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Poster Session IV

MDR Gram-negatives - molecular biology of resistance genes

SUSCEPTIBILITY ANALYSIS OF GRAM-NEGATIVE PATHOGENS COLLECTED FROM ICU AND NON-ICU PATIENT INFECTIONS IN EUROPEAN COUNTRIES COLLECTED FROM THE TEST PROGRAM OVER TEN YEARS (2004-2013)

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Objectives: Patients in intensive care units (ICU) are at risk of developing bacterial infections due to the invasive nature of the treatment that is often needed to stabilize the patient's condition. In addition, antimicrobial resistant pathogens are a significant cause of morbidity and mortality among these very ill patients. The data derived from the TEST program was used to ascertain potential differences in the pathogens and antimicrobial resistance in both the ICU and non-ICU patient populations in Europe (EU).

Methods: During 2004-2013 tested isolates 57,125 non-ICU and 14,081 ICU patient pathogens were susceptibility (S) tested locally against TIG and comparators using broth microdilution by CLSI methods. EUCAST breakpoint criteria were applied. **Results:** S% for antimicrobial agents against 7 pathogens and 7 antimicrobial classes collected from a global collection of isolates in ICU/non-ICU hospital settings are listed in the table.

	AMK ^a	FEP	ZOX	LVX	MEM	TZP	TGC
<i>Enterobacter</i> spp.	93.3/96.5	65.5/75.9	46.3/60.9	78.8/82.6	97.1/98.5	55.5/68.9	85.3/89.0
<i>E. coli</i>	94.4/96.2	79.4/79.6	79.3/78.2	69.5/67.1	99.8/99.7	84.1/86.8	98.8/99.3
<i>K. oxytoca</i>	97.2/98.6	85.0/86.5	77.7/81.1	88.6/89.5	98.6/99.6	77.4/82.0	94.0/95.0
<i>K. pneumoniae</i>	87.6/91.5	62.8/71.3	59.8/69.5	69.0/73.6	93.9/95.0	62.9/73.5	85.8/87.2
<i>Serratia</i> spp.	95.0/95.9	90.5/91.6	78.0/82.1	89.2/88.5	98.8/98.7	89.2/89.3	77.7/78.0
<i>P. aeruginosa</i>	81.7/86.6	66.6/77.3	NB ^b	50.7/57.5	58.9/73.4	62.4/75.3	NB
<i>Acinetobacter</i> spp.	48.7/67.2	NB	NB	37.4/54.1	49.4/64.4	NB	NB

a. AMK=amikacin, FEP=cefepime, ZOX=ceftriaxone, LVX=levofloxacin, MEM=meropenem, TZP=piperacillin/tazobactam, TGC= tigecycline.

b. NB = no applicable breakpoints available.

Conclusions: Overall, ICU pathogens were less S to the antimicrobial classes represented in this global collection of isolates. AMK was the most active agent *in vitro* against the *Enterobacteriaceae*. Only 50-86% of the non-fermentative bacilli were susceptible to the antimicrobial classes tested regardless of patient hospitalization location, although much lower S% was observed among patients in ICUs. TGC and MEM demonstrated significant activity against the majority of enteric pathogens, regardless of whether the patient was admitted to an ICU versus a general hospital ward.