Re-evaluating the Contemporary (2007-2011) Spectrums of Tetracyclines (Minocycline, Doxycycline, and Tetracycline) Tested against Enterobacteriaceae and Acinetobacter spp.

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ABSTRACT

Background: For decades tetracycline HCL (TETR) has represented its class in susceptibility (S) against most Gram-positive and Gram-negative bacteria. Development of resistance (R) among these pathogens has driven the search for new agents or additional tests to predict susceptibility (S) accurately.

Methods: All tests used reference methods and published breakpoints. The TETR susceptibility testing method was specified with CLSI CL08-A5 (2012). Enterobacteriaceae (15,850), Citrobacter spp. (2,001), Enterobacter spp. (1,440), Seratia spp. (3,525), Proteus spp. (487), Klebsiella spp. (7,441), Serratia spp. (7,314), and Acinetobacter spp. (2,001) were tested by CLSI CL08-A5 (2012). The susceptibility testing method was performed and evaluated with the CLSI CL08-A5 (2012). Resistance was defined as ≤4 µg/ml for susceptibility and ≥12 µg/ml for resistance using correlate disk diffusion interpretive criteria with application to all pathogens.

RESULTS

- Tetracycline tested against A. baumannii
  - The TETR susceptibility testing method was performed and evaluated with the CLSI CL08-A5 (2012). Resistance was defined as ≤4 µg/ml for susceptibility and ≥12 µg/ml for resistance using correlates disk diffusion interpretive criteria with application to all pathogens.
  - Across all regions, minocycline was the most active tetracycline against A. baumannii, with activity higher in Latin America (MIC50, ≤8 µg/ml), than Europe (≤16 µg/ml) and USA (≤8 µg/ml).

CONCLUSIONS

- Minocycline activity against a contemporary collection of worldwide isolates of A. baumannii indicates broad spectrum coverage and activity against multi-drugresistant A. baumannii with similar sensitivity to other doxycycline- or minocycline-based regimens for which non-susceptibility results are not commonly used.

REFERENCES


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