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Supplementary material

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Adult *Acinetobacter* BSI case with complete medical records and isolate available for further study

n = 1352

Exclusion of polymicrobial bacteremia
n = 310

Exclusion of breakthrough bacteremia during other antimicrobial therapy
n = 137

Exclusion of no use or use of carbapenem less than 48 hours before *Acinetobacter* BSI
n = 788

Exclusion of use of carbapenem at an inappropriate dosage before *Acinetobacter* BSI
n = 17

Breakthrough *Acinetobacter* monomicrobial bacteremia during carbapenem therapy
n = 100

FIG S1 Methodology for application of exclusion criteria. Abbreviation: BSI, bloodstream Infection.

4 **TABLE S1** Logistic regression analysis of 14-day mortality risk factor of carbapenem-resistant *Acinetobacter* bacteraemia

Variables	No. (%) of cases or median value (IQR) ^a			Univariate analysis		Multivariate analysis	
	All (n = 352)	Survived (n = 208)	Non-survived (n = 144)	OR (95% CI)	P	OR (95% CI)	P
Breakthrough bacteremia	87 (24.7)	42 (20.2)	45 (31.3)	1.797 (1.102-2.929)	0.019	1.794 (1.032-3.118)	0.038
APACHE II score	24 (18-30)	22 (16-27)	28 (21-35)	1.091 (1.062-1.121)	< 0.001	1.076 (1.046-1.107)	< 0.001
Thoracic drain	28 (8.0)	11 (5.3)	17 (11.8)	2.397 (1.087-5.285)	0.030	3.056 (1.255-7.444)	0.014
Shock	118 (33.5)	48 (23.1)	70 (48.6)	3.153 (1.992-4.991)	< 0.001	2.313 (1.390-3.848)	0.001
Bacteremia due to <i>A. baumannii</i>	236 (67.0)	122 (58.7)	114 (79.2)	2.679 (1.645-4.363)	< 0.001	3.036 (1.739-5.299)	< 0.001

5 IQR, interquartile range; OR, odds ratio; CI, confidence interval.

6 ^aData are number of cases (%) for categorical variables and median value (interquartile range) for continuous variables.

8 **TABLE S2** Antimicrobial regimens for treatment of carbapenem-resistant *Acinetobacter* bacteraemia

Main agents used ^{a,b}	No. (%) of APACHE II		No. (%) of patients			
	patients (n = 352)	score, median (IQR) ^c	Appropriate	14-day non-	P value	30-day non-
			therapy	survivors		
Continued carbapenem monotherapy	73 (20.7)	27 (21–33.5)	0 (0.0)	29 (39.7)	0.923	39 (53.4)
Colistin-based therapy	62 (17.6)	23.5 (16.75–28)	61 (98.4)	26 (41.9)	0.969	35 (56.5)
Tigecycline-based therapy	47 (13.4)	24 (17–28)	27 (57.4)	23 (48.9)	0.297	25 (53.2)
Fluoroquinolone-based therapy	32 (9.1)	22 (17–32)	16 (50.0)	16 (50.0)	0.364	20 (62.5)
Sulbactam-based therapy	14 (4.0)	22 (16–28)	6 (42.9)	3 (21.4)	0.217	5 (35.7)
Carbapenem + colistin-based therapy	29 (8.2)	26 (18–28.5)	27 (93.1)	13 (44.8)	0.802	16 (55.2)
Carbapenem + tigecycline-based therapy	13 (3.7)	28 (19–30)	8 (61.5)	8 (61.5)	0.210	8 (61.5)
Carbapenem + sulbactam-based therapy	6 (1.7)	27 (21–32.75)	3 (50.0)	3 (50.0)	0.692	3 (50.0)
Colistin + tigecycline-based therapy	16 (4.5)	18.5 (12–26.25)	16 (100.0)	7 (43.8)	1.000	8 (50.0)
Carbapenem + colistin + tigecycline-based	3 (0.9)	11, 21, 28	3 (100.0)	2 (66.7)	0.748	2 (66.7)

therapy

9 ^aAn antimicrobial agent (or antimicrobial agents)-based therapy denotes the corresponding antimicrobial agent(s) alone or in combination with
10 other antimicrobial agent(s).

11 ^b“Colistin” denotes intravenous colistin only. Inhaled colistin is not included.

12 ^cIQR, interquartile range. When the case number is less than 4, APACHE II score of each case is shown.

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TABLE S3 Antimicrobial regimens for treatment of breakthrough *Acinetobacter* bacteremia during carbapenem therapy

Main agents used ^{a,b}	No. (%) of APACHE II		No. (%) of patients					
	patients (n = 100)	score, median (IQR) ^e	Appropriate	Combination	14-day	P	30-day	P
			therapy	therapy ^f	non- survivors	value	non- survivors	value
Continued carbapenem monotherapy ^c	59 (59.0)	25 (17–33)	11 (18.6)	0 (0.0)	25 (42.4)	0.503	31 (52.5)	0.382
Colistin-based therapy	19 (19.0)	26 (18–28)	19 (100)	19 (100.0)	10 (52.6)	0.697	11 (57.9)	1.000
Tigecycline-based therapy	15 (15.0)	26 (17–31)	13 (86.7)	11 (73.3)	11 (73.3)	0.043	12 (80.0)	0.095
Fluoroquinolone-based therapy	9 (9.0)	29 (20–40)	8 (88.9)	8 (88.9)	5 (55.6)	0.729	6 (66.7)	0.728
Sulbactam-based therapy ^c	5 (5.0)	26 (22–29)	4 (80.0)	5 (100.0)	1 (20.0)	0.370	2 (40.0)	0.649
Carbapenem + colistin-based therapy	17 (17.0)	26 (19–29)	17 (100)	17 (100.0)	9 (52.9)	0.716	10 (58.8)	1.000
Carbapenem + tigecycline-based therapy	9 (9.0)	28 (16–30)	7 (77.8)	9 (100.0)	7 (77.8)	0.076	8 (88.9)	0.074
Carbapenem + sulbactam-based therapy ^c	5 (5.0)	26 (22–29)	4 (80.0)	5 (100.0)	1 (20.0)	0.370	2 (40.0)	0.649
Colistin ^c + tigecycline-based therapy	4 (4.0)	16 (12–25.25)	4 (100.0)	4 (100.0)	3 (75.0)	0.331	3 (75.0)	0.632

Carbapenem + colistin + tigecycline-based therapy	2 (2.0)	11, 28	2 (100.0)	2 (100.0)	2 (100.0)	0.209	2 (100.0)	0.505
Antimicrobial regimens ^d								
Carbapenem + colistin	12 (12.0)	26 (20.25–28.75)	12 (100.0)	12 (100.0)	6 (50.0)	1.000	7 (58.3)	1.000
Carbapenem + tigecycline	5 (5.0)	29 (16–32)	3 (60.0)	5 (100.0)	3 (60.0)	0.659	4 (80.0)	0.387
Carbapenem + sulbactam ^c	4 (4.0)	27 (26–29.5)	3 (75.0)	4 (100.0)	1 (25.0)	0.622	2 (50.0)	1.000
Carbapenem + fluoroquinolone	2 (2.0)	37, 42	2 (100.0)	2 (100.0)	0 (0.0)	0.498	1 (50.0)	1.000
Carbapenem + tigecycline + colistin	2 (2.0)	11, 28	2 (100.0)	2 (100.0)	2 (100.0)	0.209	2 (100.0)	0.505
Carbapenem + colistin + fluoroquinolone	2 (2.0)	29, 39	2 (100.0)	2 (100.0)	1 (50.0)	1.000	1 (50.0)	1.000
Carbapenem + tigecycline + fluoroquinolone	2 (2.0)	21, 28	2 (100.0)	2 (100.0)	2 (100.0)	0.209	2 (100.0)	0.505
Tigecycline only	4 (4.0)	28.5 (20.75–41.5)	4 (100.0)	0 (0.0)	3 (75.0)	0.331	3 (75.0)	0.632
Colistin + tigecycline	2 (2.0)	15, 17	2 (100.0)	2 (100.0)	1 (50.0)	1.000	1 (50.0)	1.000

16 other antimicrobial agent(s).

17 ^b“Colistin” denotes intravenous colistin only. Inhaled colistin is not included.

18 ^cOne patient had received concomitant inhaled colistin therapy.

19 ^dNot in combination with other antimicrobial agents.

20 ^eIQR, interquartile range. When the case number is less than 4, APACHE II score of each case is shown.

21 ^fCombination therapy is defined as administration of more than one antimicrobial agent.

