

POSTER PRESENTATION

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Molecular characteristic of imipenem-resistant *Pseudomonas aeruginosa* isolated from urinary tract infections in Southern Poland

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Introduction

Carbapenem-resistant *Pseudomonas aeruginosa* (PAR) has become a serious health problem worldwide. It is essential to understand its epidemiology as it may help to control the antibiotic resistance.

Objectives

To analyze the molecular characteristics of carbapenem-resistant PAR in urinary tract infections in Southern Poland.

Methods

Antimicrobial susceptibility testing was performed. Metallo-beta-lactamases were detected. Multidrug-resistant (MDR) was non-susceptible to one antimicrobial in ≥ 3 antimicrobial classes. Extensively-drug resistant strain (XDR) was susceptible to ≤ 2 antimicrobial classes. MLST was performed (Curran et al ,2004).

Results

The median (Q1;Q3) age was 60 years (54;69), 33.3% were females. Among 183 urine samples contained *P. aeruginosa*, 21 imipenem-non-susceptible strains were included for further analysis. MIC50 for imipenem was 12.0 mg/l. Eighteen strains (86.0%) were resistant to meropenem (MIC50=8.0 mg/l). Sixteen strains (76.0%) were resistant to doripenem. Based on the EDTA-assay, 9 (42.8%) MBL-positive isolates were identified. VIM-2 was present in three isolates. No isolates with SPM nor IMP, SIM, GIM were detected. Three (14.2%) isolates were classified as MDR, 8 as XDR (38%). MDR/XDR

strains were found more often among polymicrobial infections than monomicrobial ($p=0.042$, $OR=0.093$, 95% CI 0.0085-1.00). Eight XDR strains were designated to MLST typing scheme. Four strains belonged to ST235, two strains to ST 260. The remaining two strains belonged to ST654 or ST234, respectively.

Conclusion

This study indicated the emergence of MDR and XDR strains producing MBL. A high prevalence of imipenem-resistant strains and MBL is a critical problem and a therapeutic challenge for clinicians. Continuous surveillance is necessary to detect the presence of MBL-producing strains. No 2012/05/N/NZ7/00786.

Disclosure of interest

None declared.

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