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Paper Poster Session
Lessons from surveillance of resistance in Gram-negatives

In vitro susceptibility of multidrug-resistant (MDR) Escherichia coli (EC) and Klebsiella pneumoniae (KPN) from Eastern and Western Europe during 2012-2015 surveillance years (TEST Program)

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Background: MDR gram-negative pathogens including EC and KPN are increasing in prevalence in many parts of the world including Europe. Europe is a continent with multiple countries dispersed geographically over long distances with varying antimicrobial resistance trends. To analyze the most recent situation in Europe four years of data from the Tigecycline European Surveillance Trial (TEST) were analyzed for MDR rates and impact that the MDR phenotype has on the activity of seven broad spectrum antimicrobial agents.

Material/methods: EC and KPN presented 3549 isolates with a MDR phenotype (R to >=3 drugs) obtained from patients with numerous infection sources in Eastern Europe (193) and Western Europe (3356) during 2012-2015. MICs were determined using supplied broth microdilution panels and following CLSI guidelines. Susceptibility was interpreted according to EUCAST guidelines.

Results: The % susceptible for MDR isolates for tigecycline and comparative antimicrobial agents is shown for EC and KPN in the following table:

	Organism (n) %Susceptibility			
	Eastern Europe		Western Europe	
Drug	**EC (60)**	**KPN (133)**	**EC (1702)**	**KPN (1654)**
%MDR	**19.0**	**53.0**	**21.1**	**28.2**
AMK	86.7	76.7	91.4	65.4
FEP	13.3	5.3	13.3	7.4
CRO	3.3	3.0	12.3	5.4
LVX	3.3	8.3	3.5	8.1
MEM	96.7	82.0	98.8	63.9
TZP	63.3	27.1	62.5	22.1
TGC	93.3	79.0	98.9	68.7

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

Conclusions: The MDR phenotype substantially impacts the % susceptibility for several different agents used to manage infections caused by EC and KPN. Susceptibilities were most affected in KPN isolates in comparison to EC isolates. Levofloxacin, cefepime and ceftriaxone appeared to be most affected, while TGC, AMK, and MEM exhibited the highest level of activity against MDR phenotypes. The MDR phenotype dramatically affects the activity of many first line antimicrobials used to treat serious infections and can limit therapeutic choices.