**MATERIALS AND METHODS**

**Background:** Cefditoren is a novel orally administered aminothiazolyl cephalosporin with a broad spectrum of activity. This study will evaluate the MIC ranges currently recommended by the NCCLS.

**Methods:** Seven independent laboratories participated in a M23 study design recommended by the NCCLS to evaluate the current MIC ranges for cefditoren. Three Mueller-Hinton broth lots were tested for Enterococcus (EC) ATCC 29219 and Staphylococcus aureus ATCC 49247, Two HTM and three brain heart infusion (BHI) lots were tested for Haemophilus influenzae (HI) ATCC 49253 and Streptococcus pneumoniae (SP) ATCC 49619, respectively. Each site tested the QC strains over 10 days generating 30 or 40 MIC results per QC strain for a total of 210 to 260 MIC results. Cefditoren was used as the control agent and daily testing was performed using the QC protocol described by Barry and Brown (CMI-1 through-3) are listed for comparison.

**Results:** Previous studies recommended broad 4-dilution QC ranges for EC ATCC 25920, SA ATCC 29213 and HI ATCC 49253 and four laboratories used intervals that were 4-dilution range in HI ATCC 49253. This study observed isolation of MIC values used the NCCLS recommendations for QC ranges (Table 1).

**Conclusions:** These results confirm the previous recommendations for EC ATCC 25920 and HI ATCC 49253 are appropriate. However, further testing may support narrowing the 4-dilution range for EC ATCC 29213 and SP ATCC 49619 to a 3-dilution range.

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**ABSTRACT**

Cefditoren (formerly ME-1206) is a novel orally administered aminothiazolyl cephalosporin with a broad spectrum of activity. This study will evaluate the MIC ranges currently recommended by the NCCLS.

**Methods:** Seven independent laboratories participated in a M23 study design recommended by the NCCLS to evaluate the current MIC ranges for cefditoren. Three Mueller-Hinton broth lots were tested for Enterococcus (EC) ATCC 29219 and Staphylococcus aureus ATCC 49247, Two HTM and three brain heart infusion (BHI) lots were tested for Haemophilus influenzae (HI) ATCC 49253 and Streptococcus pneumoniae (SP) ATCC 49619, respectively. Each site tested the QC strains over 10 days generating 30 or 40 MIC results per QC strain for a total of 210 to 260 MIC results. Cefditoren was used as the control agent and daily testing was performed using the QC protocol described by Barry and Brown (CMI-1 through-3) are listed for comparison.

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**RESULTS**

**Table 1** lists the distributions of all cefditoren MIC values reported by the seven participating laboratories. A total of 988 MICs were recorded, defined from 0.03 to 32 µg/ml. Each model value was determined for S. pneumoniae (0.03 to 0.25 µg/ml; 80.0% of reported values; 0.25 to 2 µg/ml; 16.0% of reported values; 2 to 8 µg/ml; 0.0% of reported values; H. influenzae (0.006 to 0.12 µg/ml; 0.0% of reported values; E. coli (0.006 to 0.12 µg/ml; 0.0% of reported values; S. aureus (0.03 to 0.5 µg/ml; 46.0% of reported values; and 0.5 to 8 µg/ml; 1.0% of reported values).

**Table 2** illustrates the MIC distributions for cefditoren and cefpodoxime against E. coli ATCC 25922, S. pneumoniae ATCC 49619 and S. aureus ATCC 29213. The number of participants reporting each MIC result is also listed (Table 2).

**Table 3** illustrates the evolution of cefditoren MIC ranges and the guidelines from this seven-center investigation.

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**REFERENCES**

12. Sahm DF, Ullman RM, Washburn RE, et al. cefditoren MIC results for all centers (420 values) showed 99.5% were within recommended NCCLS ranges. Colony counts yielded 8 x 10⁴ CFU/ml. The number of all participant colonies was 6.8 ± 1.0 to 6.9 ± 1.0 CFU/ml with an average of 6.9 ± 1.0 CFU/ml. Only 94.3% of reported MIC results were found within the proposed QC range (0.03 to 0.25 µg/ml); with all element media results falling below 0.03 µg/ml. Tables 1 and 2. All but one of the "outside range" MICs were recorded from media variances. No apparent cause was determined since these results occurred using different media lots, and each of the involved laboratories had a mode identical to all other participants. With a defined mode at 0.12 µg/ml (4% of results), a range of three logs, dilutions was suggested (0.06 to 0.25 µg/ml) regarding the proportion of the results (7%) occurring outside of the proposed QC limits. This range conforms to that recently published by the NCCLS and validates the conclusion of earlier proposed MIC QC ranges for cefditoren ATCC 49619. The participants had also performed colony count analysis of one of the QC organisms and included at least two colony counts of each tested strain during the ten-day test period. The range of all participant colonies was 6.8 ± 1.0 to 6.9 ± 1.0 CFU/ml with an average of 6.9 ± 1.0 CFU/ml. The participants should closely monitored after the release of the compound, may not be required on the grounds of 1) well established modal values; and 2) 100.0% of participant MICs reported were within the proposed narrower range.