

**P0935 Spread of international clone II *bla*<sub>OXA-23</sub>-like-carrying *Acinetobacter baumannii* isolated from blood culture in haematological patients in Russia**

Svetlana Khrulnova\*<sup>1</sup>, Anna Korobova<sup>1</sup>, Anastasia Fedorova Mironova<sup>1</sup>, Irina Frolova<sup>1</sup>, Yulia Savochkina<sup>2</sup>, Galina Klyasova<sup>1</sup>

<sup>1</sup> National Research Center for Hematology, Moscow, Moscow, Russian Federation, <sup>2</sup> Central Research Institute of Epidemiology, Moscow, Russian Federation

**Background:** *Acinetobacter baumannii* is an opportunistic bacterial pathogen, which can cause a wide range of hospital-acquired infections, particularly in immunocompromised patients. The aim of this study was to investigate clonal diversity of *A.baumannii* isolated from blood culture in hematological patients.

**Materials/methods:** Prospective multicenter study included *A.baumannii* isolated from blood culture in hematological patients in 7 Russian hospitals (2003-2017). Minimum inhibitory concentration for meropenem and imipenem were determined by broth microdilution method (CLSI, 2017). All *A.baumannii* isolates were investigated by multiplex real-time PCR for presence of acquired carbapenemase genes (*bla*<sub>OXA-23</sub>-like, *bla*<sub>OXA-24/40</sub>-like, *bla*<sub>OXA-58</sub>-like, *bla*<sub>NDM</sub>-like, *bla*<sub>VIM</sub>-like and *bla*<sub>IMP</sub>-like). Two multiplex PCRs were performed to selectively amplify group 1 or group 2 alleles of the *ompA*, *csuE*, and *bla*<sub>OXA-51</sub>-like. Isolates were assigned to sequence groups (G1-G14) according to allelic profiles.

**Results:** A total of 96 *A.baumannii* were examined of those 77 (80.2%) were non-susceptible to meropenem and/or imipenem. Genes of acquired carbapenemases were detected in 79.2% (61/77) carbapenem non-susceptible isolates. The prevalent carbapenemases genes were *bla*<sub>OXA-24/40</sub>-like (28/61; 45.9%) and *bla*<sub>OXA-23</sub>-like (28/61; 45.9%), followed by *bla*<sub>OXA-58</sub>-like (4/61; 6.6%), co-harboring *bla*<sub>OXA-24/40</sub>-like and *bla*<sub>OXA-23</sub>-like (1/61; 1.6%). During the study period the rate of *bla*<sub>OXA-23</sub>-like-carrying *A.baumannii* increased from 30% (2003-2010) up to 53.7% (2011-2017), whereas *A.baumannii* harboring *bla*<sub>OXA-24/40</sub>-like decreased from 50% (2003-2010) to 43.9% (2011-2017). Majority of *A.baumannii* carrying acquired carbapenemases genes (62.3%) belonged to G1 group (international clone II, ICII) (Table). ICII isolates harboring *bla*<sub>OXA-23</sub>-like were not detected during 2003-2010 whereas in 2011-2017 ICII *A.baumannii* carrying *bla*<sub>OXA-23</sub>-like accounted for 86.4%.

**Conclusions:** This study revealed that 79.2% carbapenem non-susceptible *A.baumannii* carried acquired carbapenemases genes. Majority of *A.baumannii* harboring acquired carbapenemases genes belonged to ICII which are widespread in the world. The increase of ICII *A.baumannii* harboring *bla*<sub>OXA-23</sub>-like was observed for last years (2011-2017).

**Table. Distribution of sequence group among *A.baumannii* carrying acquired carbapenemases genes.**

Sequence groups	OXA-24/40-like, n=28		OXA-23-like, n=28		OXA-58-like, n=4		OXA-24/40+OXA-23-like, n=1		Total, n
	2003-2010	2011-2017	2003-2010	2011-2017	2003-2010	2011-2017	2003-2010	2011-2017	
	n=10	n=18	n=6	n=22	n=4	n=0	n=0	n=1	
<b>G1 (ICII)</b>	7 (70%)	11 (61.1%)	0	19 (86.4%)	0	0	0	1	38 (62.3%)
<b>G2 (ICI)</b>	0	0	1 (16.7%)	0	0	0	0	0	1 (1.6%)
<b>G4</b>	2 (11.1%)	0	0	0	3 (75%)	0	0	0	5 (8.2%)
<b>G7</b>	0	1 (5.6%)	0	0	0	0	0	0	1 (1.6%)
<b>G8</b>	3 (30%)	0	0	0	0	0	0	0	3 (4.9%)
<b>G9</b>	0	0	0	3 (13.6%)	0	0	0	0	3 (4.9%)
<b>G12</b>	0	0	5 (83.3%)	0	1 (25%)	0	0	0	6 (9.8%)

Table\_OXA-G1

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