INTRODUCTION

The SENTRY Antimicrobial Surveillance Program is a surveillance study that collects and disseminates surveillance data on the in vitro susceptibility of pathogens from participating North American medical centers. This study began in 1997 and monitors the frequency of pathogen occurrence and antimicrobial susceptibility patterns in clinical isolates. The data collected in this program has been used to monitor emerging infections and to assist clinicians in clinical decision-making when prescribing antimicrobial therapy. The data collected from this program is useful in monitoring the occurrence and antimicrobial susceptibility patterns of the most frequently observed Gram-negative bacilli species observed in the New York City area. These results have been published annually from 1997 to 2006. Additionally, a 10-year longitudinal susceptibility trend report was published in 2007.

OBJECTIVE

The purpose of this study was to investigate the antimicrobial susceptibility patterns of the 7 most frequently observed non-fermentative Gram-negative bacilli species (P. aeruginosa, Acinetobacter spp., A. baumannii, A. xylosoxidans, A. calcoaceticus, A. ficatii, A. lwoffii) from North American medical centers from 1997 to 2006. The susceptibility results were compared to the published CLSI 2006 standards, and trends were determined using the chi-square test.

RESULTS

The most frequently observed non-fermentative Gram-negative bacilli species observed during the study period were P. aeruginosa (13,090 isolates; 10.2%), Acinetobacter spp. (11,879 isolates; 9.5%), A. baumannii (7,431 isolates; 6.3%), A. xylosoxidans (1,387 isolates; 1.1%), A. calcoaceticus (1,181 isolates; 0.9%), A. ficatii (229 isolates; 0.2%), and A. lwoffii (117 isolates; 0.1%). The frequency of occurrence of non-fermentative Gram-negative bacilli species observed in the SENTRY Program in North America (1997-2006) is presented in Table 1.

The results from this study demonstrated that the susceptibility rates for most agents and species were very stable over the 10-year period, with the exception of polymyxin B. The susceptibility rates (≥95.1%) for all agents except polymyxin B, ciprofloxacin, and levofloxacin (MIC90, 4 mg/L; 82.7% susceptible) are presented in Table 2.

CONCLUSIONS

The susceptibility patterns of the 7 most frequently observed non-fermentative Gram-negative bacilli species observed in North American medical centers from 1997 to 2006 showed stability for most agents and species. Polymyxin B was the most active agent tested against P. aeruginosa and Acinetobacter spp. isolates. These results should be used to help determine appropriate antimicrobial therapy for patients infected with these organisms.

SELECTED REFERENCES