Plazomicin Activity against European Enterobacteriaceae Isolates Carrying Aminoglycoside-Modifying-Modifying and 16S rRNA Methyllases

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**Materials and Methods**

1. A total of 1,677 Enterobacteriaceae bacterial isolates that are decontaminated of coliform bacteria were tested for susceptibility to plazomicin

2. Isolates collected during 2014–2015 from 16 European hospitals were successfully tested using the reference broth microdilution method described by the Clinical and Laboratory Standards Institute (CLSI) and the reference broth microdilution method described by the Clinical and Laboratory Standards Institute (CLSI)

3. Isolates displaying resistance to the current susceptible isolates (≥8) were re-amplified in a multiplex reaction for AME genes

4. Genes encoding 16S rRNA methylases were detected among 59 of 60 isolates (1.4% overall)

**Results**

1. AME producers were more common in Poland (73.5% of collected isolates)

2. AME producers were less common in the other countries

3. Amikacin plus tobramycin and isolates producing AMEs were the most common genes

4. Resistance against plazomicin was observed in 1,202/1,677 (71.4%) of the isolates

5. Isolates nonsusceptible to amikacin and gentamicin were not observed, and 2 isolates only harbored the clinical relevant AME genes

6. Isolates displaying resistance to all tested aminoglycoside-nonsusceptible and plazomicin MICs were 0.25 and 1, respectively

**Discussion**

1. The study was performed by JMI Laboratories and supported by Achaogen, which included funding for this current development plan for plazomicin to extend its effective activity against resistant Enterobacteriaceae causing infections of the urinary tract.

2. The current investigation is the first study that describes the activity of plazomicin against plazomicin- and non-plazomicin- resistant aminoglycoside-modifying enzymes in European clinical isolates.