

P0104 **Longitudinal analysis of the in vitro activity of Tigecycline Against Enterobacteriaceae from Europe (2008-2017)**

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Background: The *in vitro* susceptibility of *Enterobacteriaceae* to antimicrobial agents is unpredictable due to intrinsic and/or acquired resistance mechanisms that are in a constant state of flux. This analysis examines the *in vitro* activity of tigecycline over a 10 year period to identify changes in susceptibility among target pathogens.

Materials/methods: A total of 68,700 *Enterobacteriaceae* isolates were collected from Europe during 2008-2017 as part of the Tigecycline European Surveillance Trial (TEST). Isolates were identified to the species level and MICs determined at each participating laboratory following CLSI guidelines and using supplied broth microdilution panels. Only one isolate per patient was accepted into the study. All data were collected centrally at IHMA for analysis and MICs were interpreted by applying EUCAST breakpoint criteria.

Results: The *in vitro* activity of tigecycline against selected *Enterobacteriaceae* species or species group are provided in the following table.

| Year | <i>Enterobacter</i> spp. | | <i>E. coli</i> | | <i>Klebsiella</i> spp. | | <i>Serratia</i> spp. | |
|------|--------------------------|----------------------|----------------|----------------------|------------------------|----------------------|----------------------|--------|
| | N | %S/MIC ₉₀ | N | %S/MIC ₉₀ | N | %S/MIC ₉₀ | N | %S/MIC |
| 2008 | 2351 | 88.5/2 | 2484 | 99.4/0.5 | 2409 | 89.0/2 | 899 | 76.8/2 |
| 2009 | 874 | 87.4/2 | 963 | 99.1/0.5 | 1025 | 88.6/2 | 351 | 69.2/2 |
| 2010 | 2457 | 86.2/2 | 2692 | 98.7/0.5 | 2483 | 89.3/2 | 1038 | 72.8/2 |
| 2011 | 2057 | 86.9/2 | 2174 | 99.0/0.5 | 2154 | 87.1/2 | 820 | 71.7/2 |
| 2012 | 1785 | 91.3/1 | 2064 | 99.6/0.25 | 2057 | 88.6/2 | 691 | 85.7/2 |
| 2013 | 2636 | 90.6/1 | 2855 | 99.5/0.25 | 2769 | 88.7/2 | 1086 | 82.9/2 |
| 2014 | 2071 | 92.8/1 | 2335 | 99.4/0.25 | 2152 | 86.8/2 | 844 | 79.6/2 |
| 2015 | 1828 | 91.8/1 | 1857 | 99.3/0.25 | 1864 | 86.1/2 | 749 | 80.4/2 |
| 2016 | 1674 | 90.5/1 | 1788 | 99.6/0.25 | 1741 | 86.6/2 | 702 | 82.1/2 |
| 2017 | 1653 | 92.7/1 | 1835 | 99.7/0.25 | 1741 | 88.0/2 | 692 | 83.4/2 |

Tigecycline demonstrated good activity against the *Enterobacteriaceae* pathogens monitored in this study [minimum inhibitory concentration (MIC) required to inhibit the growth of 90% of organisms (MIC₉₀) 0.25–2 mg/L].

Conclusions: Tigecycline has shown no notable decrease in *in vitro* activity against selected *Enterobacteriaceae* over the past decade of the study. The activity measured by MIC₉₀ was consistent

for *Serratia* and *Klebsiella* species and 1 doubling dilution lower for *E. coli* and *Enterobacter* species during this period.