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Abstract (publication only)

Activity of tigecycline against multidrug-resistant Gram-positive and Gram-negative pathogens isolated from Germany in 2008-2011

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Background: Tigecycline (TIG) has been shown to have potent expanded broad spectrum activity against most commonly encountered species responsible for community and hospital acquired infections. The Tigecycline Evaluation Surveillance Trial (TEST) program has been monitoring the in vitro activity of TIG against multidrug resistant (MDR) species since 2004. This study evaluates MDR organisms collected from Germany, 2008-2010. Methods: A total of 1,242 MDR isolates were identified to the species level at each local site and confirmed by the central laboratory. MICs were determined by the local laboratory using broth microdilution panels according to CLSI guidelines. MDR is defined as resistance to ≥ 3 drug classes by EUCAST criteria. Results: In vitro activity of the tigecycline against MDR species is shown in the table below. * %Sus defined by EUCAST breakpoints, where available; TIG defined by FDA; na – breakpoints not defined Conclusions: Tigecycline inhibited $>98\%$ of all MDR gram-positive species at the defined breakpoints. The ESBL-positive rate was 54% for MDR *E. coli* and 74% for MDR *K. pneumoniae* with tigecycline %Sus of 99.2% and 73.3%, respectively. MIC₉₀ values of 4 mg/L were seen against *A. baumannii*, *E. cloacae*, and *S. marcescens*. TIG, similar to other members of its class, demonstrated limited activity against *P. aeruginosa*. Overall, TIG demonstrated potent in vitro activity against the many of MDR organisms from this region.

MDR Organisms	N	MIC ₅₀	MIC ₉₀	%Sus*
Gram-Negative				
<i>Acinetobacter baumannii</i>	26	1	4	na
<i>Enterobacter aerogenes</i>	65	0.5	2	86.2
<i>Enterobacter cloacae</i>	337	0.5	4	78.9
<i>Escherichia coli</i>	254	0.25	0.5	99.2
<i>Klebsiella oxytoca</i>	88	0.5	2	88.6
<i>Klebsiella pneumoniae</i>	131	1	2	73.3
<i>Pseudomonas aeruginosa</i>	117	16	>16	na
<i>Serratia marcescens</i>	57	1	4	61.4
Gram-Positive				
<i>Enterococcus faecium</i>	52	0.06	0.12	98.1
<i>Staphylococcus aureus</i>	69	0.12	0.25	100
<i>Streptococcus pneumoniae</i>	32	0.015	0.06	100