Introduction

Tigecycline was approved by the United States Food and Drug Administration (US FDA) for use in the treatment of complicated skin and skin-structure infections (cSSSI) and community-acquired bacterial pneumonia (CABP). However, several concerns have been raised regarding the in vitro activity of tigecycline. Therefore, the objective of this study was to re-evaluate the in vitro activity of tigecycline against the US FDA microbial breakpoint criteria and reagent product validation results.

Materials and Methods

Organism Collection: A total of 166 S. pneumoniae and 161 H. influenzae were collected for this study. The isolates were collected from patients with community-acquired respiratory tract infections. The S. pneumoniae collection was enriched with isolates showing resistance to β-lactam antibiotics and macrolides. Bacterial identification was confirmed by the central microbial identification laboratory, US FDA's Clinical Laboratory Information Management System standard algorithm and an automated system, when needed.

Methods: 166 S. pneumoniae and 161 H. influenzae collected from patients with community-acquired respiratory tract infections (CABP) were selected for this study. The isolates were identified using standard methods and were susceptible to β-lactam antibiotics and macrolides.

Results

Antimicrobial susceptibility testing was performed by the both broth microdilution method (BMD) and disk diffusion method (DD) to determine the susceptibility of the isolates to tigecycline.

Discussion

The in vitro activity of tigecycline against S. pneumoniae and H. influenzae was re-evaluated against US FDA breakpoint criteria. The results showed that tigecycline had a good in vitro activity against both S. pneumoniae and H. influenzae with high inhibition zones of ≥19 mm.

Conclusion

The re-evaluation of in vitro activity of tigecycline against S. pneumoniae and H. influenzae showed good in vitro activity with high inhibition zones of ≥19 mm. This finding supports the use of tigecycline as a therapeutic option for the treatment of infections caused by these organisms.