

P2468 **Detection of *mcr-1* in *Escherichia coli* recovered from bloodstream infections in Russia: multicentre study**

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Background: The goal of the study was to evaluate susceptibility for colistin among *Enterobacteriaceae* isolates and to determine plasmids carrying the *mcr* genes.

Materials/methods: Susceptibility testing of *Enterobacteriaceae* isolated from blood culture in hematological patients in 11 Russian hospitals (2003 - 2015) was performed by the broth microdilution method. Interpretation was according to EUCAST (2017). Isolates with colistin MICs > 2 mg/L were considered as resistant. Isolates with acquired resistance to colistin (MIC > 2 mg/L) were submitted for a PCR targeting *mcr - 1*, *mcr - 2*, *mcr - 3*, *mcr - 4*, *mcr - 5* genes. Sequencing was performed for isolates harboring *mcr* genes.

Results: A total of 1185 *Enterobacteriaceae* (*Escherichia coli* 622, *Klebsiella pneumoniae* 336, *Enterobacter* spp. 133, *Salmonella* spp. 34, other 60) were tested for susceptibility against colistin. There were 104 (8.8%) colistin-resistant isolates of those 34 (2,8%) had intrinsic resistance to colistin (*Serratia* spp. 19, *Proteus mirabilis* 11, *Morganella morganii* 3, *Providencia* spp. 1) and 70 (6%) had acquired resistance to colistin (*Salmonella* spp. 27, *Enterobacter* spp. 20, *K. pneumonia* 16, *E. coli* 7). *In vitro* activity of colistin against *Enterobacteriaceae* with the exception of isolates with intrinsic resistance is presented in Table. Among colistin-resistant strains the one *E. coli* (colistin MIC 4 mg/L) was positive for *mcr 1* which was isolated in August 2015. The isolate carrying *mcr-1* was susceptible to various antimicrobial classes.

Table. *In vitro* activity of colistin against *Enterobacteriaceae*

Microorganisms	n	Colistin MIC (mg/L)		MIC ₅₀	MIC ₉₀
		≤2, n (%)	>2, n(%)		
<i>Escherichia coli</i>	622	615 (99)	7 (1)	0.032	0.25
<i>Klebsiella pneumoniae</i>	336	320 (95)	16 (5)	0.125	0.5
<i>Enterobacter cloacae</i>	116	99 (85)	17 (15)	0.064	16
<i>Salmonella</i> spp.	34	7 (21)	27 (79)	4	8
<i>Klebsiella oxytoca</i>	16	16 (100)	0	0.064	0.25
<i>Enterobacter</i> spp.	17	14 (82)	3 (18)	0.064	8
Other	10	10 (100)	0	0.064	0.25

Conclusions: Acquired resistance to colistin was 6% among *Enterobacteriaceae* isolates of bloodstream infection in hematological patients. One *E.coli* isolate was carrying *mcr-1*. To the best of our knowledge this is first report of *mcr-1* positive isolate in Russia.