Linezolid Experience and Accurate Determination of Resistance (LEADER) Program 2007: Assessing Oxazolidinone and Inducible Clindamycin Resistance

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AMENDED ABSTRACT

INTRODUCTION

The LEADER Program has completed a fourth year of surveillance of oxazolidinone resistance and inducible clindamycin resistance. The LEADER experience has provided support for in vitro and epidemiological evaluations of antimicrobial resistance mechanisms for linezolid and the determination of the most active agents for linezolid-resistant isolates. The LEADER Program has provided linezolid resistance surveillance data for the USA through 2007. The LEADER Program has completed an expanded fourth AMENDED ABSTRACT

MATERIALS AND METHODS

Linezolid experience was evaluated by performing susceptibility testing against 1,020 CoNS isolates from 129 clinical sites. Each clinical site was selected to represent the geographic spectrum of the USA. CoNS were isolated from 60 medical centers. The LEADER Program has provided linezolid resistance surveillance data for the USA through 2007. The LEADER Program has completed an expanded fourth AMENDED ABSTRACT

RESULTS

Linezolid demonstrated excellent comparative activity across all S. epidermidis strains (Table 4). Linezolid results were compared with those for linezolid susceptible (MIC < 0.25 μg/ml), linezolid intermediate (MIC 0.5-2 μg/ml), and linezolid resistant (MIC ≥ 4 μg/ml) S. aureus strains. In CoNS, 18 isolates (1.76%) were found to be linezolid resistant, with a MIC range of 4-1,000 μg/ml. Linezolid was the most active agent against CoNS, with a susceptibility rate of 99.56% overall (99.55% in 2006). The Vancomycin Intermediate phenotype (VIP) was only 67.0% and VRE rates varied by census region ranging from 4.0% (for LEADER and ZAAPS), where MSSA strains had a two-fold higher resistant MIC mode. A total of 1,050 CoNS isolates were processed by CLSI testing for linezolid and amphotericin B susceptibility. The LEADER Program has completed an expanded fourth AMENDED ABSTRACT

DISCUSSION

The LEADER Program has completed a fourth year of surveillance of oxazolidinone resistance and inducible clindamycin resistance. The LEADER experience has provided support for in vitro and epidemiological evaluations of antimicrobial resistance mechanisms for linezolid and the determination of the most active agents for linezolid-resistant isolates. The LEADER Program has provided linezolid resistance surveillance data for the USA through 2007. The LEADER Program has completed an expanded fourth AMENDED ABSTRACT

CONCLUSIONS

Linezolid was active against all streptococci (MICs, CoNS, and S. hominis) (Tables 4 and 5) and only 16 strains had MICs value of 2 μg/ml. Two linezolid-susceptible isolates (S. aureus and S. epidermidis) demonstrated isolate-dependent linezolid-resistant phenotypes and had a positive PCR result using chimeric primers (confirmed by sequencing). These isolates were the first noted in humans in the USA.

SELECTED REFERENCES


