antibiotics

MDPI

Supplementary Materials

Growth rate of *Escherichia coli* during Human Urinary Tract Infection: Implications for Antibiotic Effect

Maria Schei Haugan [1,2], Frederik Boëtius Hertz [3], Godefroid Charbon [2], Berivan Sahin [1], Anders Løbner-Olesen [2,*] and Niels Frimodt-Møller [1,*]

[1] Department of Clinical Microbiology, Rigshospitalet, 2100, Copenhagen, Denmark
[2] Department of Biology, University of Copenhagen, 2100, Copenhagen, Denmark
[3] Department of Clinical Microbiology, Herlev Hospital, 2730, Herlev, Denmark
* Correspondence: niels.frimodt-moeller@regionh.dk

Table S1. Overview of all included urine samples, patient characteristics and bacterial growth rate.

Patient no.	Urine sample (-day no.)	*ori:ter*	*E. coli* quantity (log_{10} CFU/ml)	*E. coli* mono-culture (Y/N)	Urethral catheter at urine sampling (Y/N)	Blood culture *E. coli* pos. (Y/N)	Age (yrs)	Sex (F/M)	No. of symptom days[a]	Urine leucocytes (10^6/L)	UTI (Y/N)[b]	Antibiotic treatment (susceptibility, if applicable) before relevant urine sampling[c]	Regrowth on selective agar plate (Y/N)
1	1-0	1.1	5	Y	Y	Y	78	F	1	125	Y[f]	p.o. TMP(S) (prophylaxis)	Y
	1-1	1.5			Y							p.o. PMC(R), i.v. TZP(R), i.v. MTZ, i.v. CXM(S)	N
	1-2	1.9			Y							i.v. CXM(S)	N
2	2-0	1.1	5	N	N	N	50	F	4	15	Y	None	Y
	2-1	NA			N							i.v. AMP(R), i.v. GEN(S), p.o. AMX(R)	N
	2-2	NA			N							p.o. AMX(R)	N
3	3-0	2.2	5	Y	N	N	79	F	1	15	Y	None	Y
4	4-0	2.2	3[e]	N	N	N	74	F	NR	NA	N	None	Y
	4-1	NA			N							None	N
	4-2	NA			N							None	N
	4-3	NA			N							None	N
5	5-0	2.1	5	Y	N	Y	91	F	1	125	Y[f]	None	Y
	5-1	NA			N							p.o. MEC(S), i.v.AMP(R), GEN(S)	N
	5-2	NA			N							i.v. TZP(S)	N
	5-3	NA			N							i.v. TZP(S)	N
6	6-0	1.4	5	Y	Y	N	79	F	1	NA	Y	None	Y
	6-1	3.9			Y							p.o. TMP(S), CLR	Y
	6-2	3.4			Y							p.o. TMP(S), CLR	Y
	6-3	NA			N							p.o. TMP(S), CLR	N
7	7-0	3.0	5	Y	N	N	29	F	14	70	Y	None	Y
	7-1	NA			N							i.v. AMP(S), GEN(S)	N
	7-2	NA			N							i.v. AMP(S), GEN(S)	N
8	8-0	1.4	5	Y	N	NA	88	F	NR	70	N	None	Y
	8-1	3.4			N							None	Y
9	9-0	1.7	5	Y	Y	Y	92	F	NA	70	Y[f]	None	Y
	9-1	1.2			Y							i.v. AMP(R), GEN(S), i.v. PEN	Y
	9-2	1.1			Y							i.v. TZP(S)	Y
	9-3	1.2			Y							i.v. TZP(S)	Y
10	10-0	1.1	3	Y	N	N	63	F	NR	NA	N	i.v. PEN	Y
	10-1	1.7			N							i.v. PEN	Y
	10-2	1.6			N							p.o. AMC(S)	N
	10-3	1.6			N							p.o. AMC(S)	N
11	11-0	2.8	5	N	N	N	69	M	4	70	Y	None	Y
	11-1	NA			N							p.o. MEC(R)	Y
	11-2	1.8			N							i.v. TZP(S)	Y
12	12-0	1.2	5	N	N	NA	99	F	3	70	Y	None	Y
	12-1	1.7			N							None	Y
13	13-0	1.7	5	N	Y	N	78	F	1	< 15	Y	None	Y
14	14-0	1.6	3	N	Y	N	56	F	NR	NA	N	i.v. GEN(S) (prophylaxis)	Y
15	15-0	2.6	4[e]	Y	N	NA	56	F	0	NA	Y	i.v. TZP(S) (prophylaxis)	Y
	15-1	NA			Y							None	N
16	16-0	1.0	5	Y	Y	N	84	F	NA	500	Y	None	Y
	16-1	NA			Y							i.v. TZP(S)	Y
	16-2	NA			Y							i.v. TZP(S)	Y
	16-3	NA			Y							p.o. MEC(R), i.v. CXM(S)	N
17	17-0	1.1	5	N	Y	N	84	M	1	70	Y	None	Y
18	18-0	1.0	5	Y	N	NA	82	F	NA	70	Y	None	Y
	18-1	2.1			N							p.o. TMP(R)	Y
19	19-0	2.7	5	Y	N	N	78	M	NR	70	N	None	Y
	19-1	1.1			Y							i.v. TZP(S), MTZ	Y
20	20-0	1.3	5	Y	Y	N	69	F	NR	< 15	N	None	Y
	20-1	2.8			Y							i.v. TZP(S)	N
	20-2	1.0			Y							i.v. TZP(S)	N
21	21-0	1.0	5	N	Y	N	93	M	14	500	Y	None	Y
	21-1	1.2			Y							None	Y
	21-2	1.5			Y							None	Y
22	22-0	1.2	5	Y	N	N	91	F	1	< 15	Y	None	Y
	22-1	1.0			N							p.o. MEC(S)	N
23	23-0	NA	5	N	N	Y	94	F	NA	500	Y[f]	None	Y
	23-1	NA			N							i.v. AMP(R), GEN(S)	Y
24	24-0	2.2	5	Y	N	NA	88	M	4	500	Y	None	Y
	24-1	2.0			N							None	Y
25	25-0	1.8	5	N	N	N	60	F	2	70	Y	None	Y
	25-1	1.9			N							i.v. AMP(R), GEN(S)	Y
26	26-0	1.6	5	N	N	N	61	M	NR	NA	N	None	Y
	26-1	2.1			N							None	Y
27	27-0	2.2	5	Y	Y	Y	83	F	2	15	Y	None	Y
	27-1	NA			Y							i.v. TZP(S), MTZ, CLR	N
28	28-0	1.4	5	N	Y	N	82	M	NA	70	NA	None	Y
	28-1	1.3			Y							i.v. TZP(R), MTZ, CLR	Y
29	29-0	1.6	5	N	N	N	88	F	NR	NA	N	None	Y
	29-1	NA			N							p.o. CLR, p.o. MXF(S)	N

[a] No of symptom days (if any) before collection of day 0 urine sample. [b]Patient defined as having UTI or not by the clinician (based on a combination of symptoms, clinical and paraclinical findings). [c]Any antibiotic given during observation period (for either UTI or other infection). [d]Patient recovery within observation period as defined by the clinician (based on a combination of symptoms, clinical and paraclinical findings). [e]ESBL positive isolate. [f]Urosepsis. NA: not available; NR: not relevant (no UTI symptoms). AMX: amoxicillin; AMC: amoxicillin-clavulanic acid; AMP: ampicillin; CXM: cefuroxime; CLR: clarithromycin; GEN: gentamicin; MTZ: metronidazole; MOX: moxifloxacin; PEN: penicillin; TZP: piperacillin-tazobactam; PMC: pivmecillinam; TMP: trimethoprim.

Table S2. Primers used in qPCR.

Name	Primer Sequence (5'-3')	Amplicon Size (bp)	Reference
ori FW#1	CTGTGAATGATCGGTGATCC	134	[37]
ori RV#1	GTGGATAACTCTGTCAGGAAGCTTG		
ter FW#1	AACTACGCGGGAAATACCC	175	[37]
ter RV#1	TATCTTCCTGCTCAACGGTC		
ori FW#2	CGCAACAGCATGGCGATAAC	164	[38]
ori RV#2	TTCGATCACCCCTGCGTACA		
ter FW#2	TCAACGTGCGAGCGATGAAT	144	[38]
ter RV#2*	TTGAGCTGCGCTTCATCGAG		

* Original primer modified by 2 bp changes for optimized use in pathogenic *E. coli.*