

Supplementary material

The Probability of target attainment (PTA) of different regimens at each minimum inhibitory concentration (MIC) level

Table S1. PTA of different regimens in CrCl range of 1-10 mL/min.

MIC (mg/L) Regimens	0.25	0.5	1	2	4	8	16	32	64
LD 300 mg MD 60 mg q12h (120 mg) (EMA)	100	99.96	99.49	95.24	75.36	38.35	9.88	0.77	0.04
LD 300 mg MD 70 mg q12h (140 mg) (Na- tion)	100	99.97	99.43	95	76	39.07	9.83	1.03	0.02
LD 300 mg MD 80 mg q24h (80 mg) (our study)	99.99	99.85	97.78	84.16	50.14	14.9	2.06	0.07	0
LD 300 mg MD 33 mg q24h (33 mg) (our study)	99.61	95.6	76.45	40.12	11.14	1.71	0.07	0	0
LD 300 mg MD 40 mg q12h (80 mg) (our study)	100	99.77	97.92	85.99	54.49	19.54	3.04	0.17	0
LD 300 mg MD 66 mg q24h (66 mg) (our study)	100	99.6	95.6	76.33	39.72	10.52	1.12	0.06	0

PTA: Probability of target attainment. CrCl: creatinine clearance. MIC: minimum inhibitory concentration. LD: loading dose (in mg of colistin base activity). MD: maintenance dose (in mg of colistin base activity). q12h: every 12 hours. EMA: European Medicines Agency. US-FDA: Food and Drug Administration of United State.

Table S2. PTA of different regimens in CrCl range of 11-29 mL/min.

MIC (mg/L) Regimens	0.25	0.5	1	2	4	8	16	32	64
LD 300 mg MD 80 mg q12h (160 mg) (Na- tion)	99.95	99.71	98.45	90.59	65.99	29.9	5.83	0.4	0.01
LD 300 mg MD 90 mg q12h (180 mg) (EMA)	99.98	99.77	98.98	92.21	71.15	35.44	8.04	0.59	0.03
LD 300 mg MD 90 mg q36h (60 mg) (US- FDA)	99.67	97.01	78.55	39.17	9.83	0.8	0.02	0	0
LD 300 mg MD 100 mg q24h (100 mg) (our study)	99.86	98.98	93.85	74.37	37.3	8.72	0.7	0	0
LD 300 mg MD 200 mg q36h (133 mg) (our study)	99.95	99.78	97.84	83.31	44.13	12.2	1.18	0.04	0
LD 300 mg MD 120 mg q24h (120 mg) (our study)	99.94	99.39	96	81.28	46.78	13.97	1.63	0.07	0

LD 300 mg MD 66 mg q24h (66 mg) (our study)	99.62	97.33	84.64	52.72	17.86	2.55	0.16	0	0
LD 300 mg MD 60 mg q12h (120 mg) (our study)	99.93	99.54	96.44	82.8	51.08	17.86	2.55	0.1	0
LD 300 mg MD 150 mg q24h (150 mg) (our study)	99.96	99.76	97.9	88.35	59.5	22.19	3.6	0.11	0
PTA: Probability of target attainment. CrCl: creatinine clearance. MIC: minimum inhibitory concentration. LD: loading dose (in mg of colistin base activity). MD: maintenance dose (in mg of colistin base activity). q12h: every 12 hours. EMA: European Medicines Agency. US-FDA: Food and Drug Administration of United State.									

Table S3. PTA of different regimens in CrCl range of 30- 50 mL/min.

MIC (mg/L) Regimens	0.25	0.5	1	2	4	8	16	32	64
LD 300 mg MD 80 mg q8h (240 mg) (our study)	99.74	98.95	96.16	86.15	62.54	29.01	6.85	0.61	0.01
LD 300 mg MD 250 mg q24h (250 mg) (our study)	99.76	99.18	96.61	85.6	58.65	24.96	4.6	0.29	0.02
LD 300 ng MD 125 mg q12h (250 mg) (EMA)	99.88	99.18	96.53	86.35	61.72	28.25	6.13	0.42	0.01
LD 300 mg MD 110 mg q12h (220 mg) (Nation)	99.67	98.71	94.9	83.11	55.45	22.83	4.21	0.3	0
LD 300 mg MD 75 mg q12h (150 mg) (US- FDA)	99.31	97.66	90.39	69.6	37.45	10.77	1.21	0.02	0
LD 300 mg MD 120 mg q12h (240 mg) (our study)	99.78	99.07	95.76	84.77	60.79	25.92	5.61	0.48	0.01
LD 300 mg MD 100 mg q24h (100 mg) (our study)	98.4	93.77	78.9	47.3	15.83	2.14	0.15	0	0
LD 300 mg MD 100 mg q12h (200 mg) (our study)	99.64	98.48	94.35	79.97	50.36	18.28	3.25	0.19	0
LD 300 mg MD 200 mg q24h (200 mg) (our study)	99.7	98.62	94.08	79.26	48.41	16.08	1.96	0.11	0
PTA: Probability of target attainment. CrCl: creatinine clearance. MIC: minimum inhibitory concentration. LD: loading dose (in mg of colistin base activity). MD: maintenance dose (in mg of colistin base activity). q12h: every 12 hours. EMA: European Medicines Agency. US-FDA: Food and Drug Administration of United State.									

Table S4. PTA of different regimens in CrCl range of 51- 79 mL/min.

MIC (mg/L) Regimens	0.25	0.5	1	2	4	8	16	32	64
LD 300 mg MD 150 mg q12h (300 mg) (EMA. Nation)	98.93	96.52	89.99	75.02	47.33	18.87	3.46	0.28	0.01

LD 300 mg MD 180 mg q12h (360 mg) (our study)	99.22	97.21	92.44	79.6	55.2	24.87	5.96	0.58	0.01
LD 300 mg MD 120 mg q8h (360 mg) (our study)	99.29	97.3	92.32	80.15	56.64	27	7.07	0.83	0.04
LD 300 mg MD 115 mg q12h (230 mg) (US-FDA)	98.25	94.38	85.47	64.52	35.11	10.51	1.63	0.09	0
LD 300 mg MD 100 mg q12h (200 mg) (our study)	97.99	93.7	82.82	59.61	29.48	7.66	0.8	0.03	0
LD 300 mg MD 100 mg q8h (300 mg) (our study)	98.99	96.72	90.4	75.88	48.87	20.57	4.56	0.49	0.02

PTA: Probability of target attainment. CrCl: creatinine clearance. MIC: minimum inhibitory concentration. LD: loading dose (in mg of colistin base activity). MD: maintenance dose (in mg of colistin base activity). q12h: every 12 hours. EMA: European Medicines Agency. US-FDA: Food and Drug Administration of United State.

Table S5. PTA of different regimens in CrCl range of 80- 100 mL/min.

MIC (mg/L) Regimens	0.25	0.5	1	2	4	8	16	32	64
LD 300 mg MD 100 mg q6h (400 mg) (our study)	98.26	95.12	88.16	73.69	47.16	15.12	1.17	0.01	0
LD 300 mg MD 150 mg q8h (450 mg) (our study)	98.24	94.96	87.38	72.07	47.77	21.82	5.41	0.52	0.06
LD 300 mg MD 180 mg q12h (360mg) (Nation)	97.49	93.37	83.54	64.36	37.17	13.54	2.48	0.18	0
LD 300 mg MD 150 mg q12 h (300 mg) (US-FDA. EMA)	96.88	91.32	79.36	57.85	30.55	9.38	1.37	0.06	0
LD 300 mg MD 120 mg q6h (480 mg) (our study)	98.57	96.42	90.96	79.23	55.82	23.18	2.95	0.1	0
LD 300 mg MD 100 mg q8h (300 mg) (our study)	96.91	91.79	80.71	60.15	32.21	10.53	1.67	0.14	0

PTA: Probability of target attainment. CrCl: creatinine clearance. MIC: minimum inhibitory concentration. LD: loading dose (in mg of colistin base activity). MD: maintenance dose (in mg of colistin base activity). q12h: every 12 hours. EMA: European Medicines Agency. US-FDA: Food and Drug Administration of United State.

Table S6. PTA of different regimens in CrCl range of 101- 130 mL/min.

MIC (mg/L) Regimens	0.25	0.5	1	2	4	8	16	32	64
LD 300 mg MD 150 mg q12h (300 mg) (EMA. US-FDA)	93.08	83.65	66.7	43.75	19.86	5.06	0.59	0.04	0

LD 300 mg MD 180 mg q12h (360 mg) (Nation)	94.55	87.1	72.02	49.99	24.42	7.14	0.89	0.02	0
LD 300 mg MD 100 mg q6h (400 mg) (our study)	95.88	90.93	80.25	60.55	31.35	6.82	0.31	0.02	0
LD 300 mg MD 100 mg q4h (600 mg) (our study)	97.65	94.6	88.26	74.72	50.7	21.45	3.03	0.13	0
LD 300 mg MD 150 mg q6h (600 mg) (our study)	97.83	94.62	87.51	74.6	50.27	19.63	2.1	0.07	0
LD 300 mg MD 120 mg q6h (480 mg) (our study)	96.93	93.02	84.19	66.91	39.46	11.63	0.83	0.01	0
LD 300 mg MD 200 mg q12h (400 mg) (our study)	95.35	88.91	76.04	55.05	28.84	9.08	1.63	0.11	0

PTA: Probability of target attainment. CrCl: creatinine clearance. MIC: minimum inhibitory concentration. LD: loading dose (in mg of colistin base activity). MD: maintenance dose (in mg of colistin base activity). q12h: every 12 hours. EMA: European Medicines Agency. US-FDA: Food and Drug Administration of United State.