**REVISED ABSTRACT**

**Background:** Tigecycline, the first of a new class of glycyclines in clinical trials, has been shown to have potent activity against most species of Gram-negative bacteria. The T.E.S.T. program determined the in vitro activity of tigecycline compared to amikacin, ampicillin, amoxicillin/clavulanic acid, imipenem, cephalothin, cefazolin, ceftriaxone, levofloxacin, minocycline, and piperacillin/tazobactam against selected Gram-negative clinical isolates collected from hospitals throughout Asia and the Pacific Rim. **Methods:** Minimum Inhibitory Concentration (MIC). 1,851 Gram-negative bacterial isolates collected throughout 2005 were determined by broth microdilution and interpreted according to CLSI guidelines. **Results:** The broad spectrum antimicrobials levofloxacin, cephalothin, amikacin, piperacillin/tazobactam were highly active against Gram-negative Enterobacteriaceae strains in this study and demonstrated susceptible percentages rates ranging from 77% to 100%. Against Enterobacteriaceae, Tigecycline’s activity was similar to imipenem presenting MICs of 0.5/1 mcg/mL. The frequency of ESBL production among E. coli and K. pneumoniae was 17.1% and 32.8%, respectively. Tigecycline successfully inhibited all E. coli and K. pneumonia ESBL producers at a MIC of 4 mcg/mL. Approximately 30% of Enterobacter spp. were resistant to third generation cephalosporins suggestive of AmpC-type resistance. Tigecycline was also successful in inhibiting this genus at a MIC of 1 mcg/mL. Against Acinetobacter spp., Tigecycline presented the lowest MICs of 0.25/1 mcg/mL. Tigecycline, like other tetracyclines, had limited activity against P. aeruginosa. Tigecycline inhibited all H. influenzae at ≥0.25 mcg/mL. **Conclusion:** Tigecycline’s activity was comparable to the activities of broad spectrum antimicrobials and highly effective against Gram-negative pathogens including ESBL and beta-lactamase producing strains. Tigecycline’s activity was considered as last therapeutic option for the treatment of serious nosocomial infections caused by this class of organisms. The presented data suggest that tigecycline may be an effective therapeutic option against most Gram-negative clinical isolates documented and their resistant phenotypes.

**RESULTS**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Tigecycline</th>
<th>Comparator 1</th>
<th>Comparator 2</th>
<th>Comparator 3</th>
<th>Comparator 4</th>
<th>Comparator 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. coli</td>
<td>96.9</td>
<td>3.1</td>
<td>0</td>
<td>0.5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>K. pneumonia</td>
<td>96.7</td>
<td>3.3</td>
<td>0</td>
<td>0.5</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**MATERIALS & METHODS**

- All isolates were derived from blood, respiratory tract, urine (no more than 25% of all isolates), skin, wound, fluids and few other defined sources. Only one isolate per patient was accepted.
- Clinical isolates were collected between January 2005 - December 2005 from study centers across Asia and Pacific rim.
- Antibiotic agents tested with concentrations (expressed in mcg/mL) were: Amoxicillin/clavulanic acid (0.12-32); Piperacillin/tazobactam (0.06-128); Levofloxacin (0.008-8); Ceftriaxone (0.06-64); Cefepime (0.5-32); Amoxicillin (0.5-32); Amikacin (0.5-64); Minocycline (0.5-16); Ceftazidime (8-32); Tigecycline (0.008-16); Imipenem (0.06-16). MIC interpretive criteria followed published guidelines established by the CLSI (formerly the NCCLS) where applicable [13].
- MIC interpretive criteria for Tigecycline followed published guidelines established by the FDA where applicable [13].
- Isolates were identified to genus and species at each site by the local laboratory. Isolates were tested by the local laboratory.
- Organism collection, transport, confirmation of organism identification, as well as, construction and management of a centralized database was coordinated by Laboratories International for Microbiology Studies (LIMS).

**REFERENCES**


**ACKNOWLEDGEMENTS**

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