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Abstract (eposter session)

Antibiotic-susceptibility and carbapenemase-production of invasive isolates of *Acinetobacter baumannii* from Croatia

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Objectives: The aim of the study was to characterize the carbapenem resistance and to compare the genotypes of the invasive *Acinetobacter baumannii* isolates collected in the multicenter study in Northern Croatia and Istria conducted in 2009. **Methods:** Out of 185 isolates collected from 13 centers in Northern Croatia and Istria 26 isolates from invasive infections (bloodstream or cerebrospinal fluid infections) were selected for this study. Antibiotic susceptibilities were determined by broth microdilution. Genes encoding OXA-23, OXA-24/40, OXA-51, OXA-58, OXA-143-like carbapenem-hydrolyzing oxacillinases in addition to metallo-beta-lactamases (MBLs) of VIM, IMP and SIM series, and PER-1 and TEM-1 beta-lactamases were detected by PCR and when needed identified by sequencing. Presence of ISAbal upstream of blaOXA-51 gene was detected by PCR mapping. Sequence groups (SG) corresponding to ICL I-III were determined by multiplex PCR and genotyping of the strains was performed by pulsed-field gel electrophoresis (PFGE). **Results:** Nine strains were found to possess acquired oxacillinase ; five belonging to OXA-24/40 group, three to OXA-23 and one to OXA-58 group. These strains were uniformly resistant to imipenem, meropenem, piperacillin, cefotaxime, ceftriaxone, gentamicin and ciprofloxacin. The strains were in high percentage resistant to ceftazidime, cefepime and ampicillin/sulbactam but no resistance to colistin was observed. These strains originated from Zagreb, belonged to sequence group 1 (ICL II) and according to PFGE belonged to three major clones. The sequencing of blaOXA-51-like gene revealed the presence of blaOXA-66 gene. The remaining 17 isolates possessed only the naturally occurring OXA-51 beta-lactamase which was upregulated by ISAbal located upstream of blaOXA-51 gene in 14 strains. All but three of these strains were susceptible or intermediate susceptible to imipenem and meropenem but had higher carbapenem MICs compared to ISAbal negative strains. The majority of these strains originated from General Hospital Pula and belonged to SG 2 (ICL I) while PFGE identified two major clones (>85% similarity). The sequencing of blaOXA-51-like gene revealed the presence of blaOXA-69 and blaOXA-107 genes. **Conclusions:** The study revealed high prevalence of acquired oxacillinases associated with high level of resistance to carbapenems among invasive isolates of *A. baumannii* from Croatia. High diversity of acquired oxacillinases was noticed.