

P0658 **Carbapenemase-producing Enterobacteriaceae bloodstream infections in a Tunisian intensive care unit between 2009 and 2015**

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**Background:** Blood stream infections (BSIs) due to carbapenemase-producing Enterobacteriaceae (CPE) are associated with high hospital mortality rates and present a tremendous challenge to clinicians. Our study aimed to determine the clinical and microbiological features of CPE-BSI in the in a Tunisian intensive care unit (ICU) between 2009 and 2015.

**Materials/methods:** This study includes retrospective case series of BSI infections caused by CPE in the ICU of Habib Bourguiba University Hospital, Sfax, Tunisia from 2009 to 2015. Antibiotic susceptibility testing was performed by disk diffusion method according to the EUCAST. Clonality was assessed by repPCR. Antibiotic resistance genes were determined by PCR-sequencing and plasmid analysis included conjugation and PCR incompatibility replicon typing. Demographic and clinical characteristics were collected from medical records.

**Results:** Between 2009 and 2015, 74 cases of CPE-BSIs occurred in ICU 73 patients: 1 (2009), 4 (2010), 6 (2011), 7 (2012), 9 (2013), 17 (2014) and 30 (2015). The overall incidence rate of CPE-BSI in the ICU increased significantly from 0.3 in 2009 to 9.8 per 100 admissions in 2015. *Klebsiella pneumoniae* was the primarily isolated specie (90%). MIC50/MIC90 values for imipenem were 2/8 mg/l. Coresistance rates were as follows: ciprofloxacin, 93%; amikacin, 38%; fosfomycin, 23%; colistin, 16%; and tigecyclin, 9,8%. *K. pneumoniae* showed high diversity of rep-PCR patterns. The *bla*<sub>OXA-48</sub> gene was detected in 55 isolates (74%) followed by the *bla*<sub>NDM-1</sub> gene, 20 (27%) and the *bla*<sub>VIM-1</sub> gene, 1 (1%). 47 *bla*<sub>OXA-48</sub> were carried on the Inc L/M plasmid, 8 *bla*<sub>OXA204</sub> were co-carried with *bla*<sub>CMY-4</sub> on IncA/C plasmids whereas *bla*<sub>NDM-1</sub> were carried on different replicons.

The mean patient age was 48 years and the sex-ratio 2.7. The onset of BSI followed ICU admission by mean of 16 days. The most common sources of bacteraemia were the lungs (12 cases), central venous catheters (11 cases). The most common regimen was carbapenem + colistin. The overall mortality, 54 %, was significantly associated with septic shock and higher SOFA scores at infection onset (P< 0.05).

**Conclusions:** The present study provides insights into the epidemiology and clinical challenges of treating CPE-BSIs and confirms the rapid spread of OXA-48 and NDM carbapenemases in Tunisia.