

## Supplementary data

### **Combination versus monotherapy for carbapenem-resistant *Acinetobacter* species serious infections: a prospective IPTW adjusted cohort study.**

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### S. 1: Mean distribution of factors included in the propensity matching after IPTW

Risk factors	Mean (Combination therapy)	Mean (Monotherapy)	Standardised difference
Septic shock	0.76	0.79	-0.071
Age	45.73	46.10	-0.022
Delay in appropriate therapy	1.62	1.61	0.017
Duration of antibiotic therapy	6.96	6.67	0.062
Concomitant bacterial infection	0.61	0.57	0.071
Charlson comorbidity index	2.04	2.04	0.004

### S. 2: Comparison of all propensity score analysis methods

a) Mean distribution of covariates among treatment groups after propensity score matching

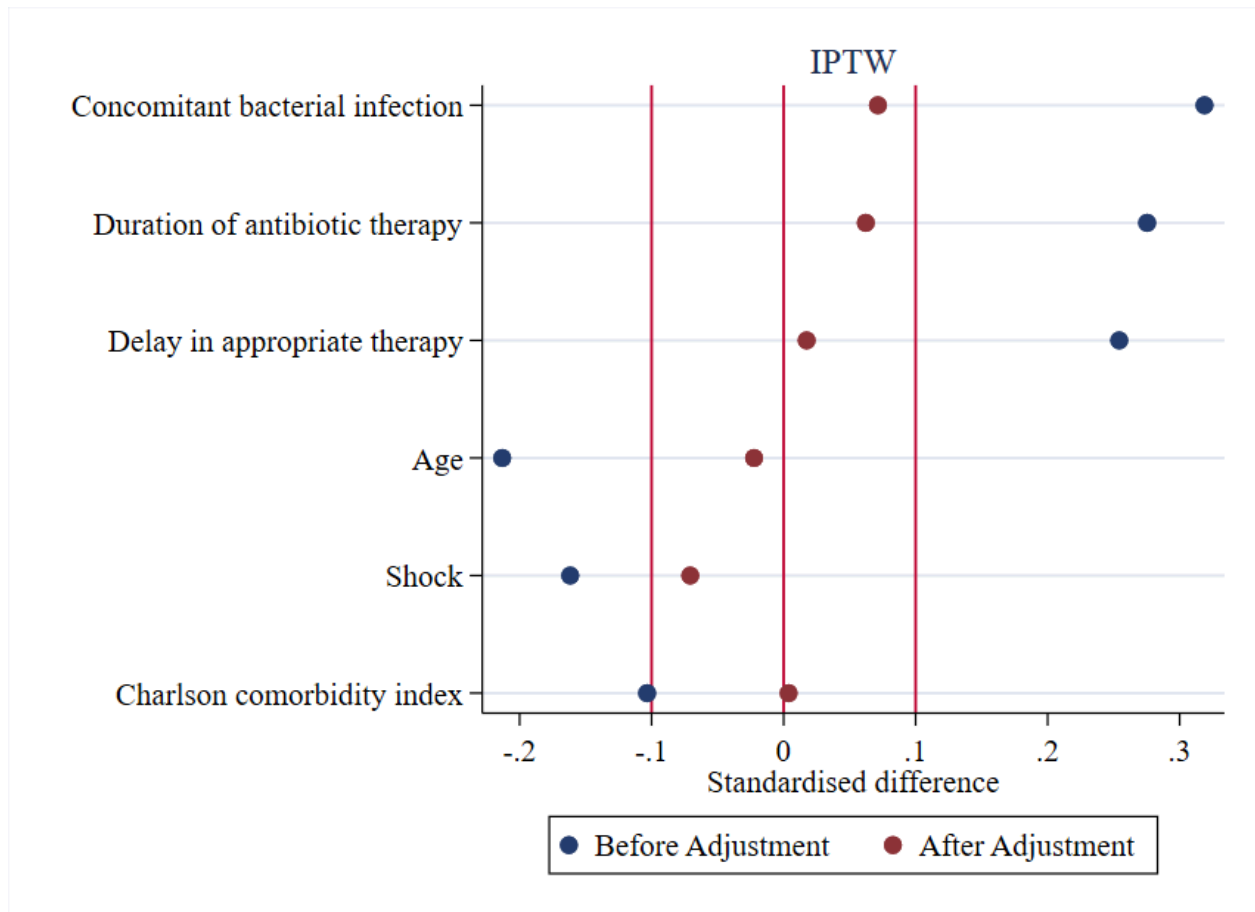
Covariates	Original		Nearest Neighbour Matching (1:1)		Nearest Neighbour Matching (2:1)		Calliper Matching		IPTW		Stratification	
	Combination	Mono therapy	Combination	Mon therapy	Combination	Mon otherapy	Combination	Mono therapy	Combination	Mono therapy	Combination	Mono therapy
Septic shock	0.76	0.82	0.75	0.75	0.73	0.77	0.76	0.71	0.76	0.79	0.76	0.79
Age	43.71	47.21	44.27	43.44	47.41	44.53	43.71	43.20	45.73	46.10	43.71	43.39
Delay in appropriate therapy	1.69	1.57	1.69	1.67	1.51	1.64	1.69	1.63	1.62	1.61	1.69	1.67
Duration of antibiotic therapy	7.49	6.18	7.23	7.19	7.14	6.86	7.49	6.57	6.96	6.67	7.49	7.17
Concomitant bacterial infection	0.67	0.52	0.67	0.79	0.53	0.77	0.67	0.73	0.61	0.57	0.67	0.68
Charlson comorbidity index	1.88	2.10	1.92	2.17	2.41	2.21	1.88	2.20	2.04	2.04	1.88	1.81

**b) Standardised difference in covariates between treatment groups after propensity score matching**

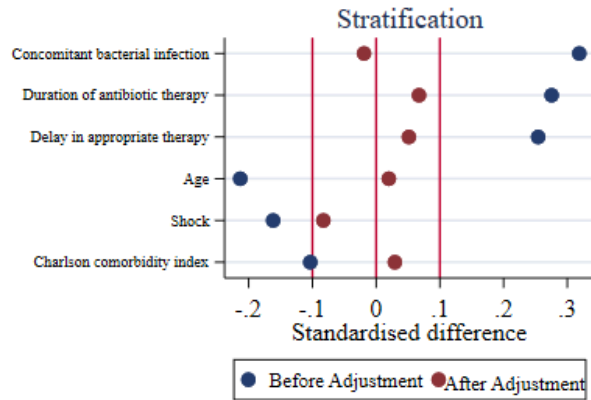
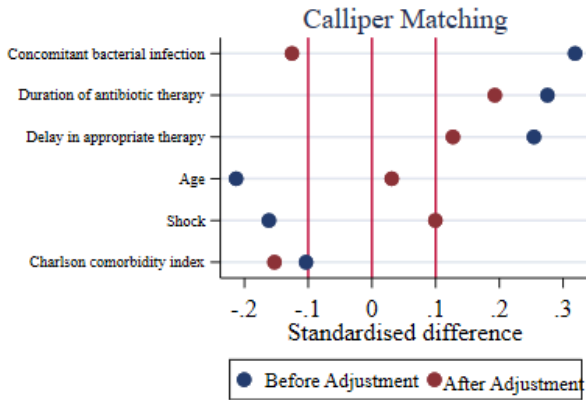
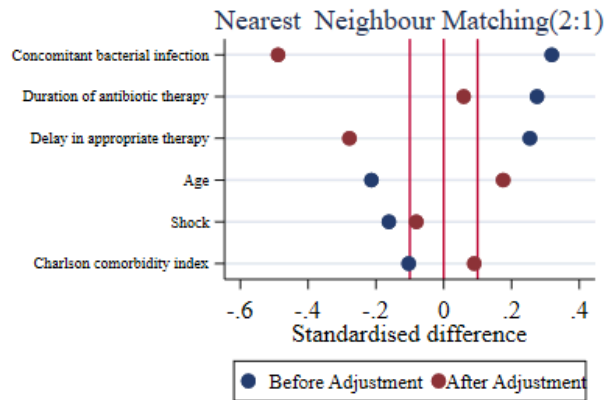
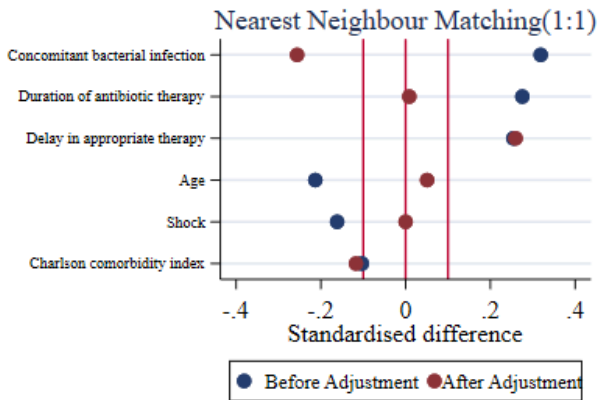
<b>Covariates</b>	<b>Original</b>	<b>Nearest Neighbour Matching (1:1)</b>	<b>Nearest Neighbour Matching (2:1)</b>	<b>Calliper Matching</b>	<b>IPTW</b>	<b>Stratification</b>
	Unstandardized Difference	Standardised Difference				
Septic shock	-0.162	<0.001	-0.081	0.099	-0.071	-0.083
Age	-0.213	0.051	0.175	0.031	-0.022	0.020
Delay in appropriate therapy	0.254	0.260	-0.278	0.127	0.017	0.051
Duration of antibiotic therapy	0.275	0.009	0.059	0.193	0.062	0.067
Concomitant bacterial infection	0.319	-0.256	-0.489	-0.125	0.071	-0.019
Charlson comorbidity index	-0.103	-0.117	0.090	-0.153	0.004	0.029

### S. 3: Balance between variables used for propensity model using various matching techniques.

a) IPTW



b) Other matching techniques



**S. 4: Distribution of baseline characteristics among study outcomes after applying propensity weight:**

	<b>Total (n=161)</b>	<b>Combination (n=49)</b>	<b>Monotherapy (n=112)</b>	<b>P-value</b>
<b>Demographic details</b>				
Age	45.97±16.07	45.72±16.96	46.09±15.74	0.887
Gender				
Male	115(71.43)	37(75.51)	78(69.64)	0.448
Female	46(28.57)	12(24.49)	34(30.36)	
<b>Infection details</b>				
Type of infection:				
VAP	47(29.19)	19(38.78)	28(25)	0.101
Bacteremia	53(32.92)	11(22.45)	42(37.50)	
Bacteremia and VAP	61(37.89)	19(38.78)	42(37.50)	
Charlson comorbidity index	2(0-3)	2(0-3)	2(0-3)	0.070
Duration antibiotic therapy	6(3-9)	6(4-9)	6(2-10)	0.128
Known CKD at baseline(n=156)	18(11.54)	4(8.16)	14(13.08)	0.372
Previous carbapenem exposure (n=156)	128(82.05)	44(89.80)	84(78.50)	0.088
Previous serious bacterial infection	81(50.31)	26(53.06)	55(49.11)	0.644
Concomitant bacterial infection	94(58.39)	30(61.22)	64(57.14)	0.629
Septic Shock <sup>1</sup>	126(78.26)	37(75.51)	89(79.46)	0.576
Requirement of dialysis	27(16.77)	7(14.29)	20(17.86)	0.577
Delay in appropriate antibiotic therapy	61(37.89)	18(36.73)	43(38.39)	0.842

### S. 5: Distribution of baseline characteristics among secondary outcomes

	14 day mortality			
	Death(n=87)	Alive(n=74)	OR (95% CI)	P value
<b>Demographic details</b>				
Age	48.73±15.55	43.10±16.60	1.02(1.00-1.04)	<b>0.030</b>
Gender				
Male	66(75.86)	48(64.86)	1.70(0.85-3.37)	0.128
Female	21(24.14)	26(35.14)	ref	
<b>Infection details</b>				
Type of infection				
VAP	15(17.24)	31(41.89)	Ref	
Bacteremia	28(32.18)	27(36.49)	2.14(0.95-4.82)	0.066
Bacteremia and VAP	44(50.57)	16(21.62)	5.68(2.45-13.17)	<b>&lt;0.001</b>
Charlson comorbidity index	2(0-4)	1(0-3)	1.11(0.95-1.29)	0.170
Duration antibiotic therapy	3(1-6)	9(6-13)	0.68(0.60-0.77)	<b>&lt;0.001</b>
Known CKD at baseline(n=156)	10(11.90)	8(11.11)	1.08(0.40-2.90)	0.877
Previous carbapenem exposure (n=156)	69(80.23)	58(82.86)	0.83(0.37-1.90)	0.675
Previous serious bacterial infection	50(57.47)	34(45.95)	1.58(0.85-2.96)	0.145
Concomitant bacterial infection	46(52.87)	50(67.57)	0.47(0.25-0.90)	<b>0.023</b>
Septic Shock episode	79(90.80)	50(67.57)	4.73(1.97-11.37)	<b>&lt;0.001</b>
Requirement of dialysis	14(16.09)	12(16.22)	0.99(0.42-2.29)	0.983
Duration of hospital stay after vap/bacteremia isolation	12(8-19)	29(19-38)	0.69(0.62-0.78)	<b>&lt;0.001</b>
Delay in appropriate antibiotic therapy	22(25.29)	41(55.41)	0.27(0.13-0.53)	<b>&lt;0.001</b>
<b>Treatment details</b>				
Combination therapy	26(29.89)	23(31.08)	0.94(0.48-1.85)	0.869
Mono therapy	61(70.11)	51(68.92)	Ref	

### S.6: Multivariate logistic regression analysis of significant factors associated to mortality

#### a) 30 day mortality

Overall mortality	OR (95% CI)	P value	Adjusted OR(95%CI)	P-value
Age	1.02(1.00-1.04)	<b>0.040</b>	1.02(0.99-1.04)	0.096
<b>Type of infection</b>				
VAP	Ref			
Bacteremia	1.95(0.88-4.31)	0.099	2.95(1.09-7.95)	<b>0.032</b>
Both	4.27(1.85-9.84)	<b>0.001</b>	3.94(1.47-10.57)	<b>0.006</b>
Septic Shock episode	5.89(2.50-13.89)	<b>&lt;0.001</b>	5.73(2.18-15.04)	<b>&lt;0.001</b>
Delay in appropriate antibiotic therapy	0.42(0.22-0.82)	<b>0.011</b>	0.50(0.22-1.14)	0.103
Duration of antibiotic therapy	0.81(0.75-0.89)	<b>&lt;0.001</b>	0.81(0.74-0.89)	<b>&lt;0.001</b>
<b>Treatment</b>				
Combination therapy	1.11(0.55-2.22)	0.760	1.99(0.81-4.87)	0.131
Mono therapy	Ref			

#### b) 14 day mortality

14 day mortality	OR (95% CI)	P value	Adjusted OR(95%CI)	P-value
Age	1.02(1.00-1.04)	<b>0.030</b>	1.03(1-1.06)	<b>0.045</b>
<b>Type of infection</b>				
VAP	Ref			
Bacteremia	2.14(0.95-4.82)	0.066	3.44(0.98-12.10)	0.053
Both	5.68(2.45-13.17)	<b>&lt;0.001</b>	7.53(2.24-25.22)	<b>0.001</b>
Concomitant bacterial infection	0.47(0.25-0.90)	<b>0.023</b>	1.10(0.39-3.11)	0.854
Septic Shock episode	4.73(1.97-11.37)	<b>&lt;0.001</b>	4.27(1.38-13.20)	<b>0.012</b>
Delay in appropriate antibiotic therapy	0.27(0.13-0.53)	<b>&lt;0.001</b>	0.17(0.06-0.52)	<b>0.002</b>
Duration of antibiotic therapy	0.68(0.60-0.77)	<b>&lt;0.001</b>	0.61(0.51-0.73)	<b>&lt;0.001</b>
<b>Treatment</b>				
Combination therapy	0.94(0.48-1.85)	0.869	2.01(0.67-5.99)	0.207
Mono therapy	Ref			