Bactériémies aux urgences : antibiothérapie probabiliste, réévaluation et pronostic

Charlotte Aillet[1,2], Serge Tournoud[3], Djamel Lamèche[4], Didier Jammes[5], Agnès Fribourg[6], Olivier Pellat[7], Sophie Léotard[8], Patricia Etienne[4], Pierre-Marie Roger[2]

1. Urgences, Centre Hospitalier de Fréjus-St Raphael; 2. Réso-Infectio-PACA-Est; 3. Anesthésie, Clinique St Roch, Perpignan ; 4. Urgences, Centre Hospitalier de Cannes ; 5. Urgences, Centre Hospitalier de Fréjus St Raphael ; 6. Laboratoire de Biologie, Centre Hospitalier de Fréjus St Raphael ; 7. Urgences, 8. Laboratoire de Biologie, Centre Hospitalier de Grasse

ENDO-04

CONTEXTE

- Les patients se révélant bactériémiques après leur prise en charge aux urgences constituent une population privilégiée pour évaluer la qualité de l'antibiothérapie.
- L'antibiothérapie probabiliste (AP) doit prendre en compte le risque de BMR tandis que la réévaluation antibiotique (RA) est un critère de bon usage des antibiotiques.

OBJECTIF

Réalisation d'un audit de l'antibiothérapie des patients bactériémiques aux urgences et établir son impact sur le pronostic

METHODE

- Etude rétrospective multicentrique menée 3 mois de janvier à avril 2016 sur 4 établissements de santé.
- Nous avons inclus les patients ayant des hémocultures positives prélevées lors de leur passage aux urgences.
- L'analyse portait sur l'AP et son impact sur la survie ainsi que sur la RA effective.
- Une antibiothérapie probabiliste (AP) adéquate était définie par la prescription d'au moins une molécule active sur la (les) bactérie(s) en cause selon l'antibiogramme. Une RA effective était défini par un changement d'antibiothérapie induit par le résultat d'hémoculture.
- L'informatisation du dossier médical permettait de mesurer le délai d'administration de l'antibiothérapie.

RÉSULTATS

Table 1: Comparison of the patients according to the benefit of an empirical antibiotic therapy (EAT). Univariate analysis. The initial diagnosis in the emergency room (ER) had to be considered, given the absence of microbial cultures at the time of the empirical antibiotic prescriptions.

	EAT n = 158 (74)	without EAT n = 56 (26)	p
Institution			
A	21 (13)	9 (16)	0.606
B	36 (23)	18 (32)	0.165
C	68 (43)	17 (30)	0.095
D	33 (21)	12 (21)	0.931
Age (years)	71±18	68±24	0.590
Sex-ratio (M/F)	1.59	1.24	0.428
Contaminated blood culture	22 (14)	22 (39)	< 0.001
Health-care associated infections	28 (18)	9 (16)	0.779
Comorbid conditions			
cardio-vasculare	66 (42)	25 (45)	0.708
pulmonary	34 (22)	9 (16)	0.382
neurologic and/or psychiatric	36 (23)	14 (25)	0.736
chronic renal diseases	14 (9)	9 (16)	0.138
liver diseases	15 (9)	3 (5)	0.337
ongoing cancer	41 (26)	16 (29)	0.702
diabetes	36 (23)	9 (16)	0.289
Diagnosis in the ER			
urinary infections	48 (30)	3 (5)	< 0.001
respiratory infections	35 (22)	5 (9)	0.029
gastrointestinal infections	27 (17)	5 (9)	0.141
cutaneous infections[2]	17 (11)	12 (21)	0.045
others[3]	14 (9)	9 (16)	0.134
non-infectious diseases	1 (1)	12 (21)	< 0.001
no precise diagnosis	12 (8)	26 (46)	< 0.001
Severity			
severe sepsis or septic shock	56 (35)	5 (9)	< 0.001
intensive care requirement	38 (24)	2 (4)	< 0.001
Effective reassessment	96 (61)	32 (57)	0.635
Death	24 (15)	5 (9)	0.239

Table 2: Comparison of patients according to the benefit of an efficient EAT or inefficient EAT (IET). For this univariate analysis, the definitive diagnosis as well as bacteriological results was considered, to estimate the role of EAT on the prognosis. IET included the absence of empirical therapy when blood cultures were positive without contamination, synonymous of ongoing infectious disease. Patients with contaminated blood culture as well as those with non-infectious diseases as final diagnosis (n = 13, 6%) were excluded.

	EEAT n = 107 (63)	IET n = 62 (37)	p
Institution			
A	18 (19)	16 (26)	0.160
B	47 (44)	20 (32)	0.135
C	25 (26)	16 (23)	0.721
D	18 (17)	10 (16)	0.511
Age (years)	73±17	67±22	0.045
Sex-ratio (M/F)	1.48	1.69	0.691
Health-care associated infections	23 (21)	12 (19)	0.740
Comorbid conditions			
cardio-vascular	47 (44)	28 (45)	0.876
pulmonary	20 (19)	11 (18)	0.877
neurologic and/or psychiatric	22 (21)	14 (23)	0.757
diabetes	19 (18)	19 (31)	0.053
liver diseases	10 (10)	6 (8)	0.943
ongoing cancer	33 (31)	17 (27)	0.638
chronic renal diseases	10 (9)	8 (10)	0.483
Definitive diagnosis			
urinary infections	41 (38)	23 (37)	0.874
respiratory infections	17 (16)	6 (10)	0.256
gastrointestinal infections	29 (27)	8 (13)	0.031
cutaneous infections	12 (11)	15 (24)	0.026
others	9 (8)	10 (16)	0.125
Multi-drugs resistant bacteria	7 (6)	8 (13)	0.161
Severity of the infectious disease			
severe sepsis or septic shock	36 (34)	18 (29)	0.535
intensive care requirement	24 (22)	11 (18)	0.468
No empirical antibiotic therapy	-	29 (47)	
One compound (n = 53, 31%)	36 (34)	17 (27)	0.400
third generation cephalosporin (Ceph3	19 (18)	7 (11)	0.261
amoxicillin + clavulanic acid	12 (11)	7 (11)	0.988
Combination (n = 71, 42%)	56 (52)	15 (24)	< 0.001
Ceph-3 + aminoglycoside	15 (14)	3 (5)	0.062
Ceph-3 + metronidazole	9 (8)	3 (5)	0.317
≥ 3 compounds (n = 8, 5%)	8 (7)	1 (1)	0.066
Effective antibiotic reassessment	69 (64)	47 (76)	0.126
Death	13 (12)	10 (16)	0.467

Table 3: Risk factors for unfavorable outcome (death) during in-hospital care. Patients with contaminated blood culture as well as those with non-infectious diseases as final diagnosis were excluded. Univariate and multivariate analysis by logistic regression.

	Unfavourable outcome n = 23 (14)	Favourable outcome n = 146 (86)	p	AOR [IC 95%]
Institution				
A	5 (22)	29 (20)	0.834	
B	13 (57)	54 (37)	0.075	3.61 [1.26-10.30]
C	3 (13)	38 (26)	0.275	
D	2 (9)	26 (18)	0.428	
Age (years)	79±11	73±17	0.150	
Sex-ratio (M/F)	2.28	1.47	0.362	
Health-care associated infections	3 (13)	32 (22)	0.329	
Comorbid conditions				
cardio-vasculare	14 (61)	61 (42)	0.086	
pulmonary	3 (13)	28 (19)	0.675	
neurologic and/or psychiatric	8 (35)	28 (19)	0.089	
diabetes	7 (30)	31 (21)	0.325	
liver diseases	4 (17)	12 (8)	0.309	
ongoing cancer	12 (52)	38 (26)	0.010	3.34 [1.17-9.46]
chronic renal disease	2 (9)	16 (11)	> 0.999	
No diagnosis in the emergency room	6 (26)	15 (10)	0.032	9.34 [2.21-39.48]
Definitive diagnosis				
urinary infections	5 (22)	59 (40)	0.086	
respiratory infections	6 (26)	17 (12)	0.060	
gastrointestinal infections	4 (17)	33 (23)	0.770	
cutaneous infections[2]	4 (17)	23 (16)	> 0.999	
others[3]	4 (17)	15 (10)	0.514	
Multi-drugs resistant bacteria[4]	1 (4)	14 (10)	0.667	
Severity of the infectious disease				
severe sepsis or septic shock	14 (61)	40 (27)	0.001	7.65 [2.43-24.12]
intensive care requirement	8 (35)	27 (18)	0.073	
No empirical antibiotic therapy	2 (9)	31 (21)	0.259	
Efficient EAT	13 (57)	94 (64)	0.467	
One compound (n = 53, 31%)	8 (35)	45 (31)	0.703	
third generation cephalosporin (C3)	4 (17)	(15)	> 0.999	
amoxicillin + clavulanic acid	4 (17)	15 (10)	0.315	
Combination (n = 71, 42%)	12 (52)	59 (40)	0.288	
C3 + aminoglycoside	1 (4)	17 (12)	0.488	
C3 + metronidazole	2 (9)	10 (7)	> 0.999	
≥ 3 compounds (n = 8, 5%)	1 (4)	7 (5)	> 0.999	
Effective antibiotic reassessment	11 (48)	105 (72)	0.020	0.28 [0.09-0.81]

CONCLUSION

- Parmi les patients se révélant être bactériémiques aux SAU, près de 20% présentaient une infection associée aux soins
- Parmi les patients se révélant être bactériémiques aux SAU, 20% ne bénéficiaient pas d'une antibiothérapie probabiliste et 26% recevaient une antibiothérapie inefficace.
- La réévaluation effective de l'antibiothérapie probabiliste initiée au SAU avait un impact favorable sur la survie.

Charlotte Aillet, Service des Urgences, CH de Fréjus St Raphaël, 83 600 FREJUS : aillet.ch@gmail.com