

P0329

Paper Poster Session

Susceptibility trends for old and new antibiotics

**In vitro activity of piperacillin-tazobactam and comparators against *Enterobacteriaceae* and *Pseudomonas aeruginosa* from multiple infection sources encountered in selected European countries: TEST data 2012-2015**

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**Background:** Infections with *Enterobacteriaceae* and *P. aeruginosa* are a major problem in hospitals due to their frequency, high morbidity rate, prolongation of hospital stay and escalating antimicrobial resistance with attendant additional costs. Monitoring of antimicrobial resistance is necessary for effective therapy. Susceptibility data from The Tigecycline European Surveillance Trial (TEST) program was evaluated to monitor the activity of piperacillin-tazobactam and comparative antimicrobial agents against pathogens isolated from multiple infection sources in patients in four European countries since 2012.

**Material/methods:** Hospital sites in four European countries collected 16254 *Enterobacteriaceae* isolates and 4510 *P. aeruginosa* isolates from multiple infection sites 2012-2015. MICs were determined locally using CLSI guidelines for broth microdilution, and categorical results were interpreted using current EUCAST guidelines.

**Results:** The *in vitro* activity of piperacillin-tazobactam and comparators against *Enterobacteriaceae* and *P. aeruginosa* isolates are shown below.

**Drug-MIC<sub>90</sub>/ %S**

<b><i>Enterobacteriaceae</i></b>	AMK	FEP	CRO	LVX	MEM	TZP	TGC
France (4544)	4/98.1	16/77.4	>32/69.5	8/82.9	0.12/99.7	32/81.4	1/92.6
Germany (5252)	4/98.8	8/84.0	>32/77.1	8/85.6	0.12/99.4	32/85.0	1/93.8
Spain (5927)	4/98.2	16/81.0	>32/75.1	>8/76.8	0.25/98.6	64/83.4	1/93.2
Italy (5345)	16/88.6	>32/65.6	>32/60.2	>8/62.8	4/89.7	>128/72.3	1/90.1
<b><i>P. aeruginosa</i></b>	AMK	FEP	CAZ	LVX	MEM	TZP	
France (923)	16/89.7	32/77.5	>16/79.6	>8/63.7	8/74.5	128/76.7	
Germany (1071)	8/95.7	16/85.5	16/89.5	>8/65.6	16/72.9	32/86.5	
Spain (1295)	8/91.7	16/76.0	>16/82.6	>8/56.9	16/69.2	64/80.6	
Italy (1221)	32/83.5	32/69.2	>16/74.0	>8/53.5	16/64.3	128/71.3	

AK=Amikacin, FEP=Cefepime, CRO=Ceftriaxone, CAZ=Ceftazidime, MEM=Meropenem, LVX=Levofloxacin, TZP=Piperacillin-Tazobactam, TGC=Tigecycline

**Conclusions:** Regardless of country, MEM and TZP were the most active beta-lactams tested against *Enterobacteriaceae*. Against *P. aeruginosa* TZP was more active than MEM and had comparable activity to CAZ and FEP but lower activity than AMK. The propensity of these organisms to develop resistance to any agent underscores the need for continuous and careful surveillance.