ABSTRACT

Background: To report the most recent year (2012) data on MRSA (Methicillin-resistant Staphylococcus aureus) and MRCoNS (Methicillin-resistant Coagulase-negative Staphylococci) surveillance in the 2012 ZAAPS (Zonal Antimicrobial Surveillance Program) Program in Europe, Latin America, Asia Pacific, Canada.

Methods: In 2012, 27 countries participated in ZAAPS Program, which evaluated MRSA and MRCoNS isolates from 140 sentinel hospitals in 27 countries. A total of 7,872 Gram-positive strains were collected from 73 medical centers on five continents (Europe, Latin America, Asia Pacific, Canada). The isolates were tested for susceptibility and resistance to 14 antimicrobials using CLSI methods and evaluated for cfr, meca, and mecA genes and resistance mechanisms using molecular methods.

Results: The number of isolates per country ranged from 30 to 3,488. Of the 7,872 Gram-positive strains, 4,077 (32.2%) were MRSA and 3,795 (48.3%) were Methicillin-sensitive S. aureus (MSSA). S. aureus, S. epidermidis, and other coagulase-negative staphylococci were the most frequently isolated species. Resistance rates varied by region, with the highest rates being reported in Europe. For linezolid, the MIC90 value was 0.5 µg/ml, and 99.8% of isolates had MIC values ≤0.25 µg/ml.

Conclusions: In 2012, all isolates were collected from 140 sentinel hospitals across 27 countries. The majority of isolates were MRSA, with resistance rates varying by region. The highest resistance rates were observed in Europe. Linezolid susceptibility was excellent, with 99.8% of isolates having MIC values ≤0.25 µg/ml.

INTRODUCTION

Linezolid continues to be the only available agent approved for clinical use by various national or regional regulatory agencies, and it is an important Fleming agent for clinical use in the community, causing antimicrobial resistant Gram-positive pathogens. Oxazolidinone resistance has been identified, mainly among Enterococci, which may be due to mutations in the 23S rRNA gene causing resistance, or changes within the oxazolidinone target site causing resistance. The objective of this study was to report the latest year (2012) resistance surveillance data for USA isolates.

METHODS

A total of 7,872 Gram-positive strains were collected from 73 medical centers on five continents (Europe, Latin America, Asia Pacific, Canada). The isolates were tested for susceptibility and resistance to 14 antimicrobials using CLSI methods and evaluated for cfr, meca, and mecA genes and resistance mechanisms using molecular methods.

RESULTS

The number of isolates per country ranged from 30 to 3,488. Of the 7,872 Gram-positive strains, 4,077 (32.2%) were MRSA and 3,795 (48.3%) were Methicillin-sensitive S. aureus (MSSA). S. aureus, S. epidermidis, and other coagulase-negative staphylococci were the most frequently isolated species. Resistance rates varied by region, with the highest rates being reported in Europe. For linezolid, the MIC90 value was 0.5 µg/ml, and 99.8% of isolates had MIC values ≤0.25 µg/ml.

CONCLUSIONS

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REFERENCES


