

Supplementary material

LABORATORY ANALYSIS OF NON-INVASIVE ISOLATES

ENTEROBACTERALES

All seven isolates (five *K. pneumoniae* and two *E. coli*) were uniformly resistant to amoxicillin, expanded-spectrum cephalosporins or ESC (ceftazidime, cefotaxime, ceftriaxone) and all except one (86%) to amoxicillin/clavulanate, cefepime, gentamicin and ciprofloxacin. Moderate resistant rates of 57% (n=4) were observed for piperacillin/tazobactam, imipenem, meropenem and ertapenem (all *K. pneumoniae*). Resistance to colistin was observed in three *K. pneumoniae* isolates (43%). All isolates exhibited positive double-disk synergy test and inhibitor based test with clavulanic acid indicating ESBL production. CIM and Hodge tests were positive in four carbapenem resistant *K. pneumoniae* isolates being suspicious for carbapenemase production.

Four *K. pneumoniae* isolates transferred ertapenem resistance to *E. coli* recipient strain with the frequency ranging from 1.7×10^{-5} to 7.6×10^{-3} . Resistance to non- β -lactam antibiotics was not cotransferred alongside with ertapenem resistance. Four *K. pneumoniae* isolates tested positive for *bla*_{OXA-48} and *bla*_{CTX-M-15} genes while two *E. coli* and one *K. pneumoniae* yielded product only with primers specific for *bla*_{CTX-M-15} genes. *bla*_{OXA-48} genes were found also in the respective transconjugant strains. IS1999 preceded *bla*_{OXA-48} genes.

*bla*_{OXA-48} genes were carried by IncL plasmid whereas IncFIIIs was found as additional plasmid in *K. pneumoniae* isolates, but was not found in the transconjugant plasmids.

Results are shown in Supplementary Table S1.

All patients with invasive infections due to *A. baumannii* had also the same strain with identical resistance patterns in surveillance cultures (nasopharyngeal swab, throat swab, axill swab, stool, rectum swab). The non-invasive isolates were not further analysed.

GRAM-POSITIVE BACTERIA

The urinary MRSA isolate exhibited resistance to penicillin, oxacillin, cotrimoxazole and ciprofloxacin but remained susceptible to gentamicin, vancomycin, teicoplanin and linezolid as shown in Supplementary Table S2.

The both VRE isolates exhibited susceptibility to linezolid and daptomycin only (Supplementary Table S3).

Strain	specimen	Category	ESBL	Hodge/ CIM	AMX	AMC	TZP	CAZ	CTX	CRO	FEP	IPM	MEM	ERT	GM	CIP	COL	BL
<i>K. pneumoniae</i> 5379	Wound swab	XDR	+	++	>128	>128	>128	>128	>128	>128	32	128	>128	R	32	16	16	OXA-48 CTX-M-15
<i>K. pneumoniae</i> 308504	urine	MDR	+	++	>128	>128	>128	>128	>128	>128	64	8	16	R	16	64	1	OXA-48 CTX-M-15
<i>K. pneumoniae</i> 20525	Rectum swab	XDR	+	++	>128	>128	>128	>128	>128	>128	32	128	128	R	64	128	32	OXA-48 CTX-M-15
<i>K. pneumoniae</i> 4836	urine	XDR	+	++	>128	>128	>128	64	>128	>128	16	16	16	R	32	32	4	OXA-48 CTX-M-15
<i>K. pneumoniae</i>	urine	MDR	+	--	>128	>128	>128	64	>128	>128	16	0,25	0,12	S	16	32	0,5	CTX-M-15
<i>E. coli</i> 1993	Throat swab	MDR	+	--	>128	32	8	32	>128	>128	16	0.5	0.12	S	16	2	0.25	CTX-M-15
<i>E. coli</i> 12895	urine	MDR	+	-.	>128	16	16	>128	>128	>128	32	2	0.25	S	2	32	0.12	CTX-M-15

Supplementary Table S1. Minimum inhibitory concentrations, susceptibility category, phenotypic tests for beta-lactamase detection and β -lactamase content of Enterobacterales isolates.

Abbreviations: AMX-amoxycillin; AMC-amoxycillin/clavulanic acid; TZP-piperacillin/tazobactam; CAZ-ceftazidime; CTX-cefotaxime; CRO- ceftriaxone; FEP-cefepime; IMI-imipenem; MEM-meropenem; ERT-ertapenem; GM-gentamicin; CIP-ciprofloxacin; COL-colistin; ESBL-inhibitor based test with clavulanic acid for detection of extended-spectrum beta-lactamases; Amp-C-inhibitor based test with phenylboronic acid for detection of AmpC beta-lactamases; BL-beta-lactamase content; CIM-carbapenem inactivation method

	PROTOCOL NUMBER	Date	SPECIMEN	PEN	OX	SXT	RIF	GM	CIP	VAN	TEIC	LZD
4	318442	31.12. 2020.	URINE	R	R	S	S	S	R	S (0.5)	S (0.5)	S

Supplementary Table S2. Antibiotic susceptibility of methicillin-resistant *Staphylococcus aureus* (MRSA)

Abbreviations: Pen-penicillin; OX-oxacillin; SXT: sulphamethoxazole/trimethoprim; RIF-rifapicin; GM- gentamicin; CIP-ciprofloxacin; VAN-vancomycin; TEIC-teicoplanin; LZD-linezolid; for vancomycin and teicoplanin MIC value is shown; ETA-endotracheal aspirate; BC-blood culture

	Protocol number	SPECIMEN	AMP	VAN	TEIC	LZD
1	174596	STOOL	R	R (128)	R (128)	S
2	5379	WOUND	R	R (128)	R (128)	S
		SWAB	R	R (128)	R (128)	S

Supplementary Table S3. Antibiotic susceptibilities of vancomycin resistant *Enterococcus faecalis* (VRE) isolates

Abbreviations: AMP-ampicillin; VAN-vancomycin; TEIC-teicoplanin; for vancomycin and teicoplanin MIC value is shown; LZD-linezolid