

P1293 Incidence of carbapenemase-producing *Enterobacteriaceae* in a Tunisian hospital (2009-2017)

Basma Mnif¹, Nesrine Sallem¹, Abir Ben Hmid¹, Noura Ben Mansour¹, Faouzia Rhimi¹, Nour Ben Ayed¹, Adnene Hammami¹

¹ Laboratory of Microbiology; Habib Bourguiba University Hospital, Sfax, Tunisia

Background: Carbapenemase-producing Enterobacteriaceae are increasingly reported worldwide. The aim of the study was to determine the incidence and molecular epidemiology of carbapenemase-producing Enterobacteriaceae (CPE) in a Tunisian hospital between 2009 and 2017.

Materials/methods: The study included all Enterobacteriaceae strains isolated from clinical samples in Habib Bourguiba University hospital, Sfax Tunisia, from 2009 to 2017. All strains non-susceptible to carbapenems were tested for carbapenemase production by phenotypic methods and PCR. The incidence of CPE isolates was calculated per 1000 patient-days.

Results: Between 2009 and 2017, carbapenemases were detected in 664 Enterobacteriaceae strains (4,48%) increasing from 19 in 2009 to 118 in 2017. 447 strains produced OXA-48-like carbapenemases (67%), 197 NDM (30%), 18 OXA-48+NDM (3%) and 2 VIM. OXA-48-like carbapenemases were predominant in 2009 (100%) and NDM in 2017 (60%).

Klebsiella pneumoniae was the most frequent (n= 524, 81.3%) species followed by *Enterobacter* spp. (n= 36, 5.6%), *Escherichia coli* (n= 32, 4.9%), *Providencia stuartii* (n= 27, 4.2%) and *Proteus mirabilis* (n= 4,0%). The incidence of carbapenemase increased significantly in *K. pneumoniae* from 4,48% in 2009 to 26,34% in 2017. The CPE were isolated mainly from urine (37%), pus (21%), blood (20%) and respiratory samples (16%). Co-resistance rates were less than 20% only for colistin and tigecyclin.

The overall incidence rate of CPE isolates in the hospital increased from 0,139 in 2009 to 0.814 per 1000 patient-days in 2016 especially in the ICUs.

Conclusions: Our study confirms the rapid spread of CPE in a Tunisian hospital and the urgent need for a well-structured and coordinated national surveillance plan in order to limit their dissemination.

