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O0951 Evaluation of SensiTest Colistin, a commercial broth microdilution-based method to evaluate colistin MICs for *Klebsiella pneumoniae* isolates

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Background: Colistin is often the last option to treat infections caused by multidrug-resistant microorganisms, such as carbapenemase producing *K.pneumoniae*. Antimicrobial susceptibility testing of colistin has been fraught with difficulties which resulted in the need for updated recommendations from CLSI and EUCAST. Both committees proposed that the ISO 20776-1-2016 standard broth microdilution (MBD) must be the preferred method for colistin MIC testing [CLSI-EUCAST Polymyxin Breakpoints Working Group. 2016]. The objective of our study was to evaluate the commercial SensiTest™ Colistin (Liofilchem® srl, Roseto degli Abruzzi, Italy), a compact panel containing the antibiotic in 7 two-fold dilutions (0.25-16mg/L), using frozen broth microdilution plates (according to CLSI) as reference.

Materials/methods: Colistin susceptibility testing was performed on a nationwide collection of 392 carbapenemase-producing *K.pneumoniae* isolates using BMD according to CLSI and SensiTest™ Colistin. SensiTest™ Colistin according to the manufacturers' recommendations. Susceptibility test results were interpreted according to the EUCAST breakpoints (v. 7.1, 2017). Colistin was active in vitro against 251 *K. pneumoniae* isolates (64%) with an MIC range of 0.5->64mg/L and MIC50/90 of 1/64mg/L. Essential and categorical agreements were calculated according to ISO20776-2.

Results: SensiTest™ Colistin showed high levels of overall/evaluable essential (94.9% / 93.6%) and categorical agreement (97.2%), with Very Major Errors in 0.7% (1/141 Col-R) and met the current acceptance criteria proposed by CLSI. Ten Major Errors were observed (3.98%, 10/251 Col-S), three of which were within essential agreement (Figure).

Conclusions: SensiTest™ Colistin is a commercial BMD method that reliably determined colistin MICs in a large collection of carbapenemase-producing *K.pneumoniae* isolates.

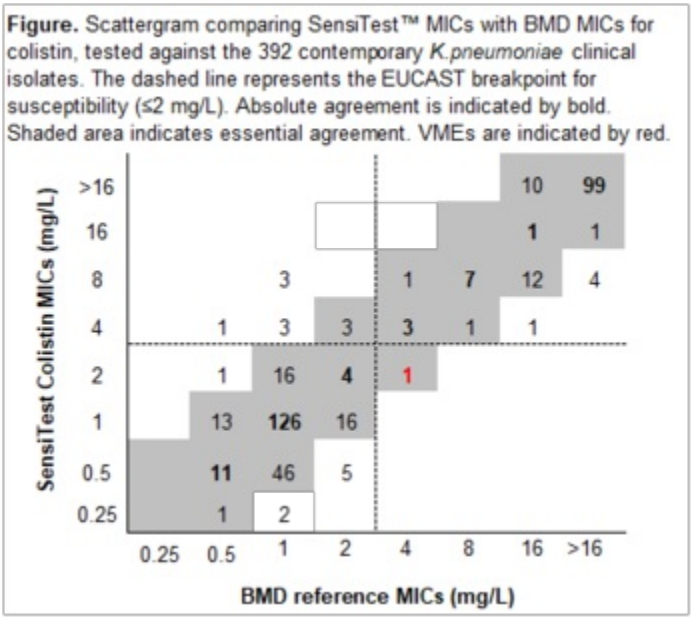

Figure. Scattergram comparing SensiTest™ MICs with BMD MICs for colistin, tested against the 392 contemporary *K.pneumoniae* clinical isolates. The dashed line represents the EUCAST breakpoint for susceptibility (≤2 mg/L). Absolute agreement is indicated by bold. Shaded area indicates essential agreement. VMEs are indicated by red.