In Vitro Activity of Plazomicin and Comparator Agents against Urinary Tract Infection Isolates from the United States and Europe

M CASTANHEIRA1, TB DOYLE1, AW SERIO1, KM KRAUSE2, JM STREIT1, RK FLAMM1

1JMI Laboratories, North Liberty, Iowa, USA; 2Achaogen, South San Francisco, California, USA

Abstract

Materials and Methods

Conclusions

Acknowledgements

References


ESBL producers (209) 0.5 / 1 2 / 16 2 / >8 4 / >8 0.03 / 1 8 / >64 ≤0.5 / >8 0.12 / 0.5

• Plazomicin displayed activity against Enterobacteriaceae (UTI) isolates collected from patients with urinary tract infections, including organisms producing β-lactamases, in United States (US) and European hospitals.
• The activity of plazomicin and comparator agents was assessed against urinary tract infection isolates from the United States and Europe.
• Resistance to ESBLs and AmpC enzymes was prevalent and activity of comparator agents against urinary tract infection isolates was limited.

**Abstract**

**Background:** Plazomicin (PLZ) is a novel aminoglycoside recently approved by the United States Food and Drug Administration (US FDA) for the treatment of complicated urinary tract infections (UTI) due to Enterobacteriaceae species isolated from patients with UTIs in United States (US) and European hospitals, including isolates carrying common β-lactamases. We evaluated the activity of PLZ and comparators against clinical isolates from urinary tract infections (UTI), including isolates carrying common β-lactamases.

**Methods:** Isolates from urine cultures from patients with UTIs treated at JMI Laboratories (US) and instiute (21) were screened for the presence of ESBLs.

**Results:** PLZ inhibited 56.6% and 96.8% of 3,192 Enterobacteriaceae (ENT) isolates collected from US and geometrically, respectively. PLZ was slightly more active against ESBL producers (209) 0.5 / 1 2 / 16 2 / >8 4 / >8 0.03 / 1 8 / >64 ≤0.5 / >8 0.12 / 0.5

**Figure 1**  Antimicrobial activity of plazomicin against UTI isolates collected in US and Europe during 2014 and 2015

**Conclusions**

**Acknowledgements**

**References**

**Contact Information:** Mariana Castanheira, Ph.D. JMI laboratories 345 Beaver Creek Centre, Suite A North Liberty, IA 52317 Phone: (319) 655-3370 Fax: (319) 655-3377 Email: mariana-castanheira@jmilabs.com

**Author Information:**

**Mariana Castanheira** is professor of laboratory medicine and infectious diseases in the Department of Laboratory Medicine and Pathology at the University of Minnesota, and Director of the Antimicrobial Resistance Laboratory. She is a member of the American Society for Microbiology (ASM), Society for Healthcare Epidemiology of America (SHEA), and Infectious Diseases Society of America (IDSA). Mariana is a recipient of the 2016 Elder Award for Innovation in Antimicrobial Research, the 2017 EBM Fall Conference Mentorship Award, the 2016 Grant Award for Excellence in Antimicrobial Research, and the 2015 ISAW Young Investigator Award. She is an Associate Editor for the journal Antimicrobial Agents and Chemotherapy, and serves on the editorial boards of several other journals. Mariana is a member of several national and international societies, and has authored over 150 scientific publications. Mariana is passionate about antimicrobial resistance research and education, and is dedicated to improving antimicrobial stewardship and infection control practices. Mariana is a certified laboratory technologist, and holds a B.S. in Microbiology from the University of Minnesota. Mariana is a member of several national and international societies, and has authored over 150 scientific publications. Mariana is passionate about antimicrobial resistance research and education, and is dedicated to improving antimicrobial stewardship and infection control practices. Mariana is a certified laboratory technologist, and holds a B.S. in Microbiology from the University of Minnesota.