

P0347

Poster Session I

Rapid antimicrobial susceptibility testing

THE RAPID IDENTIFICATION AND CONFIRMATION OF CARBAPENEMASE-RESISTANT ENTEROBACTERIACEAE (CRE) USING BRILLIANCE™ CRE AGAR AND SENSITITRE™ GRAM NEGATIVE PLATES (GN4F).

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Objectives

The purpose of this study was to determine whether the minimum inhibitory concentration (MIC) of four carbapenem antimicrobials (doripenem, ertapenem, imipenem and meropenem) for carbapenem-resistant Enterobacteriaceae (CRE) grown on Thermo Scientific™ *Brilliance*™ CRE Agar (Thermo Fisher Scientific) can be determined directly from the agar plate and whether the susceptibility results for these cultures agree with those from cultures grown on Columbia Blood Agar (CBA).

Methods

Fifty Enterobacteriaceae comprising 31 strains of *Klebsiella pneumoniae*, 11 strains of *Escherichia coli*, 6 strains of *Enterobacter cloacae* and 2 strains of *Enterobacter* spp., all previously characterised as CRE, were grown on *Brilliance* CRE Agar & CBA overnight. Following the manufacturer's instructions, the cultures were tested in parallel on Thermo Scientific™ Sensititre™ Gram-negative plate formats (Thermo Fisher Scientific). After overnight incubation, plates were read automatically and visually using both the Thermo Scientific™ Sensititre™ OptiRead™ and Thermo Scientific™ Vizion™ instruments.

Results

Forty eight of the strains tested were recovered on *Brilliance* CRE Agar. One hundred and ninety-one of the 192 organism/antimicrobial combinations (99.5%) were in essential agreement (EA) for the OptiRead reads and 100.0% were in EA for the Vizion reads.

The single discordant strain was an OXA-48-producing *E. coli* which grew weakly on *Brilliance* CRE Agar and returned a minor discrepancy (according to CLSI interpretations) or category only (according to EUCAST interpretations) for meropenem.

Conclusion

This study demonstrates that MIC results can be determined directly from isolates cultured on *Brilliance* CRE Agar plates in the majority (98%) of cases and that for these four carbapenem antimicrobials, MICs are equivalent for strains grown on *Brilliance* CRE Agar or CBA.