Activity of Novel β-Lactam/β-Lactamase Inhibitor Combinations Against AmpC-Producing Species Collected in United States Hospitals

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Introduction

Inducible AmpC resistance is caused by the derepression of the chromosomal AmpC enzyme in the presence of β-lactam antibiotics to treat infections caused by β-lactamase-producing bacteria. The development of novel β-lactam/β-lactamase inhibitors (BL/BLIs) has been explored to improve the activity of β-lactams against β-lactamase-producing isolates.

Materials and Methods

• In this study, we evaluated the activity of novel β-lactam/β-lactamase inhibitors against a collection of AmpC-producing isolates from Enterobacterales species known to overexpress AmpC enzymes.

Results

• Novel β-lactam/β-lactamase inhibitors, such as meropenem-vaborbactam, ceftazidime-avibactam, and imipenem-relebactam, display good activity against isolates producing non-β-lactamase-producing, extended-spectrum β-lactamase- and AmpC-producing Enterobacteriaceae.

Conclusions

• Infections caused by AmpC-producing species often are challenging to treat. The use of β-lactam/β-lactamase inhibitors in the treatment of AmpC-producing infections is an area of active research.

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References

1. Infections caused by AmpC-producing species often are challenging to treat. The use of β-lactam/β-lactamase inhibitors in the treatment of AmpC-producing infections is an area of active research.

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