

Supplementary Material

Cefiderocol versus Colistin for the treatment of Carbapenem-resistant *Acinetobacter baumannii* complex Bloodstream Infections: a Retrospective, Propensity-score Adjusted, Monocentric Cohort Study

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Supplementary Table 1. Multivariable logistic regression model to estimate each patient's probability of receiving cefiderocol-based therapy.

	aOR	95%CI	p value
Age per 1 year increase	0.98	0.94 - 1.01	0.302
Male sex	1.02	0.38 - 2.72	0.956
Previous COVID-19	1.04	0.59 - 1.84	0.873
Charlson comorbidity per 1 point increase	1.04	0.84 - 1.28	0.690
Severe immunocompromise status	0.78	0.21 - 2.86	0.715
Site of infection treated with surgical source control	0.19	0.04 - 0.80	0.024
SOFA score per 1 point increase	0.92	0.75 - 1.12	0.422
Septic shock at presentation	1.78	0.59 - 5.33	0.302
Acute kidney injury at presentation	0.77	0.26 - 2.24	0.633
Acute respiratory failure at presentation	0.44	0.15 - 1.27	0.133
Time to appropriate antimicrobial therapy			
<i>Within 24 h from infection onset</i>	1		
<i>From 24 to 72h from infection onset</i>	0.67	0.21 - 2.08	0.491
<i>After 72h from infection onset</i>	0.25	0.07 - 0.93	0.039
Combination antibiotic therapy	0.07	0.01 - 0.33	0.001

Boldface means statistically significant (p-value<0.05)

Supplementary Table 2. Standardized differences of variables used to generate the IPTW-adjusted regression model.

	Standardized differences before applying IPTW (%) ^a	Standardized differences after applying IPTW (%) ^a
Variables influencing treatment assignment^b		
Age	3.5%	4.0%
Male sex	3.6%	8.6%
Site of infection treated with surgical source control	63.1%	30.8%
Time to appropriate antimicrobial therapy (within 24 h from infection onset)		
<i>From 24 to 72h from infection onset</i>	11%	8.5%
<i>After 72h from infection onset</i>	47.9%	5.7%
Combination antibiotic therapy	89%	6.1%

a. Absolute value of standardized differences displayed. A standardized difference greater than 10% is considered to indicate meaningful imbalance between groups.

b. Overidentification test for covariate balance: $\chi^2= 2.12506$; $p=0.952$

IPTW= inverse probability of treatment weighting.

Supplementary Table 3. Comparison of clinical characteristics of patients survived or deceased after CRAB BSI.

	Overall (n. 118)	Clinical cure (n.63)	30-day Infection-related mortality (n. 55)	p value
Median (q1 - q3) age, years	70 (62 - 79)	69 (58 - 77)	73 (66 - 82)	0.015
Male sex, n (%)	70 (59)	40 (63)	30 (55)	0.324
Previous COVID-19 infection, n (%)	30 (25)	16 (25)	12 (25)	0.990
Median (q1 - q3) Charlson comorbidity index	6 (4 - 8)	6 (3 - 7)	6 (4 - 8)	0.031
Comorbidities, n (%)				
<i>Cardiovascular diseases</i>	29 (25)	13 (21)	16 (29)	0.287
<i>Type II Diabetes</i>	42 (36)	23 (37)	19 (35)	0.824
<i>Chronic kidney failure (eGFR <60 ml/min)</i>	50 (42)	22 (35)	28 (51)	0.080
<i>Chronic obstructive pulmonary disease</i>	25 (21)	11 (17)	14 (25)	0.289
<i>Obesity (BMI> 30 Kg/m²)</i>	24 (20)	11 (17)	13 (24)	0.406
<i>Solid Neoplasia</i>	17 (14)	8 (13)	9 (16)	0.572
<i>Hematologic Neoplasia</i>	6 (5)	1 (2)	5 (9)	0.064
Severe immunocompromised state, n (%)	21 (18)	10 (16)	11 (20)	0.559
Ward of evaluation, n (%)				
<i>Medical ward</i>	67 (57)	31 (49)	36 (65)	
<i>Surgical ward</i>	20 (17)	14 (22)	6 (11)	0.146
<i>Intensive care unit</i>	31 (26)	18 (29)	13 (24)	
Characteristics of infection, n (%)				
<i>Fever (T>38°C)</i>	76 (64)	41 (65)	35 (64)	0.870
<i>Septic shock</i>	42 (36)	17 (27)	25 (45)	0.037
<i>Acute lung failure</i>	49 (42)	21 (33)	28 (51)	0.053
<i>Acute kidney failure</i>	36 (31)	14 (22)	22 (40)	0.036
Median (q1 - q3) SOFA score at onset	5 (2 - 6)	4 (2 - 6)	5 (4 - 7)	0.032
PITT bacteremia score > 4, n (%)	30 (25)	13 (21)	17 (31)	0.201
Site of infection treated with surgical source control, n (%)	26 (22)	13 (21)	13 (24)	0.695
Site of infection, n (%)				
<i>Primary BSI or Urinary tract</i>	37 (31)	21 (33)	16 (29)	
<i>CVC-related</i>	36 (31)	20 (32)	16 (29)	
<i>Intra-abdominal</i>	19 (16)	10 (16)	9 (16)	
<i>Lung</i>	12 (10)	6 (10)	6 (11)	0.852
<i>Skin and soft tissue</i>	12 (10)	6 (10)	6 (11)	
<i>Endovascular</i>	1 (1)	0	1 (2)	
<i>Osteoarticular</i>	1 (1)	0	1 (2)	
Time to targeted antibiotic therapy, n (%)				
<i>Within 24 h from infection onset</i>	32 (27)	21 (33)	11 (20)	
<i>From 24 to 72h from infection onset</i>	48 (41)	26 (42)	22 (40)	0.144
<i>After 72h from infection onset</i>	38 (32)	16 (25)	22 (40)	
Definitive antibiotic therapy for BSI, n (%)				

	<i>Colistin-based</i>	75 (64)	33 (52)	42 (76)	
	<i>Cefiderocol-based</i>	43 (36)	30 (48)	13 (24)	0.007
Severe adverse events to antibiotic therapy, n (%)		13 (11)	7 (11)	6 (11)	0.972
Median (q1-q3) duration of antibiotic therapy		11 (8 - 16)	13 (10 - 17)	9 (6 - 15)	0.005
Median (q1-q3) days from symptom onset to discharge or death for infection		17 (8 - 28)	23 (17 - 46)	9 (6 - 16)	0.001

q1-q3= first – third quartile; BSI=bloodstream infection

Boldface means statistically significant (*p-value*<0.05)

Supplementary Table 4. Univariable, multivariable, and IPTW-adjusted multivariable Cox model for 30-day infection related mortality.

	Univariable Analysis			Multivariable Analysis			IPTW-adjusted Multivariable Analysis		
	HR	95%CI	p value	aHR	95%CI	p value	aHR	95%CI	p value
Age per 1 year increase	1.03	1.01 - 1.06	0.003	1.03	1.00 - 1.07	0.012	1.05	1.01 - 1.08	0.009
Male sex	0.75	0.43 - 1.31	0.313	\			\		
Previous COVID-19	1.09	0.80 - 1.49	0.548	\			\		
Charlson comorbidity per 1 point increase	1.16	1.04 - 1.30	0.007	1.06	0.92 - 1.21	0.370	1.05	0.90 - 1.22	0.508
Severe immunocompromise status	1.21	0.60 - 2.43	0.576	\			\		
Site of infection treated with surgical source control	0.80	0.40 - 1.61	0.548	\			0.96	0.41 - 2.24	0.927
SOFA score per 1 point increase	1.08	0.99 - 1.18	0.053	0.98	0.89 - 1.09	0.809	0.98	0.87 - 1.10	0.785
PITT bacteremia score	1.23	0.67 - 2.25	0.497	\			\		
Septic shock at presentation	1.96	1.12 - 3.43	0.017	1.95	1.02 - 3.71	0.042	1.78	0.88 - 3.56	0.103
Acute kidney injury at presentation	1.50	0.85 - 2.67	0.159	\			\		
Acute respiratory failure at presentation	1.62	0.93 - 2.83	0.087	1.21	0.67 - 2.17	0.517	\		
Time to appropriate antimicrobial therapy							\		
<i>Within 24 h from infection onset</i>	1			1			1		
<i>From 24 to 72h from infection onset</i>	1.43	0.66 - 3.09	0.355	1.51	0.68 - 3.37	0.309	1.30	0.62 - 2.70	0.477
<i>After 72h from infection onset</i>	2.21	1.04 - 4.70	0.039	2.27	1.03 - 5.00	0.042	2.05	0.96 - 4.39	0.062
Cefiderocol-based antibiotic therapy	0.46	0.24 - 0.89	0.021	0.44	0.22 - 0.88	0.021	0.35	0.15 - 0.82	0.016
Antibiotic therapy including Sulbactam	0.99	0.54 - 1.81	0.983	\			\		
Antibiotic therapy including Fosfomycin	0.47	0.25 - 0.91	0.027	\			\		
Antibiotic therapy including Tigecycline	1.77	1.01 - 3.12	0.045	\			\		
Monotherapy vs Combo-therapy	0.87	0.40 - 1.86	0.723	\			\		

Boldface means statistically significant (p-value<0.05)