

Supplementary Material

Supplement Figure 1 Standardized Mean Differences Comparing the Full Unmatched Cohort with the Propensity Score-Matched Cohort

Supplement Figure 2 Probability of 7-Day Survival in the Propensity Score-Matched Cohort

Supplement Figure 3 Probability of 14-Day Survival in the Propensity Score-Matched Cohort

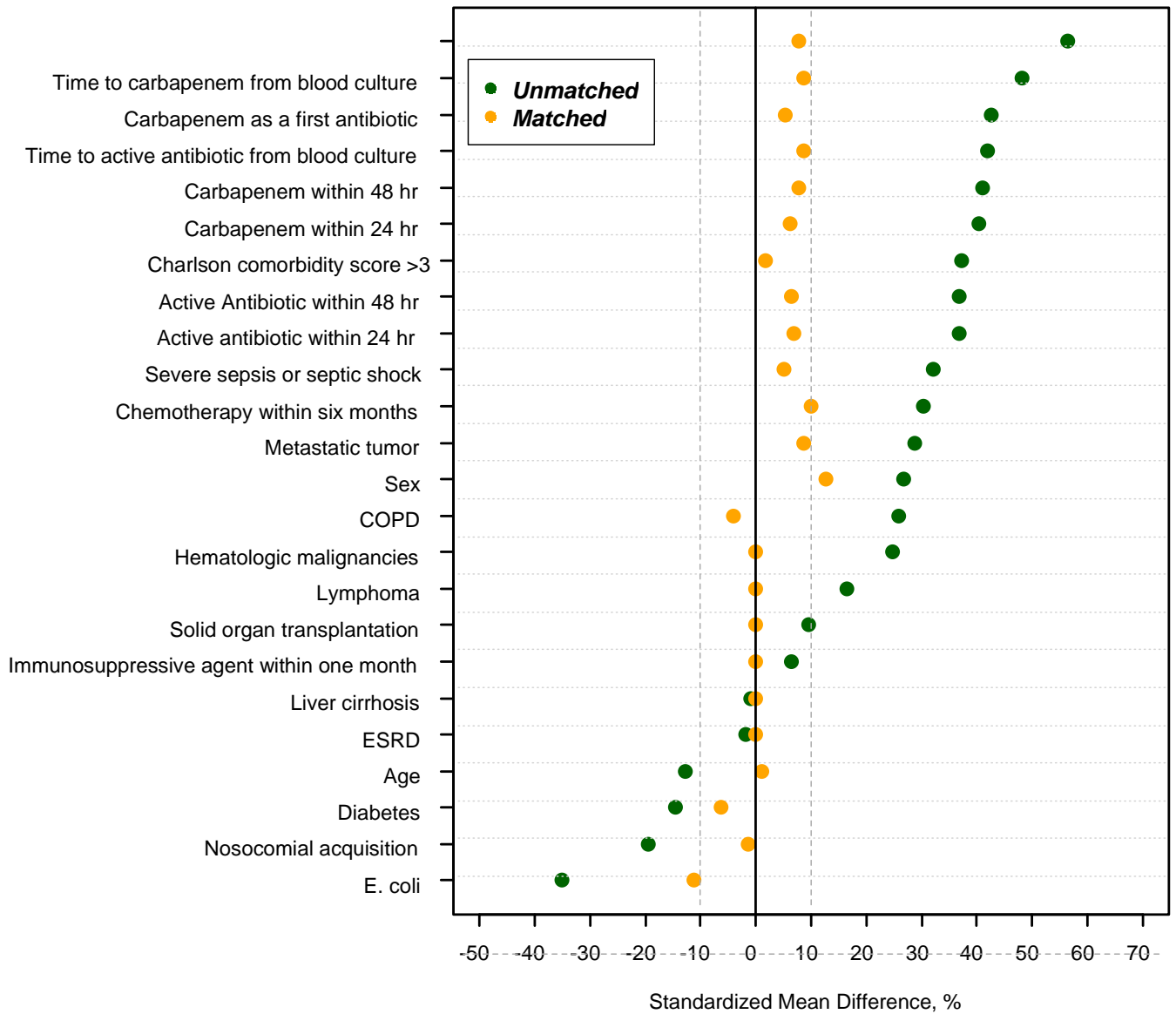
Supplement Table 1 Cox Regression Analyses of Seven-Day All -Cause Mortality in the Propensity Score-Matched Cohort

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Supplement Table 3 Logistic Regression Analyses of Thirty-Day All -Cause Mortality in the Propensity Score-Matched Cohort

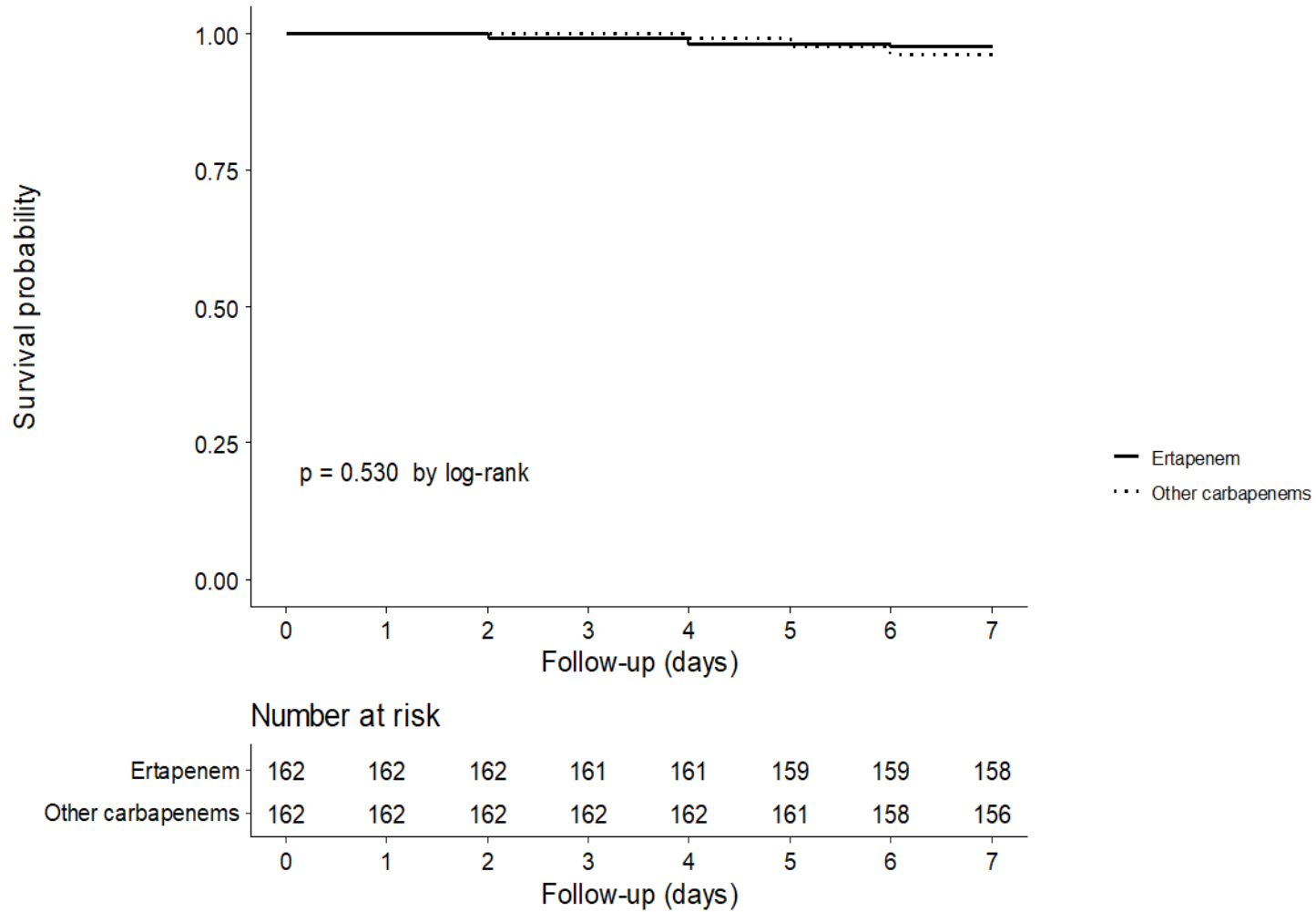
Supplement Table 4 Risk of Acquisition of Carbapenem-resistant Enterobacteriaceae, *Acinetobacter*, *Pseudomonas* species and *C. difficile* Between Ertapenem and Other Carbapenems in the Propensity Score-Matched Cohort

Supplement Figure 1 Standardized Mean Differences Comparing the Full Unmatched Cohort with the Propensity Score-Matched Cohort.

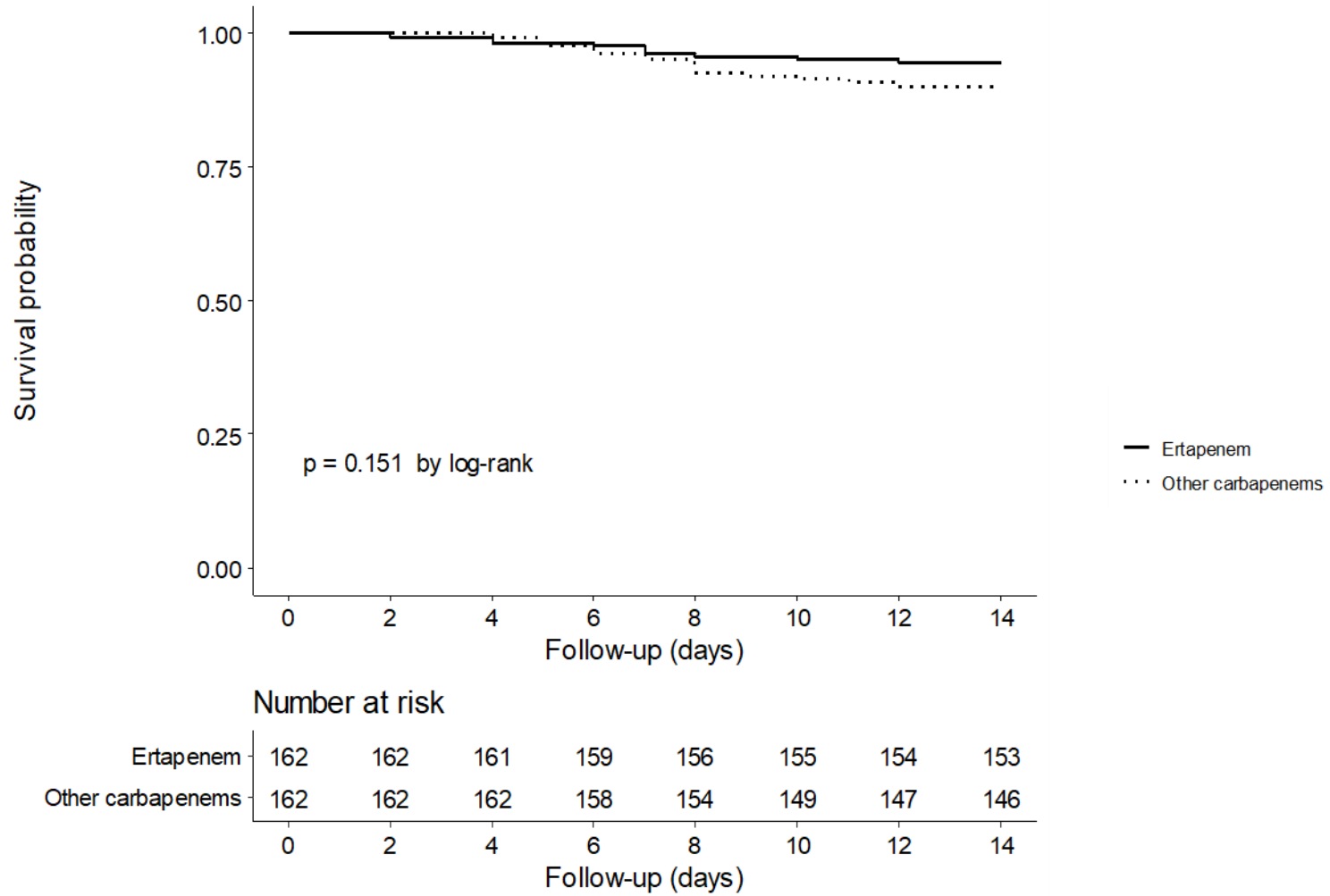


ICU, intensive care unit; COPD, chronic obstructive lung disease; ESRD, end-stage renal disease.

Supplement Figure 2 Probability of 7-Day Survival in the Propensity Score-Matched Cohort



Supplement Figure 3 Probability of 14-Day Survival in the Propensity Score-Matched Cohort



Supplement Table 1 Cox Regression Analyses of Seven-Day All -Cause Mortality in the Propensity Score-Matched Cohort

Variable	Unadjusted HR (95% CI)	<i>P</i>	Adjust HR ^a (95% CI)	<i>P</i>
<i>E. coli</i>	0.23 (0.06–0.80)	0.021	0.28 (0.06–1.34)	0.11
Nosocomial acquisition	4.75 (1.34–16.84)	0.016	3.08 (0.79–12.09)	0.11
Underlying disease				
Diabetes mellitus	0.35 (0.07–1.64)	0.18	0.26 (0.05–1.35)	0.11
Solid tumor, localized	2.98 (0.84–10.56)	0.091	1.73 (0.43–7.03)	0.44
Metastatic solid tumor	5.79 (1.63–20.51)	0.007	1.13 (0.09–13.96)	0.92
Chemotherapy within six months	3.81 (0.99–14.74)	0.053	1.77 (0.25–12.52)	0.57
Charlson comorbidity score	1.43 (1.13–1.81)	0.0028	1.28 (0.89–1.85)	0.18
Source of infection		0.22		
Urinary tract	Reference		Reference	
Biliary	2.86 (0.52–15.61)	0.23		
Others	3.21 (0.80–12.82)	0.10		

Severe sepsis or septic shock	6.81 (0.86–53.76)	0.069	6.84 (0.83–56.24)	0.074
Carbapenem as first antibiotic	1.59 (0.45–5.65)	0.47		
Carbapenem				
Other carbapenem	Reference		Reference	
Ertapenem	0.67 (0.19–2.37)	0.54	0.78 (0.19–3.22)	0.73

HR, hazard ratio; CI, confidence interval.

^aAdjusted for variables with $P < 0.20$ in univariate analysis

Supplement Table 2 Cox Regression Analyses of Fourteen-Day All -Cause Mortality in the Propensity Score-Matched Cohort

Variable	Unadjusted HR (95% CI)	<i>P</i>	Adjust HR ^a (95% CI)	<i>P</i>
Age (years) (mean ±SD)	0.97 (0.95–1.00)	0.060	0.97 (0.92–1.02)	0.18
Male sex	1.95 (0.88–4.29)	0.098	0.87 (0.32–2.31)	0.77
<i>E. coli</i>	0.26 (0.11–0.58)	0.001	0.33 (0.13–0.89)	0.028
Nosocomial acquisition	4.96 (2.23–11.03)	0.0001	2.90 (1.15–7.28)	0.024
Underlying disease				
Liver cirrhosis	3.05 (1.05–8.90)	0.041	1.54 (0.35–6.78)	0.57
Solid tumor, localized	2.55 (1.13–5.77)	0.025	1.63 (0.64–4.19)	0.31
Metastatic solid tumor	5.29 (2.33–11.97)	0.0001	2.78 (0.57–13.61)	0.21
Chemotherapy within six months	3.65 (1.53–8.75)	0.0036	1.26 (0.33–4.89)	0.74
Charlson comorbidity score (median)	1.29 (1.10–1.50)	0.0012	1.12 (0.85–1.48)	0.42
Source of infection				
Urinary tract	Reference	0.0014	Reference	0.85

Biliary	1.94 (0.53–7.18)	0.32	1.10 (0.25–4.93)	0.90
Other	4.79 (2.05–11.20)	0.0003	1.35 (0.47–3.91)	0.58
Pitt bacteremia score	1.30 (1.06–1.59)	0.011	1.32 (1.02–1.70)	0.032
Severe sepsis or septic shock	5.72 (1.71–19.12)	0.0046	5.25 (1.45–19.01)	0.012
Carbapenem				
Other carbapenem	Reference		Reference	
Ertapenem	0.56 (0.25–1.26)	0.16	0.60 (0.24–1.48)	0.26

HR, hazard ratio; CI, confidence interval; ESRD, end-stage renal disease; COPD, chronic obstructive pulmonary disease; ICU, intensive care unit

^aAdjusted for variables with $P < 0.20$ in univariate analysis

Supplement Table 3 Logistic Regression Analyses of Thirty-Day All -Cause Mortality in the Propensity Score-Matched Cohort

Variable	Unadjusted OR (95% CI)	<i>P</i>	Adjust OR ^a (95% CI)	<i>P</i>
Male sex	1.78 (0.91–3.45)	0.091	0.99 (0.40–2.45)	0.99
<i>E. coli</i>	0.22 (0.10–0.47)	<0.0001	0.34 (0.13–0.91)	0.032
Nosocomial acquisition	4.87 (2.45–9.68)	<0.0001	3.50 (1.44–8.47)	0.006
Underlying disease				
Liver cirrhosis	3.40 (1.23–9.45)	0.019	2.23 (0.54–9.25)	0.27
ESRD	7.42 (1.02–54.23)	0.048	6.96 (0.33–146.08)	0.21
Solid tumor, localized	3.11 (1.52–6.34)	0.002	2.23 (0.87–5.71)	0.097
Metastatic solid tumor	7.11 (3.22–15.71)	<0.0001	7.42 (1.54–35.68)	0.012
Chemotherapy within six months	3.78 (1.65–8.70)	0.002	1.14 (0.30–4.33)	0.85
Charlson comorbidity score	1.41 (1.22–1.63)	<0.0001	1.06 (0.84–1.33)	0.64
Source of infection		<0.0001		0.33
Urinary tract	Reference		Reference	

Biliary	2.20 (0.74–6.50)	0.79	1.38 (0.33–5.79)	0.93
Others	6.35 (3.01–13.38)	<0.0001	2.16 (0.81–5.71)	0.22
Pitt bacteremia score	1.32 (1.09–1.59)	0.004	1.38 (1.06–1.81)	0.017
Severe sepsis or septic shock	4.04 (1.73–9.43)	0.001	4.35 (1.44–13.14)	0.009
Carbapenem				
Other carbapenem	Reference		Reference	
Ertapenem	0.56 (0.28–1.11)	0.094	0.56 (0.23–1.37)	0.20

OR, odds ratio; CI, confidence interval; ESRD, end-stage renal disease.

^aAdjusted for variables with $P < 0.20$ in univariate analysis

Supplement Table 4. Risk of Acquisition of Carbapenem-resistant Enterobacteriaceae, *Acinetobacter*, *Pseudomonas* species and *C. difficile* Between Ertapenem and Other Carbapenems in the Propensity Score-Matched Cohort

	Ertapenem (n =162)	Other carbapenems (n =152)	OR (95% CI)	<i>P</i> value
Carbapenem-resistant Enterobacteriaceae	11 (6.8)	8 (5.3)	1.31 (0.51-3.53)	0.37
Carbapenem-resistant <i>Acinetobacter</i> or <i>Pseudomonas</i> species	8 (4.9)	21 (13.8)	0.36 (0.15–0.83)	0.017
<i>C. difficile</i> infection*	13 (8.1)	13 (8.0)	0.99 (0.44–2.20)	0.98

OR, odds ratio; CI, confidence interval.

The number of patients was calculated after excluding patients who were already colonized with carbapenem-resistant Enterobacteriaceae, carbapenem-resistant *Acinetobacter* or *Pseudomonas* species

*The number of patients for comparing the development of *C. difficile* infection was 160 in ertapenem and 162 in other carbapenem group