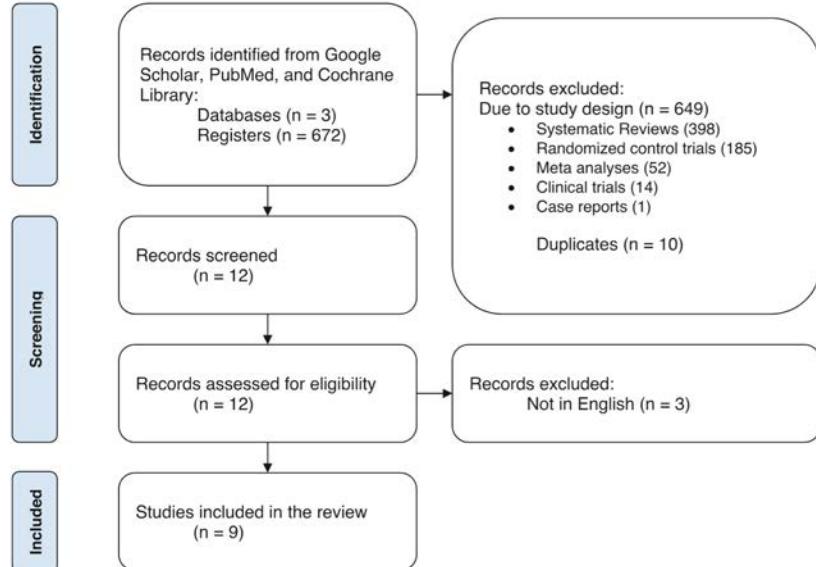
252 French patients with neurolisteriosis

	Odds ratio (95% CI)	p value
Female sex	2.68 (1.24–5.83)	0.013
Age (years)	1.35 (0.99–1.85)	0.058
Ongoing organ neoplasia	4.58 (1.53–13.73)	0.007
Recent major weight loss	2.65 (1.08–6.55)	0.034
Multi-organ failure	3.08 (1.25–7.58)	0.014
Aggravation of any pre-existing organ dysfunction	2.75 (1.23–6.16)	0.014
Influenza-like symptoms	0.47 (0.20–1.12)	0.087
Mechanical ventilation	2.89 (1.31–6.37)	0.009
Leucocytopenia <200 cells per μ L	3.57 (1.24–10.23)	0.018
Positive blood cultures	3.67 (1.60–8.40)	0.002
Protein concentration in the CSF	1.18 (0.99–1.41)	0.062
Adjunctive dexamethasone for meningitis	4.58 (1.50–13.98)	0.008

162 Deutch patients with neurolisteriosis

Risk factors for unfavorable outcome		
Variables	OR (95%CI)	P-value
Age (per year increase)	1.04 (1.01–1.06)	0.007
Male sex		
Immunocompromised state		
Glasgow Coma Scale (per point increase)	0.91 (0.80–1.06)	0.14
C-reactive protein (per 10 mg/L)		
CSF leukocyte count (per 100 cells/mm ³)		
Adequate initial ATB regimen	0.44 (0.17–1.09)	0.08
Dexamethasone 10 mg QID 4 days	0.40 (0.19–0.81)	0.017

Transcranial Doppler ultrasonography in bacterial meningitis: A systematic review



- Uniquement descriptives
- Augmentation constante de la vitesse en particulier J3-J5
- Hyperémie et IP augmentés
- Sténoses artérielles
- Association anomalies DTC et pronostic

Pression LCR

N=216	Pression LCR < 40 cmH ₂ O	Pression LCR ≥ 40 cmH ₂ O	
N	131 (61%) dont 38 (18%) P nle	85 (39%)	
Coma	14 (11%)	20 (24%)	P=0,01
Evolution défavorable	30%	35%	

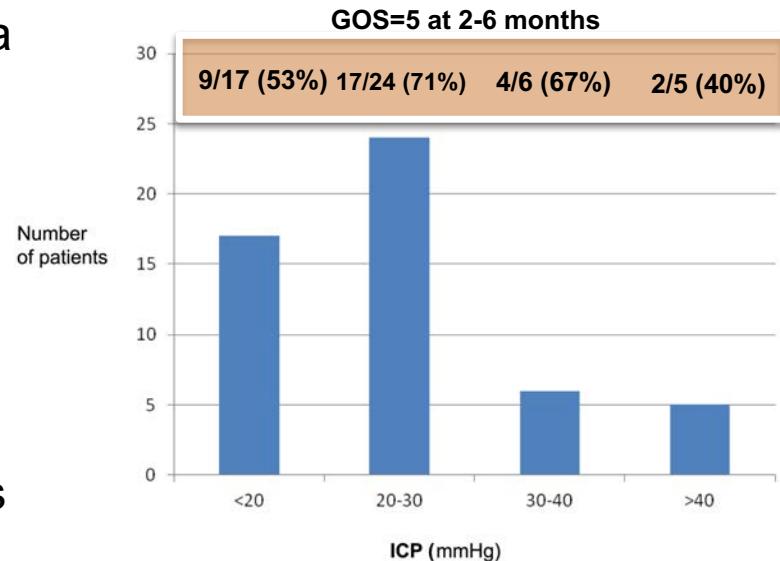
Neuro-Intensive Treatment Targeting Intracranial Hypertension Improves Outcome in Severe Bacterial Meningitis: An Intervention-Control Study

Martin Glimåker^{1*}, Bibi Johansson², Halla Halldorsdottir³, Michael Wanecek³, Adrian Elmi-Terander⁴, Per Hamid Ghatan⁵, Lars Lindquist², Bo Michael Bellander^{4*}

57 patients atteints de méningite dans le coma comparés en ITT à 53 contrôles
52 patients avec monitorage PIC

mais

- Échelles de coma différentes selon centres
- Patients et contrôles dans centres différents
- 20 patients avec PIC dans centres contrôles



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	ITT group (n=57)	PP group (n=52)	Control group (n=53)
GOS 5 and N hearing	30 (53)*	28 (54)	17 (32)
GOS 1	7 (12)*	5 (10)*	16 (30)
GOS 5	34 (60)^{\$}	32 (62)[£]	23 (43)

* p<0.05

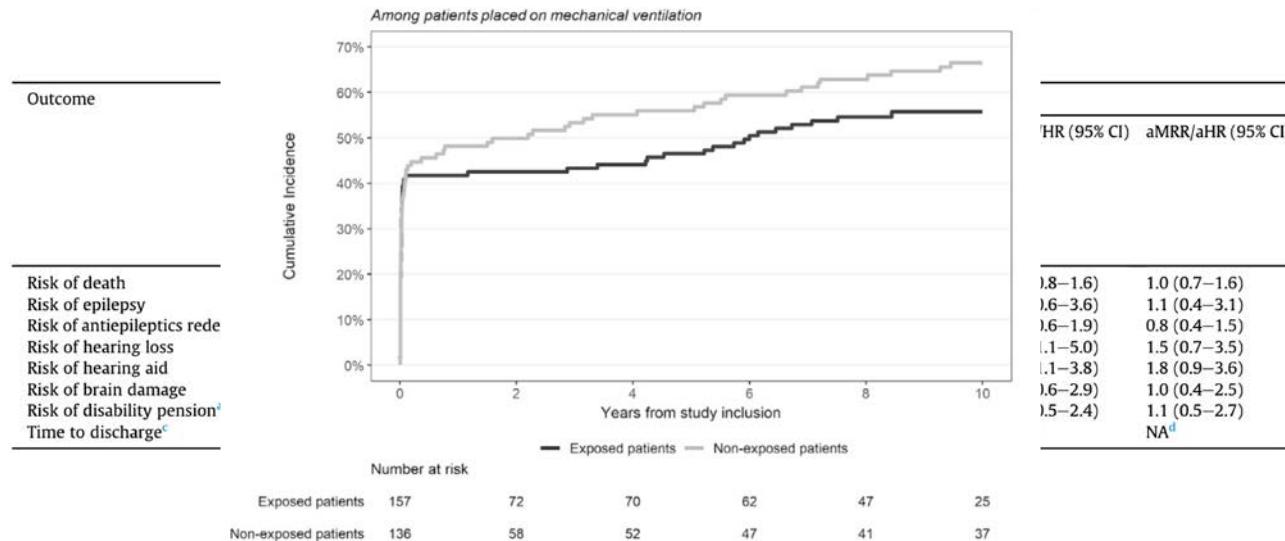
\$ P=0.12

£ P=0.08

Mortality and sequelae associated with regional use of intracranial devices among patients with pneumococcal meningitis; a nationwide, population-based cohort study

	Exposé	Non exposé
Total	305	333
Age (année)	60 [43-70]	59 [28-69]
Sexe F	156 (51)	163 (49)
Score Charlson	95 (31)	86 (26)
Ventilation Mécanique	157 (51)	136 (41)
Monitorage PIC	66 (22)	4 (1)
Parenchyme	42 (14)	≤3 (≤3)
DVE	9 (3)	≤3 (≤3)
Parenchyme puis DVE	15 (5)	0 (0)

Mortality and sequelae associated with regional use of intracranial devices among patients with pneumococcal meningitis; a nationwide, population-based cohort study



Platz, CMI fev 2025

Clinical features, etiologies, and outcomes in adult patients with meningoencephalitis requiring intensive care (EURECA): an international prospective multicenter cohort study

Variable	ICP monitoring N = 35	No ICP monitoring N = 196	Univariable analysis			Multivariable analysis		
			OR	95% CI	p value	OR	95% CI	p value
Baseline characteristics								
Age, years	52 [32; 66]	61.5 [44; 71]	0.97	[0.95; 0.99]	< 0.01	0.96	[0.94; 0.98]	< 0.01
Male sex	15 (42.9)	118 (60.2)	0.46	[0.21; 1]	0.05	0.38	[0.15; 0.95]	0.04
Time from hospital to ICU admission, days	2 [1; 3]	1 [1; 3]	0.99	[0.92; 1.05]	0.65			
GCS score at ICU admission	8 [6; 10]	9 [6; 12]	0.85	[0.74; 0.96]	0.01	0.83	[0.71; 0.96]	0.01
Temperature $\geq 38^\circ$, indicating fever	17 (48.6)	133 (67.9)	0.33	[0.14; 0.78]	0.01	0.43	[0.16; 1.15]	0.09
Hemiparesis/hemiplegia	5 (14.3)	30 (15.3)	0.89	[0.29; 2.73]	0.84			
Seizures	10 (28.6)	50 (25.5)	1.25	[0.53; 2.96]	0.61			
CSF leukocytes, cell/mm ³	500 [96; 3000]	139 [22; 810]	1.00	[1; 1]	0.88			
CSF protein level, g/l	2.7 [1.1; 4.6]	1.2 [0.6; 3.2]	1.08	[0.93; 1.26]	0.32			
Normal CT scan	13 (37.1)	109 (55.6)	0.43	[0.2; 0.96]	0.04	0.34	[0.14; 0.83]	0.02
Etiology								
Acute bacterial meningitis	22 (62.9)	84 (42.9)	1.62	[0.56; 4.73]				
Infectious encephalitis	5 (14.3)	51 (26)	0.63	[0.17; 2.41]				
Autoimmune	1 (2.9)	13 (6.6)	0.28	[0.02; 3.18]				
Neoplastic/toxic	1 (2.9)	4 (2)	3.57	[0.3; 42.17]				
Unknown	6 (17.1)	44 (22.4)	1.00	Ref				

AddaMap – le déroulé

2018

Inclusions $n=111$
(population de sécurité: > 1 injection)

Pas de meningite

Patients avec méningite
 $n=107$

Meningite à pneumocoque
 $n = 86$
(population d'efficacité)

Meningite non-pneumococcique
 $n = 21$

2024

AddaMap : les patients

n = 86

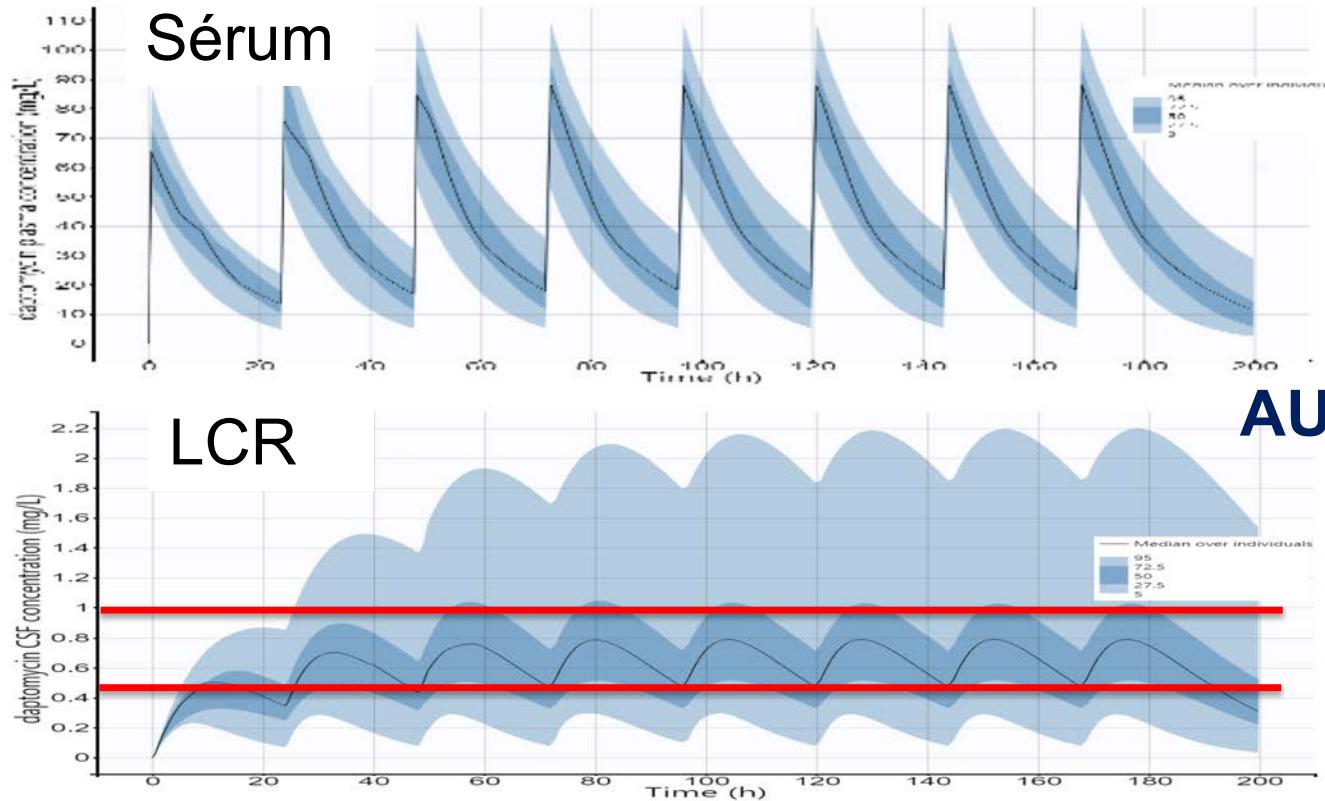
❖ Caractéristiques

Age	60 [21 – 90]
H/F	70%/30%
Alcool	17%
Immunodep	19%
Vaccination	6%
Septicémie	20%
Pneumonie	15%
GCS	10 [3-15]

❖ Imagerie cérébrale

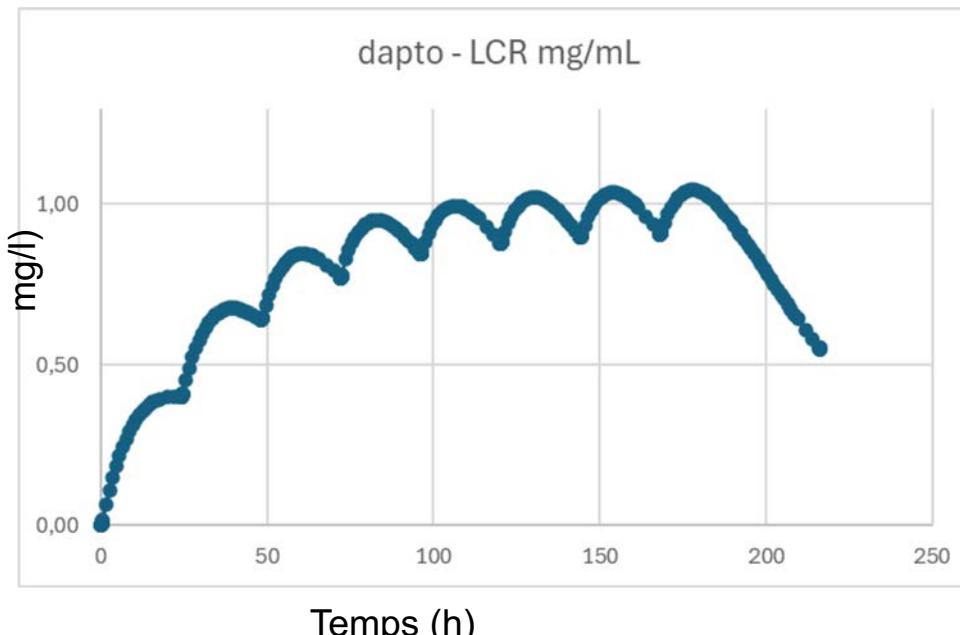
AVC	3%
Ventriculite	19%
Vascularite	10%
Hydrocéphalie	6%
Abcès	3%
Otite/sinusite	22%

Diffusion de la daptomycine dans le LCR

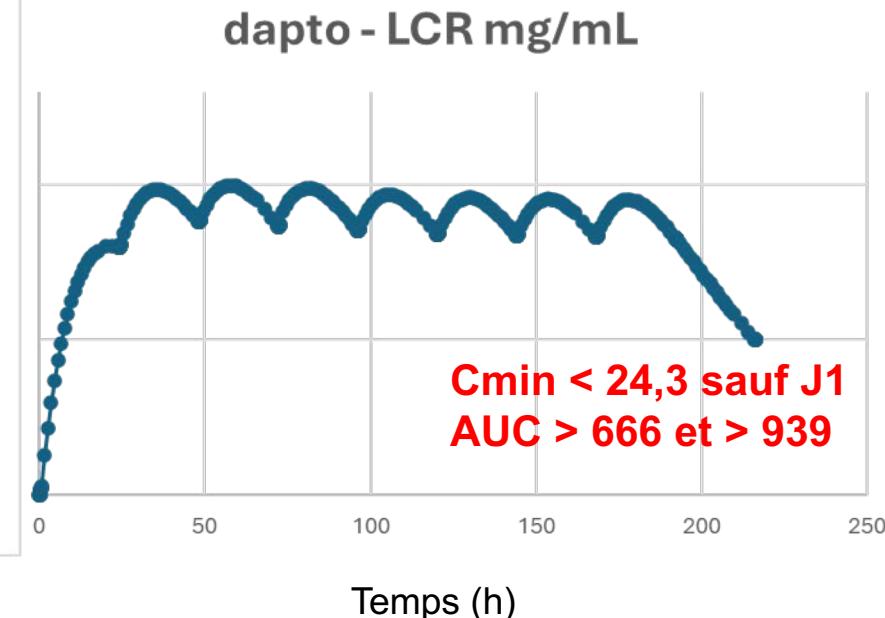


AddaMap – daptomycine dans le LCR dose de charge ?

10 mg/kg

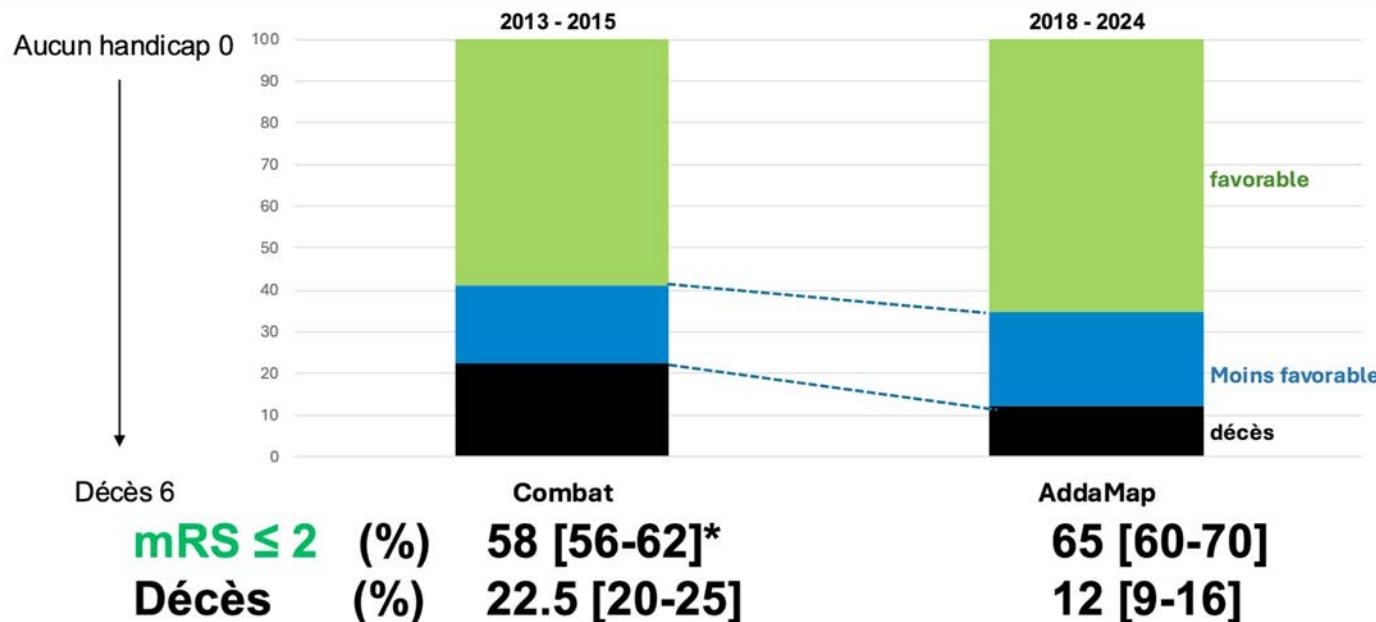


20 mg/kg puis 9 mg/kg



Ajout de daptomycine dans le traitement des méningites à pneumocoque

AddaMap : efficacité – échelle de Rankin



Pronostic

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	Pneumo (%)	Méningo (%)
1 (décès)	18	3
2 (état végétatif)	0	0
3 (handicap sévère)	5	2
4 (handicap modéré)	18	9
5 (handicap léger ou nul)	58	86
Surdité	38	15
Déficit focal	9	1
Altération fonctions supérieures	26	14

D. Van de Beek, CID 2023 and The Lancet Regional Health-Europe 2026

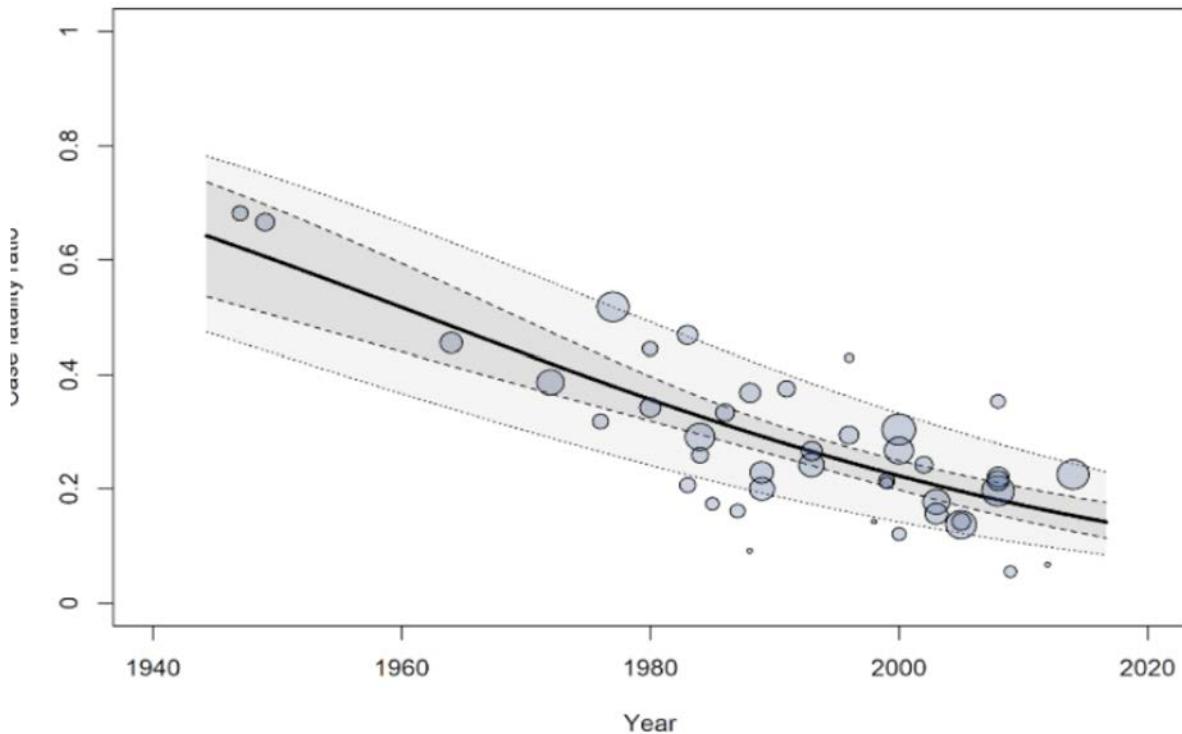
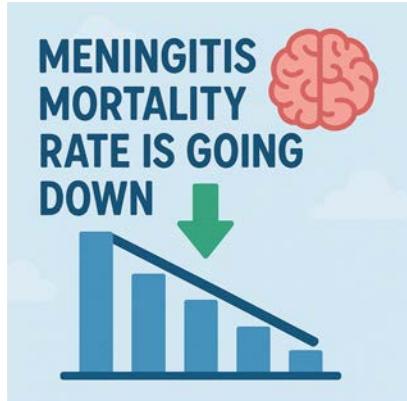
	Pneumo (%)	Méningo (%)
6 (décès)	22,5	4,5
4-5 (état végétatif)	12,4	0
3 (handicap sévère)	11,9	5
2 (handicap modéré)	15,8	8
0-1 (handicap léger ou nul)	59,9	86
Surdité	22	8
Déficit focal	7	1
Altération fonctions supérieures	25	4

S. Tubiana, CMI 2020, 26: 1192-1200.

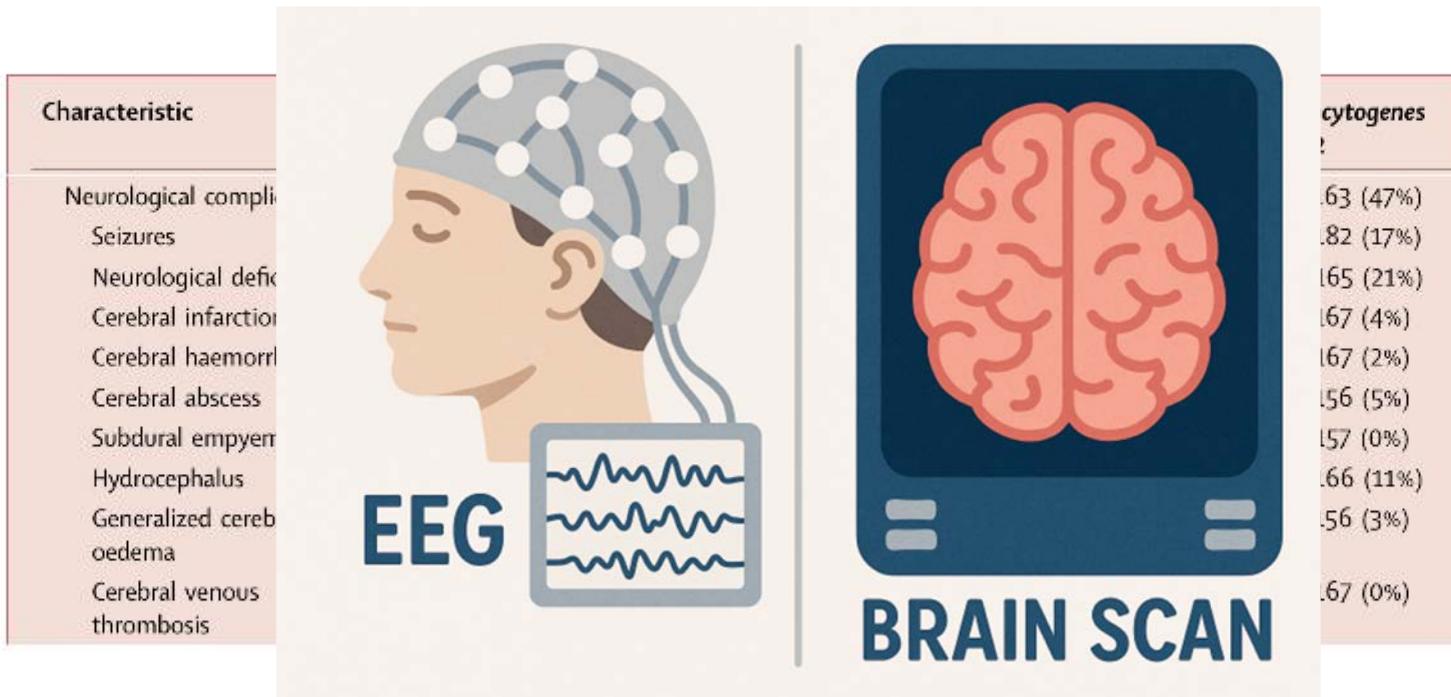
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Méningites dans les pays à fort revenu

Adults, high-income countries

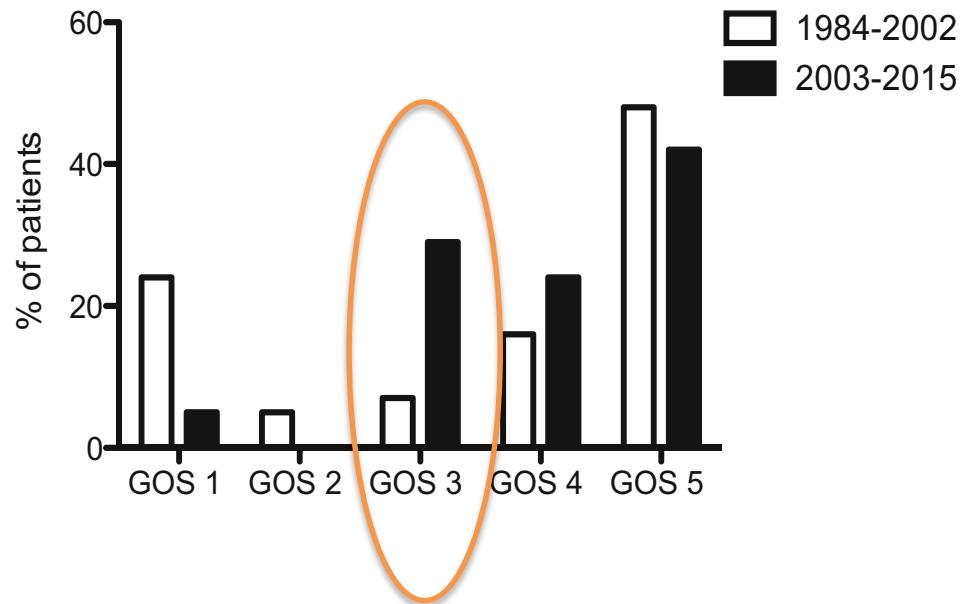


En l'absence d'évolution favorable



Quel est notre objectif ?

- Admission réanimation neurologique
- Surveillance neurologique horaire
- Imagerie immédiate en cas aggravation
- DTC toutes les 48H



Conclusions

- Méningite bactérienne toujours sujet actualité
- Identification précoce des patients
- Corticothérapie et Antibiothérapie précoces
- Pas d'argument formel pour monitorage PIC
- Imagerie si doute sur évolution défavorable
- Place de la daptomycine?