

Supplementary materials for the article:

Mao T. et al. Patterns of Drug-Resistant Bacteria in a General Hospital, China, 2011–2016.
Pol J Microbiol. 2019, Vol. 68, No 2, 225–232.

Table S-I

The resistance rates of ESBL-*K. pneumoniae* to 15 antimicrobial agents in the years 2011 to 2016.

Antimicrobial agent	2011 n = 64	2012 n = 94	2013 n = 73	2014 n = 73	2015 n = 85	2016 n = 100	Total n = 489	χ^2	<i>p</i>
Ampicillin	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
Cefotaxime	90.63	94.69	93.15	86.30	100.00	100.00	94.68	2.8147	0.0049
Cefuroxime	82.81	88.30	83.56	86.30	94.12	100.00	89.98	3.9470	< 0.0001
Ceftriaxone	87.50	90.43	80.82	79.45	87.06	96.00	87.63	1.2740	0.2027
Ampicillin-sulbactam	85.94	80.85	79.45	86.30	83.53	91.00	84.66	1.4734	0.1406
Trimethoprim-sulfamethoxazole	82.81	91.49	84.93	76.71	80.00	80.00	82.82	-1.7990	0.0720
Nitrofurantoin	89.06	72.34	46.58	58.90	60.00	69.00	65.85	-2.2894	0.0221
Gentamicin	70.31	69.15	57.53	54.79	64.71	69.00	64.62	-0.2983	0.7655
Cefepime	42.19	50.00	30.14	39.73	48.24	54.00	44.99	1.4549	0.1457
Levofloxacin	35.94	41.49	23.29	30.14	42.35	45.00	37.22	1.3315	0.1830
Cefoxitin	28.12	31.91	15.07	6.85	15.29	13.00	18.40	-3.7296	0.0002
Piperacillin-tazobactam	18.75	13.83	10.96	17.81	8.24	16.00	14.11	-0.5498	0.5824
Amikacin	21.88	10.64	41.10	5.48	8.24	8.00	9.41	-2.3547	0.0185
Meropenem	0	0	0	0	7.06	5.00	2.25	3.5001	0.0005
Imipenem	0	0	0	1.37	3.53	6.00	2.04	3.4180	0.0006

Table S-II

Differences in resistance rates between ESBL-*K. pneumoniae* and ESBL-negative *K. pneumoniae*.

Antimicrobial agent	ESBL+ (n = 489)		ESBL- (n = 2922)		χ^2	p
	n	%	n	%		
Cefuroxime	440	89.98	1179	40.35	413.7927	< 0.0001
Ceftriaxone	428	87.53	1143	39.12	395.1121	< 0.0001
Ampicillin-sulbactam	414	84.66	1182	40.45	328.8657	< 0.0001
Trimethoprim-sulfamethoxazole	405	82.82	1327	45.41	234.5313	< 0.0001
Gentamicin	316	64.62	1008	34.50	160.0691	< 0.0001
Cefotaxime	463	94.68	2050	70.16	129.9096	< 0.0001
Cefoxitin	90	18.40	1212	41.48	94.4956	< 0.0001
Amikacin	46	9.41	745	25.50	60.8788	< 0.0001
Cefepime	220	44.99	827	28.30	54.8335	< 0.0001
Piperacillin-tazobactam	69	14.11	832	28.47	44.4607	< 0.0001
Nitrofurantoin	322	65.85	1673	57.26	12.7406	0.0004
Meropenem	11	2.25	158	5.41	8.8702	0.0029
Levofloxacin	182	37.22	902	30.87	7.7899	0.0053
Imipenem	10	2.04	130	4.45	6.1509	0.0131
Ampicillin	489	100.00	2901	99.28	3.5361	0.0600

Table S-III

The resistance rates of ESBL-*E. coli* to 15 antimicrobial agents in the years 2011 to 2016.

Antimicrobial agent	2011 n = 119	2012 n = 278	2013 n = 254	2014 n = 225	2015 n = 256	2016 n = 265	Total n = 1397	χ^2	<i>p</i>
Ampicillin	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
Cefotaxime	94.96	98.56	98.03	98.67	100.00	100.00	98.71	3.8298	0.0001
Cefuroxime	95.60	98.56	97.24	98.67	100.00	100.00	98.64	3.5471	0.0004
Ceftriaxone	95.60	98.20	96.46	98.67	98.44	100.00	98.14	2.8061	0.005
Ampicillin-sulbactam	93.28	83.81	72.09	83.11	75.78	78.11	91.12	-2.3705	0.0178
Trimethoprim-sulfamethoxazole	94.12	94.96	84.25	85.33	76.17	75.09	84.32	-7.1674	< 0.0001
Levofloxacin	80.67	78.42	77.17	80.00	84.38	75.09	79.10	-0.1888	0.8503
Gentamicin	81.51	71.22	66.54	67.56	60.55	64.91	67.50	-3.528	0.0004
Cefepime	67.23	74.10	59.06	54.67	46.88	62.26	60.42	-4.1237	< 0.0001
Ceftazidime	6.72	5.40	58.27	59.11	52.78	52.83	41.45	12.4028	< 0.0001
Nitrofurantoin	21.85	26.62	14.96	13.78	10.94	9.43	15.89	-5.6806	< 0.0001
Cefoxitin	26.89	17.63	19.69	11.56	6.25	1.13	12.60	-8.6804	< 0.0001
Amikacin	24.37	15.88	7.48	5.67	10.94	9.81	11.52	-3.6337	0.0003
Piperacillin-tazobactam	7.56	8.63	3.54	4.89	3.91	4.91	5.44	-1.9906	0.0465
Imipenem	0	1.08	3.15	0.44	0	0.38	0.93	-1.4577	0.1449
Meropenem	0	0	0	0.89	0	1.13	0.36	2.0412	0.0412

Table S-IV
Differences in resistance rates between ESBL-*E. coli* and ESBL-negative *E. coli*.

Antimicrobial agent	ESBL+ (n = 1397)		ESBL- (n = 1387)		χ^2	<i>p</i>
	n	%	n	%		
Ceftriaxone	1371	98.14	463	33.38	1298.3713	< 0.0001
Cefuroxime	1378	98.64	499	35.98	1244.2083	< 0.0001
Ampicillin-sulbactam	1273	91.12	660	47.58	621.6415	< 0.0001
Cefepime	844	60.42	331	23.86	381.1887	< 0.0001
Ampicillin	1397	100.00	1092	78.73	332.3428	< 0.0001
Cefotaxime	1379	98.71	926	66.76	298.7039	< 0.0001
Levofloxacin	1105	79.10	763	55.01	182.9129	< 0.0001
Ceftazidime	579	41.45	291	20.98	135.6820	< 0.0001
Piperacillin-tazobactam	76	5.44	278	20.04	133.7268	< 0.0001
Cefoxitin	176	12.60	414	29.85	124.0053	< 0.0001
Gentamicin	943	67.50	705	50.83	80.0970	< 0.0001
Trimethoprim-sulfamethoxazole	1178	84.32	1039	74.91	38.0287	< 0.0001
Meropenem	5	0.36	20	1.44	9.1907	0.0024
Imipenem	13	0.93	30	2.16	6.9511	0.0084
Nitrofurantoin	222	15.89	248	17.88	1.9625	0.1612
Amikacin	161	11.52	139	10.02	1.6354	0.201

Table S-V

The resistance rates of MRSA to 15 antimicrobial agents in the years 2011 to 2016.

Antimicrobial agent	2011 n = 51	2012 n = 106	2013 n = 74	2014 n = 92	2015 n = 114	2016 n = 169	Tot5al n = 606	χ^2	<i>p</i>
Penicillin	100	100	100	100	100	99.41	99.83	-1.664	0.2435
Cefoxitin	100	100	100	94.57	98.25	96.45	97.85	-2.266	0.0235
Erythromycin	100	97.17	94.59	89.13	94.74	92.9	94.22	-1.9743	0.0483
Azithromycin	96.08	96.23	94.59	90.22	92.98	86.39	91.75	-3.0374	0.0024
Clarithromycin	92.16	96.23	93.24	89.13	75.44	78.11	85.48	-5.1011	< 0.0001
Norfloxacin	82.35	91.51	94.59	80.43	74.56	69.82	80.2	-4.7688	< 0.0001
Clindamycin	82.35	87.74	85.14	68.48	70.18	74.56	77.06	-3.0173	0.0026
Levofloxacin	80.39	89.62	91.89	77.17	72.81	63.31	76.73	-5.3216	< 0.0001
Trimethoprim-sulfamethoxazole	86.27	96.23	62.16	78.26	79.82	62.72	76.07	-4.9851	< 0.0001
Moxifloxacin	78.43	83.02	89.19	76.09	74.56	62.72	75.08	-4.1356	< 0.0001
Gentamicin	84.31	86.79	77.03	66.3	57.02	56.8	68.32	-6.2683	< 0.0001
Tetracycline	72.55	69.81	66.22	59.78	52.63	57.99	61.55	-2.9512	0.0032
Rifampicin	62.75	57.55	63.51	41.3	35.96	23.67	42.74	-7.2335	< 0.0001
Nitrofurantoin	31.37	25.47	29.73	9.78	10.53	12.43	17.66	-4.5366	< 0.0001
Teicoplanin	17.65	16.04	9.46	8.7	1.75	3.55	8.09	-4.8317	< 0.0001

Table S6. Differences in resistance rates between MRSA and MSSA

Antimicrobial agent	MRSA (n = 606)		MSSA (n = 824)		χ^2	<i>p</i>
	n	%	n	%		
Cef6oxitin	593	97.85	206	25.00	751.7543	< 0.0001
Moxifloxacin	455	75.08	227	27.55	316.27	< 0.0001
Rifampicin	259	42.74	43	5.22	295.0969	< 0.0001
Levofloxacin	465	76.73	259	31.43	286.6825	< 0.0001
Norfloxacin	486	80.20	305	37.01	263.447	< 0.0001
Gentamicin	414	68.32	231	28.03	228.8479	< 0.0001
Clindamycin	467	77.06	372	45.15	146.7008	< 0.0001
Tetracycline	373	61.55	271	32.89	115.895	< 0.0001
Penicillin	605	99.83	692	83.98	104.0504	< 0.0001
Erythromycin	571	94.22	605	73.42	103.4449	< 0.0001
Azithromycin	556	91.75	586	71.12	92.4247	< 0.0001
Clarithromycin	518	85.48	563	68.33	55.6904	< 0.0001
Nitrofurantoin	107	17.66	59	7.16	37.4952	< 0.0001
Teicoplanin	49	8.09	20	2.43	24.3473	< 0.0001
Trimethoprim-sulfamethoxazole	461	76.07	564	68.45	10.0035	0.0016